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Shaun Archer

James Parry Eyster
Ave Maria School of Law

James J. Kelly Jr.
Notre Dame Law School, j.kelly@nd.edu

Tonya Kowalski
Washburn University School of Law

Colleen F. Shanahan
Georgetown University

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Reaching Backward and Stretching Forward: Teaching for Transfer in Law School Clinics

Shaun Archer, James P. Eyster, James J. Kelly, Jr., Tonya Kowalski,
and Colleen F. Shanahan

Introduction

In thinking about education, teachers may spend more time considering what to teach than how to teach. Unfortunately, traditional teaching techniques have limited effectiveness in their ability to help students retain and apply the knowledge either in later classes or in their professional work.

What, then, is the value of our teaching efforts if students are unable to transfer the ideas and skills they have learned to later situations? Teaching for transfer is important to the authors of this article, four clinical professors and one psychologist. The purpose of this article is to provide an introduction to some of the techniques that can improve the transfer of teaching's lessons. While this article focuses on applications in the law clinic, the procedures can be profitably used in doctrinal classes as well.

You have likely experienced the thrill of teaching a class when you were in a zone—enthusiastic, charismatic, focused. Even though your students understood what you said, did they absorb the material so that they could later use the knowledge in the actual practice of law? It is not enough to teach so that students will understand, nor that they will remember. Instead,

Shaun Archer is a Seattle-based behavioral and social psychologist.

James P. Eyster is an Associate Professor of Law and Director of the Immigrant Rights and Civil Advocacy Clinic at Thomas M. Cooley Law School, Ann Arbor, Michigan.

James J. Kelly, Jr., is a Clinical Professor of Law at Notre Dame Law School, where he teaches the Community Development Clinic, Land Use Planning and Real Estate Transactions.

Tonya Kowalski is a Professor of Law at Washburn University in Topeka, Kansas. Professor Kowalski teaches legal writing and indigenous-themed courses, and began her academic career as both staff and visitor in the Indian Legal Clinic at Sandra Day O'Connor College of Law, Arizona State University.

Colleen F. Shanahan is a Visiting Associate Professor of Law and Director of The Community Justice Project at Georgetown University Law Center.

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to be valuable, your teaching must be usable by your students outside the classroom. For example, you can teach that an asylum applicant's fear must be both *subjectively* and *objectively* reasonable to satisfy the required element of fear of persecution.¹ Your students may understand the dual nature of the fear requirement, but will they remember it? Even if they remember it, will they be able to make use of it, helping an actual asylum applicant? Can they stretch their mastery of the concept of dual definitions to use it in a dissimilar situation involving a different legal concept, such as due process?²

It is the goal of the authors of this article to help you improve your teaching so that your students will understand, remember, and be able to later use what you teach them. While this may appear overly ambitious, we are not selling snake oil. Rather, we are relying on established tenets of psychology and pedagogy that have proved successful in other areas of learning.

In the first section, psychologist Shaun Archer will summarize the latest research results on memory and how to best teach so that students can retain and use information. Before transferring information or ideas from a class to a new situation, one must first anchor the concept in the mind. To do this, the student must attach the new information to the existing scaffolding in the student's memory. Attached to the wrong structure, the new information cannot easily be used in a later application. For example, if you are told that both a successful asylum application³ and chlorophyll⁴ contain five elements, you might be momentarily chagrined since the word "elements" is used in two very different contexts. Your mind must travel down various discrete neural pathways to make correct sense of the use of the word in each phrase. This insight from psychology is the core of teaching for transfer.

Tanya Kowalski will then introduce the principles of teaching for transfer, emphasizing "reaching backward" and "stretching forward" techniques. She will then suggest applications of these procedures in clinical teaching. In reaching backward, a student thinks back to past experiences or concepts to find existing mental scaffolding that can be used to "bear the weight" and provide an accessible resting place for the new material that is being taught. In stretching forward, a student consciously envisions potential future applications of the material being learned. Colleen Shanahan will demonstrate backward-reaching transfer techniques for teaching students skills and knowledge, using the examples of initial client interviews, soliciting facts from witnesses, researching eviction procedures, and developing an effective oral advocacy style. Jim Kelly will provide specific examples of stretching-

1. See 8 U.S.C. § 1158 (2012)(b) (describing the burden of proof on an applicant to establish that his race, religion or another named factor "was or will be" a reason for persecution).
2. Substantive and procedural due process, for example.
3. Unable or unwilling to return to country of nationality, based on persecution or well-founded fear of persecution, on account of one of five statutory bases, filed within one year of entry to the country. 8 U.S.C. § 1101(a)(42) (2012).
4. C₅₅H₇₂MgO₅N₄; Ian Fleming, Absolute Configuration and the Structure of Chlorophyll. 216 NATURE 151, 151-52 (1967).

forward transfer techniques. These range from “hugging,” identifying very similar future applications, such as the business record litany, to “bridging,” preparing students to be able to use new foundational skills or knowledge in complex and extremely varied situations.

Throughout this article, we will encourage you to transfer the skills presented here to your work as law professors, for we would be poor teachers if we did not concentrate on teaching you to transfer the knowledge imparted here to your own activities. Whenever we’re doing this, we will place the instructions in italics to alert you that this is a call for metacognition.⁵

So, dear reader, before reading the rest of this article, take a few moments to think back to an article or a book you have read in the past that deeply influenced your teaching. What was in the work that affected you? Did it answer a question that had been gnawing at you? Did it link a sophisticated, narrow subject to a major existential issue?⁶ What, if anything, did you do that imprinted the teaching on you? Did you take notes or underline passages? Did you share the instruction with a colleague? Did you try it out in the next class?

As you go forward with your reading here, please think about a subject you are preparing to teach in the near future. What experience may the students have had with this topic? How might they use it later in your class, in another class, or out in practice? How will you encourage them to consider these issues while teaching the material?⁷

I. Learning and Memory: A “Behind-the-Scenes” Overview of Memory Formation as it Pertains to Curriculum Design

Before engaging in a detailed conversation regarding the practical applications of teaching for transfer, an interdisciplinary investigation of how the brain learns, stores, and recalls information—which, when combined, is commonly referred to as memory—is warranted. This section provides an overview of contemporary understanding of memory with a concentration on

5. Metacognition refers to what “people know about cognition in general, and about their own cognitive and memory processes, in particular, and how they put that knowledge to use in regulating their information processing and behavior.” Asher Koriat, *Metacognition and Consciousness*, in *CAMBRIDGE HANDBOOK OF CONSCIOUSNESS* 289, 290 (Philip David Zelazo, Morris Moscovich, and Evan Thompson eds. 2007).
6. Some of the finest writing allows a reader:
 “To see a World in a Grain of Sand,
 And a Heaven in a Wild Flower,
 Hold Infinity in the palm of your hand,
 And Eternity in an hour.”
 William Blake, *Auguries of Innocence*, in *THE PORTABLE BLAKE* 150, 150 (Viking Press 1968).
7. In introducing motion practice for bond redetermination for a detained immigrant, you might begin the class by asking students whether they have had to deposit funds to insure later performance, for example, a security deposit for an apartment. Have any of them depended on a family member to provide the funds or serve as guarantor? When considering the importance of community ties in a judge’s evaluation about the bond amount, you may wish to ask students about their own current ties and what would make it difficult (or easy) for them to suddenly “leave town.”

how memories are both created and recalled, with a practical emphasis on education and curriculum design.

In support of this goal, this section will briefly describe different germane lenses through which memory can be studied; provide an overview as to how long-term memories are created; and discuss how to facilitate the accurate recall of information—even in adversarial conditions.

Memory: Popular Misconceptions

Perhaps even more pernicious than the myth that people only use 10 percent of their brain are the myths that memory “works like a video camera,” and that “memories are immutable once they are formed”.⁸ In contrast to that opinion, research has thoroughly documented that, unlike computers, human brains cannot store discrete and immutable pieces of information in localized areas of the brain.⁹

While the idea that memory is both plastic and decentralized may offer some initial discomfort, an improved, tactical understanding of the neurological mechanisms behind memory formation is readily attainable, and can be utilized to design curricula with greater transferability.

A Mechanical Understanding of Memory Creation

Much like intelligence,¹⁰ memory is most accurately categorized into multiple discrete subcategories. Among these, the ability to remember facts and events, a subset of memory known as “declarative memory,” is often how most people define “memory.” However, other forms of memory observably exist. In direct contrast, non-declarative memory—also known as procedural memory—encompasses skills and unconscious knowledge. To illustrate: Remembering the mechanics of how to submit a motion is declarative memory; remembering when it would be tactically advantageous to submit a motion is procedural memory.

Beyond the differences between declarative and procedural memory, additional paradigmatic lenses have been used to describe memory, some of which lend themselves particularly well to the practical goal of teaching for transfer. Foremost among these is the difference between short-term and long-term memory.

Short-term memory encompasses our ability to temporarily store and interact with information that has not yet been, nor may ever be, encoded into long-term memory. For example, remembering a person’s name long enough

8. See, e.g., Daniel J. Simons & Christopher F. Chabris, *What People Believe about How Memory Works: A Representative Survey of the US Population*, 6 PLOS ONE 1, 1 (2011), <http://www.plosone.org/article/fetchObject.action?uri=info%3Adoi%2F10.1371%2Fjournal.pone.0022757&representation=PDF>.

9. See, e.g., ERIC KANDEL ET AL., *PRINCIPLES OF NEURAL SCIENCE* (4th ed. 2000).

10. See, e.g., HOWARD GARDNER, *FRAMES OF MIND: THE THEORY OF MULTIPLE INTELLIGENCES* (1983).

to repeat it back—but not long enough to introduce that person to a friend five minutes later—would be a classic example of failing to encode short-term memory into long-term memory.

At the same time, failures to encode short-term memories into long-term memories are wholly understandable. The amount of information that can be held in short-term memory is acutely finite, making it relatively easy to forget one piece of information out of a need to actively engage more pressing information. One of organizational psychology's most famous studies explored this phenomenon, finding that people are generally able to store between five and nine distinct items in short-term memory.¹¹ Contemporary research suggests that this 7 ± 2 estimate may be an overestimation, and that most people can reasonably expect to be able to actively engage no more than four discrete pieces of information.¹² The specifics of the quantity of information that may be actively engaged is far less important than understanding that people, including people who are actively trying to remember information, are able to actively keep only a finite amount of information in mind at any single point in time.

While the ability to create short-term memories is essential to learning, the ability to create long-term memories is practically the definition of effective instruction. Unlike short-term memory, long-term memory describes the practically limitless capability of the human brain to store vast amounts of information for a functionally indefinite period of time; to decentralize information throughout the brain; and to remove the necessity that information be held in conscious thought in order for it to be remembered.

Once information has been successfully encoded into long-term memory, that information is available for long periods of time without conscious maintenance. Looking back to the example of recalling names, the names of one's friends and family can be ignored for years, yet still be accessed with relative facility.

While most of the specific mechanics on the creation of long-term memories are of negligible practical use when designing legal curricula, a few concepts seem particularly useful in promoting the effective transfer of information.

*Long-Term Memory Creation: How to Create Memories that Transcend the Classroom,
And are Available throughout an Attorney's Career*

We are constantly immersed in an ocean of stimuli that can be recalled using short-term memory, from reading the content of traffic signs through engaging new arguments put forth in an academic debate. However, most of these data are rapidly purged from memory. In order for information to transition from short-term memory to long-term memory—a process known as consolidation—

11. George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 63 *PSYCHOL. REV.* 81, 92 (1956).

12. See, e.g., Nelson Cowan, *The Magical Number 4 in Short-Term Memory: A Reconsideration of Mental Storage Capacity*, 24 *BEHAV. & BRAIN SCI.* 87, 87 (2001).

both time and effort are required. Furthermore, in order to truly understand this phenomenon, it is essential to understand that the creation of long-term memory requires mechanical changes in the brain.¹³

Investigations into the mechanics of memory date back at least as far as Aristotle. However, our current understanding of physical memory formation was most profoundly influenced by William James. In *The Principles of Psychology*, arguably the work that defined contemporary psychology as an independent science, William James proposed, “When two elementary brain-processes have been active together or in immediate succession, one of them, on reoccurring, tends to propagate its excitement into the other.”¹⁴ In short, James theorized that when thoughts co-occur, having any one of those thoughts would make it easier for the others to reoccur.

Perhaps surprisingly, James’s theoretical model of memory formation has been repeatedly upheld by modern neurology, initially being quantified by the neurologist Donald Hebb.¹⁵ According to Hebb’s research, which added evidence to James’ hypothesis, long-term memories are consolidated by repeatedly activating areas in the brain associated with those memories. In Hebb’s own words:

Let us assume that the persistence or repetition of a reverberatory activity (or “trace”) tends to induce lasting cellular changes that add to its stability. . . . When an axon of cell A is near enough to excite a cell B and repeatedly or persistently takes part in firing it, . . . [a physical change] takes place in one or both cells such that A’s efficiency, as one of the cells firing B, is increased.¹⁶

In other words, repeatedly activating associated synapses strengthens their connections, analogous to the result of exercising a muscle on that muscle’s functional strength. Effectively, both effort and repeated brain activity is required to create and maintain memories. Neurologists pithily—though memorably—describe this with the rhyming mnemonic “nerves that fire together, wire together.” Conversely, neglecting to activate these neuronal connections can cause attenuation. Or similarly pithily, “out of sync, lose your link.”¹⁷

Given an understanding of the relationship between memory formation and successful instruction, and an academic understanding of some key mechanisms of long-term memory, it may be useful to examine a set of practical examples showing how an understanding of memory can be used to improve the successful transfer of information beyond the classroom.

13. See, e.g., Mauro Costa-Mattioli & Nahum Sonenberg, *Translational Control of Gene Expression: A Molecular Switch for Memory Storage*, 169 PROGRESS BRAIN RES. 81, 95 (2008).
14. See 1 WILLIAM JAMES, *THE PRINCIPLES OF PSYCHOLOGY* 566 (1890).
15. See DONALD HEBB, *THE ORGANIZATION OF BEHAVIOR* (1949).
16. *Id.* at 62.
17. See, e.g., Carla J. Shatz, *The Developing Brain*. SCI. AM., Sept. 1992, at 60.

Spaced Study: Learning Everything Now ≠ Learning Everything Forever

It has long been observed that spaced learning is a more effective means of remembering bodies of information than massed learning (i.e., “cramming”).¹⁸ The findings in this area are quite robust, and have been extrapolated to multiple areas of learning and memory—including areas directly applicable to legal curricula.

While multiple explanations of this effect may be offered, recall that creating and strengthening physical connections between neurons requires the creation of new proteins. Just as it takes time to grow fingernails or heal a broken bone, it takes time for a brain to make the physical connections that result in long-term memories. Correspondingly, short and intense learning sessions—be they caused by student procrastination or by ambitiously designed course work—may ultimately be counterproductive to the successful long-term transfer of information to students.

Testing: The Benefits of Forced Recall and Exposed Ignorance

Careers’ worth of research has been dedicated to the topic of improving long-term memory formation and recall. However, despite the breadth of approaches available, a few lines of research stand out as “low-hanging fruit” to improve effective transfer of legal curricula. Key among these is the intentional use of academic testing to facilitate long-term recall.

Testing has repeatedly been shown to improve academic performance in students. Specifically, the combination of traditional study with tests is significantly more effective in improving academic performance than spending the same amount of time studying without testing.¹⁹ Furthermore, a combination of testing and studying has been shown to slow the rate at which material is forgotten.²⁰ Unfortunately, college students often don’t employ self-testing in their study processes. Most claim to study solely by rereading course books, lecture notes, etc.²¹ Accordingly, the inclusion of more frequent testing into a legal curriculum, be it through formally quizzing students in a classroom environment or through encouraging self-testing and metacognition surrounding the studying process, should be considered as an effective way to improve both successful transfer of information and the inhibition of knowledge attrition.

18. See, e.g., HERMANN EBBINGHAUS, *MEMORY: A CONTRIBUTION TO EXPERIMENTAL PSYCHOLOGY* (Dover Publications, 1964) (1885) (in particular, Chapter 8 discusses retention as a function of repeated learning); see also, Daniel T. Willingham, *How We Learn: Ask the Cognitive Scientist*, 26 *AM. EDUCATOR* 37 (2002), available at <http://www.aft.org/newspubs/periodicals/ae/summer2002/willingham.cfm>.
19. See Mark A. McDaniel et al., *Generalizing Test-Enhanced Learning from the Laboratory to the Classroom*, 14 *PSYCHONOMIC BULL. & REV.* 200, 200 (2007).
20. See Henry L. Roediger & Jeffrey D. Karpicke, *Test-Enhanced Learning: Taking Memory Tests Improves Long-Term Retention*, 17 *PSYCH. SCIENCE* 249, 249 (2006).
21. Jeffrey D. Karpicke et al., *Metacognitive Strategies in Student Learning: Do Students Practice Retrieval When They Study on Their Own?*, 17 *MEMORY* 471, 472 (2009).

What activities do you use in your teaching that force the students to recall information? Are these activities in class? Outside of class? How might you use a variety of recall mechanisms in a future course?

Scaffolded Memories:

Utilizing Existing Memory Frameworks to Enhance Long-Term Memory Creation

As the mechanical underpinnings of long-term memory formation are deeply based on connecting pre-existing neural pathways in new ways, the existence of evidence bolstering the idea of “associative memory” may not be surprising. While multiple lines of investigation have been used to describe and investigate associative memory, one of the most useful and accessible approaches is the idea of “scaffolding”.²²

At its most essential, psychological scaffolding is the idea that people integrate new information into existing frameworks of knowledge. As an example, intentional scaffolding can be observed when an instructor builds on an understanding of arithmetic in order to teach algebra.²³

At its most practical level, scaffolding has been proactively used to assist the encoding of information into long-term memory. For example, students learn foreign words more effectively when an effort is made to place these words into an existing framework.²⁴ For example, Pyc and Rawson have shown that students trying to learn that the Swahili word *wingu* means cloud learn more effectively if that word is placed into a pre-existing framework. Specifically, *wingu* is easier to recall when students make the association: “Birds have wings. Birds fly in the clouds,” than if they try to remember the definition with no framework to assist them.

Dear reader, can you recall a rule or legal premise that you recently introduced in your class? If so, can you determine where this new material fits in your own mental scaffolding? Can you recall how and when you made the connection yourself? Does knowing how you have previously connected new information make it easier for you to comprehend how your students might be aided in absorbing legal principles that are new to them?

While conscious scaffolding can profoundly benefit students, a conscious effort to scaffold information is not a prerequisite to taking advantage of building information into existing frameworks. As an example, unconscious scaffolding can be observed in a phenomenon called interleaving, where study is performed on multiple related topics (e.g., math and physics) for shorter periods of time. This process allows for greater “cross-pollination” between topics and allows students to unconsciously create their own scaffolded frameworks. Ultimately, the use of interleaving by students during study,

22. See, e.g., GEORGE LAKOFF & MARK JOHNSON, *METAPHORS WE LIVE BY* (1980).

23. See LEV S. VYGOTSKY, *THOUGHT AND LANGUAGE* (Eugenia Hanfmann & Gertrude Vakar, trans., 1962).

24. See Mary A. Pyc & Katherine A. Rawson, *Why Testing Improves Memory: Mediator Effectiveness Hypothesis*, 330 *SCI.* 335, 335 (2010).

or the use of interleaving by faculty during course design may provide clear benefits to both near and far positive transfer.²⁵

Though students report a belief that blocked study (i.e., cramming) is more effective than spaced, mixed study, students assigned to an interleaving condition show a significantly greater ability to recall studied information.²⁶ Accordingly, not only is a diverse course of study prudent to ensure attorneys-in-training are able to intelligently engage a wide variety of legal topics, but evidence also indicates course diversity increases a student's ability to effectively learn—and apply—each discrete topic studied.

We can further understand the merits of scaffolding by examining what happens to information when the frameworks in which that information is stored are removed. An example of this can be seen in a type of information retrieval failure known as cue-dependent forgetting: the inability to recall information not because a memory has been lost, but rather because of missing cues, contexts, or stimuli that were present when the memory was encoded.²⁷ Ultimately, compartmentalizing memories by failing to adequately connect new information to existing frameworks is detrimental to the ability to retrieve information.

Fight or Flight: Skill Failure Mechanisms and Interventions

While the creation of memory is so essential to instruction as to be functionally definitional, creation of memory is only half of the story. If knowledge cannot be accurately and easily retrieved, the utility of that knowledge is dramatically diminished. In an academic environment, a particular concern is the assumption that students' ability to retrieve information in a classroom is an indication of their ability to accurately retrieve the same information either outside of an academic context or under stress. Unfortunately, this is often not the case. Multiple—seemingly contradictory—factors exist that can cause both experts and novices to “choke under pressure.” Fortunately, multiple effective methods exist that can improve the ability to accurately recall information even in adversarial conditions.

Excessive Distraction and Attention: Barriers to Performance

The first of these seemingly contradictory phenomena fall under the rubric of Distraction Theories. Distraction Theories propose that high-pressure situations cause performers to divide their attention between the performance of a task, metacognitive awareness of task performance, and an awareness of situational aspects that add to task difficulty. As a result of these confounding

25. See, e.g., Lindsey E. Richland et al., *Linking Cognitive Science to Education: Generation and Interleaving Effects*, 27TH ANN. CONF. COGNITIVE SCI. SOC'Y 1850, 1850 (2005).
26. See Nate Kornell & Robert A. Bjork, *Learning Concepts and Categories: Is Spacing the “Enemy of Induction”?*, 19 PSYCHOL. SCI. 585, 585 (2008).
27. See Endel Tulving, *Cue-Dependent Forgetting*, 62 AM. SCI. 74 (1974).

factors, performers are unable to apply their mental abilities to a specific task, resulting in task underperformance.²⁸

In contrast, Explicit Monitoring Theories describe situations in which increased self-consciousness about performance actually damages that performance. In other words, an excess of attention to task performance damages expertise among experts.²⁹

Despite the seeming contradiction of the causes of “choking” being both too little and too much attention, gaps between these theories can be bridged, and effective, teachable interventions that minimize impact on performance can be taught.³⁰ However, in order to better understand both the cause of Distraction and Explicit Monitoring failures and the mechanism by which interventions prevent these modes of failure, a different type of memory, working memory, must be examined.

Working Memory: How Taxing Working Memory Leads to Skill Failure, and Example Methods by which this can be Avoided

At face value, working memory and short-term memory may seem functionally identical. However, there are key differences between these two types of memory that must be understood in order to deliberately avoid the pitfalls of overtaxing working-memory systems. While short-term memory is the ability to recall a discrete amount of facts, working memory describes the ability to actively use and engage, i.e., “work with,” those facts. Remembering a phone number is an example of short-term memory; remembering that same phone number because you want to call someone is an example of working memory.

In bridging both modalities of skill inhibition discussed above—Distraction and Explicit Monitoring—it can be understood that diminishing available working memory appears to be the underlying cause of both methods of skill failure. In the Excessive Distraction condition, working memory is being used to attend to the distraction. In the Excessive Concentration condition, the metacognitive act of concentrating on a skill’s performance, and the environment in which that skill is being performed, leaves less working memory available for the performance of that skill.

Fortunately, therapeutic interventions that decrease demands on working memory have been repeatedly validated and are widely utilized outside a classroom setting. Perhaps the best-studied—and applied—of these examples

28. See, e.g., Claude M. Steele, *A Threat in the Air: How Stereotypes Shape Intellectual Identity and Performance*. 52 AM. PSYCHOLOGIST 613 (1997) (describing how racial and gender stereotypes can cause women and minorities to underperform academically).
29. See, e.g., Sian L. Beilock & Thomas H. Carr, *On the Fragility of Skilled Performance: What Governs Choking Under Pressure?*, 130 J. EXPERIMENTAL PSYCHOL. GEN. 701 (2001) (examining the concept of “choking under pressure” and experimenting different ways to ameliorate it).
30. See, e.g., SIAN BEILOCK, *CHOKING: WHAT THE SECRETS OF THE BRAIN REVEAL ABOUT GETTING IT RIGHT WHEN YOU HAVE TO* (2010); see also Marci S. DeCaro et al., *Choking Under Pressure: Multiple Routes to Skill Failure*, 140 J. EXPERIMENTAL PSYCHOL. 390 (2011).

are techniques that find ways to obviate the need for constant attention on either a task or an environment, and correspondingly tax working memory.

As a “near transfer” example for improving academic performance, the simple act of having freshmen write about their thoughts and concerns about transitioning from a pre-collegiate to a college environment has a significant beneficial effect on academic performance. The hypothesis behind this is that working memory is taxed by both the constant presence of and attention to the stress of matriculation. In this case, the act of recording thoughts allowed students to reduce the amount of mental attention being spent on these worries, and correspondingly reduced the demands on working memory.³¹

Furthermore, the “diary condition” was not only shown to increase working memory in student participants, but a strong correlation was also discovered between increased working memory and increased GPA. Ultimately, a clear relationship can be observed between the availability of working memory and academic performance.

Professionals outside of the academic world have used similar interventions to increase productivity. As example, one of the key pillars behind the popular Getting Things Done (GTD) productivity method is designed around the benefits of recording a list of upcoming tasks so that the mind is free to concentrate on the execution of tasks at hand—rather than making sure no essential task is forgotten.³² While it is unclear whether this specific set of procedures is the normative approach to productivity-improvement, it is telling that the straightforward approach of minimizing the need to tax working memory has been so widely adopted in the professional world.

The Practical Application of Psychological Science in Teaching for Transfer in the Law Clinic

While the demands in legal clinical instruction are more extreme than the demands of learning algebra or memorizing Swahili vocabulary, the underlying requirements align with instructional needs across disciplines. It is essential to effectively utilize existing knowledge both to develop skills (e.g., learning new skills which have prerequisite knowledge) and to facilitate recall through improved association (e.g., using frames of reference as access cues).

In subsequent sections, clinicians will provide an overview of transfer in relation to clinical pedagogy, provide a series of concrete examples of effective transfer in a clinical environment, and provide a prescriptive outline to facilitate transfer in clinical pedagogy.

31. See Kitty Klein & Adriel Boals, *Expressive Writing Can Increase Working Memory Capacity*, 130 J. EXPERIMENTAL PSYCHOL. 520 (2001).

32. See DAVID ALLEN, *GETTING THINGS DONE: THE ART OF STRESS-FREE PRODUCTIVITY* (2001).

II. Transfer of Learning Theory for Clinical Pedagogy

Transfer of learning is the ultimate goal of education: We aim to teach doctrine, skills, and critical reasoning and expect that students will readily apply them in the workplace.³³ But, unfortunately, the paradox of transfer shows that students struggle mightily to do just that. Examples from the law clinic abound. Despite receiving rigorous training in doctrinal law, formal analysis, writing, and oral presentation in their first three semesters of law school, clinic students often struggle to “transfer” much of that learning to their clinic work:

When assigned to produce a research memorandum, some will produce a few paragraphs of bare legal conclusions, sprinkled with one or two case citations.

When asked to summarize the facts in a supervisory meeting or memo, few will think to use the elements of the legal test or claim as part of the fact-selection process.

When assigned to conduct a hearing or interview for the first time, few students will see, without considerable coaching, how their training in analysis, persuasion, and oral presentation can be adapted to the new setting. The task feels disconnected to any previous experience.

Every time clinic students struggle to apply their most fundamental training, fewer resources are available for exploring the finer clinical skills, such as narrative persuasion, case theory, professional identity formation, and so on. Even more troubling, these experiences suggest that students may also fail to recall and apply many of their clinical skills in their future work.

The same transfer problem is found in every field of study, workplace, and clinical teaching program. For example, the educational literature contains numerous studies attempting to ameliorate transfer problems within teaching

33. According to the authors of one popular set of transfer teaching strategies, before discussing specific teaching strategies, we should set goals for what we want our students to transfer, and to which destination contexts. As to the “what” of transfer, clinical programs can set their own curricular goals, but some obvious candidates would be (1) broad legal concepts and themes; (2) particular doctrinal knowledge and principles; (3) a broad range of legal skills; and professional ethics, attitudes, and work habits.

As for which contexts clinics will target for transfer, clear needs arise in at least these three areas: (1) among varied assignments within the clinic; (2) into other coursework; and (3) into internships, externships, clerkships, and law practice. See generally ROBIN FOGARTY ET AL., *HOW TO TEACH FOR TRANSFER* (1992) (identifying the “somethings, somehows and somewheres” of transfer and explaining ten methods for the transfer of learning to be engaged in by both teachers and students). Finally, as to methods for encouraging transfer, clinicians may wish over time to develop a multifaceted approach, including the following curricular and course structures, some of which may require a long and challenging process of collaboration with the wider faculty.

clinics in social work, nursing, and medicine.³⁴ Clinicians may find very familiar the following introduction from the medical school context:

The experience in numerous medical schools . . . is that information learned in the basic science years is not easily activated in clinical situations. This is a classical problem within medical education, for instance in anatomy teaching, where previously learned knowledge about healthy and normal body structures is supposed to transform into patho-physiological explanations later in medical studies.³⁵

In fact, researchers estimate that only 10 percent of the billions of dollars we invest into education and training for usable knowledge, skills, and professional behaviors is measurably transferred by students to the workplace.³⁶

Before educators are exposed to the science behind the transfer problem, it is naturally very tempting to become frustrated with our students and even with their previous teachers, just as our medical school colleagues do:³⁷

Other teachers took students' knowledge for granted, knowing that they themselves had taken a course once, and said that they "should be able to assume" that the students know these things, but because of forgetfulness, or that they never learned it properly, or that the anatomy course perhaps never stressed the aspects that are important in [the clinician's] particular specialty, [the clinician] repeated or "went over" the subject matter again, so that students would re-learn, learn or remember.³⁸

34. Because transfer has to do with human psychology and learning and not any particular doctrinal field, the same problems exist in every clinical teaching environment, including social work and nursing. See, e.g., Vivienne Cree & Cathlin Macaulay, *Teaching for Transfer: Transfer of Learning in Social Work Education*, 7 SOC. WORK EUR. 18 (1999); William Lauder et al., *A Case Study of Transfer of Learning in a Family Health Nursing Course for Students in Remote and Rural Areas*, 4 NURSE EDUC. PRAC. 39 (2004).
35. Klara Bolander Laksov et al., *How Do Medical Teachers Address the Problem of Transfer?* 13 ADVANCES HEALTH SCI. EDUC. 345, 345 (2008).
36. Sharan B. Merriam & Brendan Leahy, *Learning Transfer: A Review of the Research in Adult Education and Training*, 14 PAACE J. LIFELONG LEARNING 1, 1 (2005) (citing Enoch A. Awoniyi et al., *Person-Environment Fit and Transfer of Training*, 6 INT'L J. TRAINING & DEV. 25 (2002)).
37. Because transfer has to do with human psychology and learning and not any particular doctrinal field, the same problems exist in every clinical teaching environment, including social work and nursing. See, e.g., Cree & Macaulay, *supra* note 34; Lauder et al., *supra* note 34.
38. Laksov et al., *supra* note 35 at 354. In the same study, the medical clinicians were prompted for their thoughts for how to "link" the material to past and future instruction. *Id.* at 354. Some had already noticed the problem, but many had not been exposed to the transfer and had the common reaction described in the quote above. *Id.* at 353-54. The medical professors also identified many of the same problems we see in the traditional law curriculum: Although some schools are moving to problem-based instruction, the traditional medical curriculum is segregated into the "silos" problem seen in the law curriculum. *Id.* at 355. Furthermore, the medical clinicians usually did not investigate what material was currently covered in doctrinal courses in their own institutions—even those related to their own clinical field—and instead relied on their own experiences of taking similar courses as students. *Id.* at 355. By the same token, the doctrinal professors did not mindfully anticipate and learn what

Although we still do not fully understand how transfer works, experts have developed a variety of models to explain why adult learners experience transfer problems and how their teachers can intervene.³⁹ According to the prevailing literature, the interventions lie in a number of places, including teaching students to be self-regulated learners,⁴⁰ providing more opportunities for practical application in doctrinal courses,⁴¹ designing a more integrated curriculum,⁴² and designing course materials to form concrete links among the past, present, and future. Each prescription is a weighty topic in its own right. This article addresses the “linking” strategies that clinicians can use to capitalize on past training and better equip students for future law practice. Because we aim to link past, present, and future learning, it can help to categorize these linking strategies into “backward-reaching” and “forward-reaching” transfer:

Backward-Reaching Transfer (Retrieval)	Forward-Reaching Transfer (Anticipation)
<p>Generalize the problem to broaden its context.</p> <p>Engage in metacognitive reflection to find relevant past experiences and contexts.</p> <p>Create opportunities for practice over the longer term (i.e., throughout course and across the curriculum).</p> <p>Make direct references to past training.</p> <p>Create metaphors and analogies to past experiences.</p> <p>Plan for negative (improper) transfer of previous knowledge to the unfamiliar new context.</p>	<p>Identify opportunities for future application.</p> <p>Generalize and abstract rules and concepts for future application.</p> <p>Practice repeatedly.</p> <p>Practice under varied contexts and circumstances.</p> <p>Tailor the lesson to the desired outcome.</p> <p>Set clear expectations for the desired outcome.</p> <p>Model/simulate the desired approach and outcome.</p>

knowledge might be needed in the students’ future clinical instruction, again relying on their own, often outmoded training. *Id.* at 355.

- 39. See Joanne Lobato, *Alternative Perspectives on the Transfer of Learning: History, Issues, and Challenges for Future Research*, 15 J. LEARNING SCI. 431 (2006).
- 40. See MICHAEL HUNTER SCHWARTZ ET AL., *TEACHING LAW BY DESIGN: ENGAGING STUDENTS FROM THE SYLLABUS TO THE FINAL EXAM* 9-12, 98-104 (2009).
- 41. See *id.* at 115-31.
- 42. Robin Lightner et al., *Faculty and Student Attitudes about Transfer of Learning*, 3 INSIGHT: J. SCHOLARLY TEACHING 58, 64 (2008).

For busy clinicians, it will be good to hear that implementing these strategies is not always terribly complicated or time-consuming. In fact, they tend to flow naturally from a decision to make the transfer problem a very conscious influence on how we design materials, plan for meetings, and even just converse with students about their assignments. For example, the first backward-reaching strategy is to generalize the problem at hand so that its context becomes larger.

Thus, when assigning a student to write an advice letter to the client, the supervising attorney can remind her student that in addition to other considerations like tone, audience, and recordkeeping, the letter calls for the student generally to adapt the same IRAC structure in the paragraphs presenting legal advice as he would in a memo, or a brief. When giving those instructions, the professor is mindfully recognizing the transfer problem and cueing the student to “reach back” to prior learning. Naturally, the student will still struggle with the appropriate adaptation, but presumably will not overlook the basic analytical structure in the first draft. Furthermore, over time, this cueing process should create an internal understanding for the student that analytical structures apply almost universally in legal work. At that point, we would say that the context is so broad that retrieval has become almost automatic, even if the new applications are not.

The following short primer⁴³ on transfer theory⁴⁴ will help lay a foundation for discussing additional applications from the chart.

Transfer of learning is the ability to adapt previous learning to a new context. Because learning is encoded very precisely in context, even small changes in context create a sense of inapplicability.

At its very core, the problem of transfer is one of changing contexts. As discussed in the preceding section on memory and learning, new learning is

43. In the last couple of decades, the research has seen a great increase in the number of overlapping and often conflicting models for transfer. See generally Merriam & Leahy, *supra* note 36; N. Sanjay Rebello, *Consolidating Traditional and Contemporary Perspectives of Transfer of Learning: A Framework and Implications*, PROC. NARST ANN. MEETING 1 (2007), available at <http://web.phys.ksu.edu/papers/2007/rebello-narst.pdf>; Bhawani Shankar Subedi, *Emerging Trends of Research on Transfer of Learning*, 5 INT’L EDUC. J. 591 (2004). “NARST” is the National Association for Research and Science Teaching. See NARST, <http://www.narst.org> (last visited Aug. 1, 2014).
44. A deeper treatment can be found in Tonya Kowalski, *Toward a Pedagogy for Teaching Legal Writing in Law School Clinics*, 17 CLINICAL L. REV. 285 (2010); Tonya Kowalski, *True North: Navigating for the Transfer of Learning in Legal Education*, 34 SEATTLE U. L. REV. 51 (2010) [hereinafter Kowalski, *True North*] and sources cited therein. This section will instead try to build upon that work by drawing from transfer of learning literature from clinical programs across the disciplines, and by delving into more of the recent, underlying research in education and psychology.

“encoded” (stored) according to the context in which it was acquired.⁴⁵ That context does not embody just the problem being studied—it can also include the student’s physical environment and emotional state.⁴⁶ According to our developing understanding of how memory is retrieved, “cues” are the catalysts for memory search and retrieval:

In long-term memory, the limiting factor is not storage capacity, but rather the ability to find what you need when you need it. Long-term memory is rather like having a vast amount of closet space—it is easy to store many items, but it is difficult to retrieve the needed item in a timely fashion. Cues solve the retrieval quandary by triggering the information needed in a given situation. When we encode information, such as a name, we link it to other information that is present at the time—a face, a person’s appearance, where we’re standing when we are introduced. Provided with the right set of cues, we can retrieve that person’s name. Without those cues, we are at a loss.⁴⁷

Accordingly, without continued challenges to match that learning to increasingly varied contexts, it will tend to be ignored as germane only to its original, limited context.⁴⁸ When the mind searches for relevant knowledge and skills to apply in a new situation, it will pass over the contextually limited knowledge unless the schema is broad enough and strong enough to signal that the information is relevant.⁴⁹ For these reasons, novice learners typically do not sufficiently recall or apply prior learning in new situations, even when those situations appear to the instructor to be nearly identical to previous ones.⁵⁰ In the client-advice letter scenario, the instructor reminded the student that the legal explanation should usually contain basic IRAC components, adapted for the reader’s sophistication level, and so on. The science behind the strategy is to help the student to see the broad applicability of analytical legal

45. DAVID A. SOUSA, *HOW THE BRAIN LEARNS* 142-43 (3d ed. 2008).

46. Michelle D. Miller, *What College Teachers Should Know About Memory: A Perspective from Cognitive Psychology*, 59 C. TEACHING 117, 119 (2011) (“When you take in information, you encode along with it a whole host of other things, such as your surroundings, your mood state, the time of day and so on. These “other things” then become cues to retrieval.”).

47. *Id.* at 119. In terms of emotional state, in a recent column in the *Chronicle of Higher Education*, Professor James Lang recounts anecdotally how he watched a particularly moving film once when sitting in a particular chair in his parents’ home. James M. Lang, *Teaching and Human Memory, Part I*, CHRON. HIGHER EDUC. (Nov. 15, 2011), <http://chronicle.com/article/TeachingHuman-Memory/129778/>. To this day, sitting in that chair invokes memories of the experience. *Id.* The spatial dimension of encoding and recall is so important that students should even try to strengthen their schemata by making a practice of changing their study places and schedules. See Miller, *supra* note 46, at 119.

48. See Miller, *supra* note 46, at 119-20 (explaining that environmental factors at the time of learning, such as location and mood, are cues for retrieval, which is why studying in the same room where the exam will take place can actually encourage better recall).

49. See SARAH LEBERMAN ET AL., *THE TRANSFER OF LEARNING: PARTICIPANTS’ PERSPECTIVES OF ADULT EDUCATION AND TRAINING* 1-8 (2006).

50. See DAVID A. SOUSA, *HOW THE BRAIN LEARNS*, *supra* note 45, at 142. (3d ed. 2006).

frameworks—that they are not for just first-year memos but a whole host of situations—so that the schematic becomes much stronger and more inclusive, encouraging easy retrieval.

In another example, a clinic seminar simulation on client interviewing might cover a particular skill, such as framing questions to allow the client to tell her own story, rather than the story the lawyer wants to hear. A few weeks later, the student may or may not recall, without prompting, that proper framing is important, particularly if she is now working with a real client, in a different room or building, and with a different set of facts and legal problems. If she had the opportunity to practice the skills in class, and then to review and practice them before the live-client interview, the chances of her success would increase.⁵¹ For novices like most clinic students, the goal is not to transfer skills at the level of mastery, but to remember to “reach back” for previous learning and to continually enlarge one’s schema for future applications.

According to one of the most popular and classic models for transfer, students more readily recognize applications for prior learning when the new context has similarities that “line up” to make it recognizable as more familiar or “near.”⁵² The more features of the original context are changed, the “farther” away it seems, and the less likely it is that recognition will occur.⁵³ Not mentioned as frequently in the literature is the problem of “negative transfer,” where a change in context triggers a student to cue the wrong knowledge, or to apply it in an incorrect manner.⁵⁴ For example, a student might remember from first-year legal writing that the standard of review is an important component of a brief. He might therefore try to insert a statement of the appellate standard of review into a trial-level motion brief. Types of transfer can also be categorized somewhat similarly as “surface” and “deep” transfer.⁵⁵ The key distinction in near/far and surface/deep transfer seems to be the degree to which differences in the new context require the student to generalize knowledge and skills in order to apply them to a new situation.⁵⁶

As the study of learning transfer evolves, researchers have added many more layers of nuance to the models,⁵⁷ showing how the process can be helped or hindered by a range of factors. These include teacher and student

51. See *id.* at 86-88, 142-43.

52. See D.N. Perkins & Gavriel Salomon, *Teaching for Transfer*, 46 *EDUC. LEADERSHIP* 22, 25 (1988).

53. See *id.* at 25.

54. SOUSA, *supra* note 45, at 137.

55. Merriam & Leahy, *supra* note 36, at 4.

56. See *id.* (providing the example of a student driver adapting between two car dashboards, versus that of a car and an airplane).

57. Rebello, *supra* note 43, at 1 (“Contemporary models of transfer have gone beyond focusing solely on the cognitive aspects of transfer and have included several other mediating factors. . . . [t]hey take into account the socio-cultural factors that mediate transfer and view transfer from the students’ point of view rather than the researcher’s point of view. A common feature of all of these perspectives is that they consider transfer as an active dynamic process.”).

attitudes toward learning and transfer, cultural values and conditioning, present emotional states, extrinsic and intrinsic motivations, the environment provided by future employers.⁵⁸ In the more recent literature, the trend seems to be in favor of interdisciplinary theories that blend cognitive and social science. For example, the “developmental transfer” model proposed by Konkola et al. suggests that a more accurate understanding of transfer may come from blending cognitive science with Vygotsky’s model for how humans collectively create meaning, including collaborative work.⁵⁹ The type of far or “deep” transfer mostly required of lawyers is, of course, the most difficult, and probably can never be forced to occur in a mechanistic fashion, no matter how well our courses and teaching are planned. Moreover, it would not be desirable to short-cut the often tortuous process that creates thoughtful work and builds good professional judgment. In a 2001 study of legal, medical, and social work professionals, the subjects did not tend to see their ability to transfer learning as a direct result of their education, but rather as “an integral part of the meaning-making process.”⁶⁰ In the client letter example, the student will learn a great deal from struggling to adapt IRAC to a new setting, but will gain experience and judgment, expanding her context for future work involving that skill. Because her professor cued her to use her previous IRAC training from an analogous setting, she can start the assignment at a higher level of training than if she had attempted the assignment as a “blank slate,” and can direct her learning to higher-order skills rather than rudimentary processes.

In these developing transfer theories, Konkola and her colleagues draw not just from Vygotsky, but also from the literature supporting the idea that physical space is a profound influence on transfer in the sense that school, internships, and work represent rather non-porous “boundaries” in the minds of students, i.e., in their young, schematic understandings of their professional worlds.⁶¹ These researchers propose creating more spaces for “boundary crossing places” by encouraging clinicians, students, and practitioners to collaborate on projects in the end environment.⁶² In the paper, Konkola et al. proposed that educators, students, practitioners, and clients cross those boundaries and unite those seemingly exclusive domains in a “learning studio.”⁶³ In their example, an occupational therapy student worked with a leading researcher

58. Subedi, *supra* note 43, at 592 (noting that transfer of training depends in part upon “the workplace environment including supervisory support,” also known as “organisational environment and culture.”). See also Merriam & Leahy, *supra* note 36, at 10.

59. See Rita Konkola et al., *Promoting Learning and Transfer Between School and Workplace*, 20 J. EDUC. & WORK 211, 211-12 (2007).

60. Merriam & Leahy, *supra* note 36, at 4 (citing Barbara J. Daley, *Learning and Professional Practice: A Study of Four Professions*, 52 ADULT EDUC. Q. 39, 50 (2001)).

61. Konkola et al., *supra* note 59, at 214.

62. *Id.* at 220.

63. *Id.* at 220.

on stroke therapies, practicing occupational therapists, her client, and her teachers to investigate the researcher's latest technique for increasing mobility by using mirrors to create a sense of symmetry in limb exercises.⁶⁴

Clearly, clinical education and other ecological learning opportunities are among the most important places for profound transfer to occur. Based on the foregoing understanding of how transfer works, the remaining strategies for reaching forward and backward can be made more concrete.

Clinicians can aid transfer by expressly cueing their students' past and future learning.

Over the years, researchers and educators have proposed a number of transfer-friendly strategies for teaching, course design, and curricular design.⁶⁵ A number of teaching strategies can help students not only to recognize the applicability of previous learning to a new context (backward-reaching transfer), but also the importance of building schematic locations for possible

64. Konkola et al., *supra* note 59, at 221-22. Finally, some researchers have already begun to propose a new ecological model that focuses not just upon memory and cognition, but also upon how students engage with their learning environments. See David P. Daniel & Debra A. Poole, *Learning for Life: An Ecological Approach to Pedagogical Research*, 4 PERSP. ON PSYCHOL. SCI. 91, 94-95 (2009). In that school of thought, legal educators should be concerned not just with teaching strategies, but also with how to encourage good study and work habits. *Id.* at 94. Their concerns grew from alarm that teaching strategies couched in even the most recent, presumably sound, cognitive science did not always result in positive outcomes in assessments. *Id.* at 94. Apparently, sometimes the culprits are not so much the techniques employed, but the students' own lack of motivation to read or their distraction by social media and the like. *Id.* at 94. Even more important, students often fail to self-test, taking a more passive approach to the material, despite evidence that self-testing greatly enhances retention and transfer. See Jeffrey D. Karpicke et al., *supra* note 21, at 471, 474-75, 477. Thus new directions for transfer research may need to include studying transfer in the context of students' physical, temporal, and emotional space. *But cf.* Daniel & Poole; *supra* note 64, at 94-95 (arguing that transfer should be studied within the environment in which it occurs). Presumably, other learning barriers such as stereotype threat and beliefs in fixed intelligence should also play a serious role in future models of transfer of learning. See generally C. M. Steele, & J. Aronson, *Stereotype threat and the intellectual test performance of African-Americans*, 69 J. PERSONALITY AND SOC. PSYCHOL. 797-811 (1995) (stereotype threat); C. M. Mueller & Carol S. Dweck, *Intelligence Praise Can Undermine Motivation and Performance*, 75 J. PERSONALITY AND SOC. PSYCHOL. 33-52 (1998) (fixed intelligence).

65. See generally, e.g., ROBERT E. HASKELL, TRANSFER OF LEARNING: COGNITION, INSTRUCTION AND REASONING (2001), discussed in Kowalski, *True North*, *supra* note 44, at 59-77; FOGARTY, ET AL., *supra* note 33. Based on her assessment of the current literature on memory and cueing for recall, Professor Miller recommends (1) encouraging students to study in shorter sessions with breaks in between, and in a variety of physical and temporal contexts; (2) using study tasks and exercises that better match the form of assessment; (3) including "vivid" and emotionally "charged" materials in teaching; (4) helping students relate the materials to their personal histories; (5) encouraging students to imbue material with structure and meaning; (6) incorporating active learning in the classroom in order to encourage participatory, rather than vicarious, learning; and (7) favoring "frequent, low-stakes" testing over the more traditional, high-stakes cumulative final. Miller, *supra* note 46, at 119-20.

future applications of current learning (forward-reaching transfer).⁶⁶ While the traditional model typically orders teaching techniques by near and far transfer, the same types of techniques can also be categorized by their usefulness for reaching forward and backward in time and context.⁶⁷ Because this article focuses on how clinicians can help students to connect past and future learning to their clinic work, the forward/backward concept will be used here to organize these teaching strategies.

Many of these strategies call for very explicit instructions to students. Typically, the transfer-related cues have more to do with empowerment than with pervasive direction. The ideal approach is to reduce “extraneous” cognitive load that is not necessary for students’ learning, and to allow students to wrestle instead with the “intrinsic” cognitive load that forms the essence of the problem.⁶⁸ Educators can use a staged approach to increasing the task’s complexity (and thus the cognitive load) as the learner increases in expertise.⁶⁹ If the professor feels important learning can flow from making some “beginner’s mistakes,” then a mindful decision not to aid transfer may be appropriate. But many times, professors would like students to transfer earlier learning so that resources can be devoted to deepening skills. In short, transfer strategies help clinical students to access what they already know.

A well-known study illustrates what kind of learning is most amenable to transfer. In what has become known as the Eagle Challenge, Kay Burgess, Xiadong Lin, and Sean Brophy assigned fifth-graders, college students, and school principals without any training in wildlife management matters to devise strategies for increasing eagle populations.⁷⁰ In the first study, both the grade school children and college students failed profoundly to devise

66. Perkins & Salomon, *supra* note 52, at 26-27.

67. *Id.*

68. Joroen J. G. Van Merriënboer et al., *Teaching Complex Rather Than Simple Tasks: Balancing Intrinsic and Germane Load to Enhance Transfer of Learning*, 20 APPLIED COGNITIVE PSYCHOL. 343, 347 (2006).

69. *Id.* at 347, 350. See also Peter Toll Hoffmann, *The Stages of the Clinical Supervisory Relationship*, 4 ANTIOCH L. J. 301 (1986) (advocating that clinicians should allow their students to progress along a continuum from directive to nondirective supervision as experience and skill increases); Paula Lustbader, *Construction Sites, Building Types, and Bridging Gaps: A Cognitive Theory of the Learning Progression of Law Students* 33 WILLAMETTE L. REV. 315 (1997) (describing a model for the progression of law students from novice (“technician”) to expert (“creator”) and its pedagogical implications).

70. See, e.g., Daniel L. Schwartz et al., *Efficiency and Innovation in Transfer*, in TRANSFER OF LEARNING FROM A MODERN MULTIDISCIPLINARY PERSPECTIVE 1, 6-8 (Jose P. Mestre ed., 2005). The Burgess, Xiadong, and Brophy study appears to remain as yet unpublished, and thus can be directly cited only through the various and authorized recountings of Schwartz et al. See John D. Bransford & Daniel L. Schwartz, *Rethinking Transfer: A Simple Proposal with Multiple Implications*, in 24 REV. OF RES. EDUC. 61, 61 (A. Iran-Nejad & P. D. Pearson eds., 2001) (acknowledging aid and permission received from the study’s authors).

workable solutions.⁷¹ The college students' resounding failures were particularly surprising because they were expected to have better problem-solving skills and general knowledge.⁷² They simply lacked the content knowledge necessary to understand basic problems in eagle reproduction.⁷³

In a later version, the study changed so that the groups were asked not to provide solutions, but instead to brainstorm the questions that would need to be researched in order to devise an appropriate solution.⁷⁴ In that later, improved study, the college students and a new cohort, the school principals, produced increasingly sophisticated and appropriate research questions that included environmental hazards, relationships within the ecosystem, and so on.⁷⁵ Schwartz, Bransford, and others cite the Eagle Challenge as evidence that transfer can be seen as a more successful endeavor when we view the goal of transfer as not merely to directly apply knowledge and skills with immediate accuracy in a "sequestered problem solving"—type setting, but to encourage good application through increased training in "preparation for future learning," i.e., the "abilit[y] to learn in knowledge-rich environments" where they more realistically have access to research materials, experienced colleagues, and so on.⁷⁶ In other words, "[w]hen people do not have full-blown skills that they can apply directly to solve a problem, they need to learn, and their interpretations play a large role."⁷⁷

Based on their observations about the role of "interpretive knowing," Professors Schwartz, Bransford, and Sears describe the problem in terms of students' attempts to "transfer in" previous learning and unique life experiences and perceptions, as well as to "transfer out" their learning in order to solve a particular problem.⁷⁸ Under this theory, clinical law professors should not necessarily expect students immediately to apply previous learning at a highly proficient level, but should instead look for improved use of previous learning to *develop* problem-solving skills.

Taken together, the various transfer theories have much to offer clinical pedagogy. Based on both the more traditional, strictly cognitive theories and those that take the life experience, environment, culture, and other contexts into account, clinicians can encourage better transfer in and out of the clinic. These may include expressly discussing transfer barriers and skills with their students, generalizing problem-solving skills, and expressly pointing out opportunities for transfer in and out.

71. Schwartz et al., *supra* note 70, at 1, 6.

72. *Id.* at 6-7.

73. *Id.*

74. *Id.* at 7-8.

75. *Id.*

76. John D. Bransford & Daniel L. Schwartz, *supra* note 70, at 68.

77. Schwartz et al., *supra* note 70, at 11.

78. *Id.* at 11-12.

For example, when students attempt to reach backward (transfer in learning), clinical educators should expect both some creative solutions and some “white noise” or interference from students’ personal perceptions and learned behaviors from previous training and life experience. Seminar discussions, clinic manuals, and supervision meetings can include discussions about previous courses and even life lessons that contain solutions to current problems. Those discussions might sometimes include direct references to past training and analogies to similar situations. Further, training students to become more aware of their own learning (in other words, to employ metacognition) helps to cue past training. Last, as a difficult but worthwhile long-term goal, clinicians and other legal educators can join forces to create a more coherent and connected curriculum. Some specific examples include:

Backward-Reaching Strategy	Example
Generalize the problem to broaden its context.	When assigning a draft client letter, point out that the portion dealing with legal analysis typically will have IRAC structure, much like memos and briefs, but usually in a more truncated form.
Engage in metacognitive reflection to find relevant past experiences and contexts.	Before a supervision meeting or draft deadline, assign the student some reflective questions to consider. They could be as objective as asking whether there are any regulations on point, or as subjective as asking what emotional response a certain fact is likely to evoke in a judge, and how to neutralize it.
Create opportunities for practice over the longer term (i.e., throughout course and across the curriculum).	To the extent practicable, allow a single student to counsel more than one client, or engage in multiple simulations in addition to a single live-client counseling opportunity.
Make direct references to past training.	When preparing for a motion hearing, point out that many of the skills are similar to the moot court training received in the first year. This direct cue can accompany other strategies, such as metacognitive reflection about what made iL oral arguments and observed arguments persuasive.

<p>Create metaphors and analogies to past experiences.</p>	<p>In the client advice letter scenario, the professor generalized the skill by identifying IRAC as the underlying structure (the professor also could have the student reach the same conclusion through guided reflection), but also analogized the process to the first-year memo and brief.</p>
<p>Plan for negative (improper) transfer of previous knowledge to the unfamiliar new context.</p>	<p>In the motion hearing scenario, discuss the differences between appellate and trial argument strategies (assuming that the professor has determined the student’s first-year experience was a simulated appeal); in the client advice letter scenario, note that few clients expect or want full rule explanation, case citations, or really anything more than a simple rule statement and conclusory application in their advice letter IRAC paragraphs.</p>

Can you identify a teaching exercise similar to those discussed above that you used in a previous course? Can you imagine constructing a new exercise for a future class that will incorporate one of these backward-reaching strategies?

In order to help students “transfer out” or reach forward to new clinic assignments and to law practice, clinicians can nurture professional identity through meetings that identify future uses for skills. For example, a student in the criminal defense clinic who wants to practice commercial litigation will tend to see those contexts as too “far” to warrant any applicability. Teachers can connect those schemata by showing how context-specific skills nevertheless overlap and strengthen into a broader skill set. When clinical professors expect particularly accurate and concrete transfer to an assignment, such as simulated deposition training from seminar to a live-witness deposition, the expectation to transfer should be made explicit, not assumed. The various aspects of the training that “match” the upcoming assignment should be described—or if the student is at a level where increased cognitive load would be conducive to growth, the student can be challenged to identify those aspects himself.

Forward-Reaching Strategy	Example
Identify opportunities for future application.	In the client advice scenario, make the IRAC connection to a demand letter the student is writing in another case, or brainstorm other types of documents the student will encounter in practice (settlement brochures, proposed orders, etc., and how IRAC structure flexibly adapts to those varied work products).
Generalize and abstract rules and concepts for future application.	When triaging a cross-examination after simulation or even trial, compare the effectiveness of open and closed-ended questions in order to identify the working principle.
Practice repeatedly.	Just as in the backward-reaching strategies, as resources allow, repeat applications in order to build a stronger schema for recall months and years into the future. Clinicians already do this in the form of mootings, but it can apply to written work and research as well.
Practice under varied contexts and circumstances.	When opportunities to repeat arise, try to offer early repetition in very close contexts, and then more distant contexts. For example, a student might moot the same cross-examination repeatedly but in different rooms, then away from the law school, and then with different surprise conditions, then in the actual hearing, and then afterwards when helping the supervising attorney to model cross-examination to students in other cases.

Tailor the lesson to the desired outcome.	Because clinical training is so practical, this strategy often has greater applicability in the classroom setting, and asks professors to consider avoiding canned exercises that are not thematically related to desired work product. For example, in a contracts class where the students are assigned to draft a liquidated damages clause, a preparatory exercise that teaches students to avoid legalese but does not show them how to compile whole sentences into a unified clause will cause too great a context shift.
Set clear expectations for the desired outcome.	When assigning a student to draft a proposed order, give instructions for the required sections, formatting, and so on, or train the student to know to ask those questions in the meeting (including viewing textbooks and samples in advance, talking to other students, etc.); when assigning a "memo," clarify whether a full research memo is desired versus a truncated "e-memo" or status memo.
Model/simulate the desired approach and outcome.	Clinicians typically excel in this strategy and demonstrate it every time they moot a hearing, teach by simulation, model a skill in the classroom, respond professionally to a challenging situation, or even ask students to actively observe while they engage in direct client representation.

In the sections that follow, clinicians will discuss their own experiences and demonstrate how such supervisory sessions and seminar discussions might take place.

III. Backward-Reaching Transfer: A Clinical Case Study

If facilitating backward-reaching transfer is a pedagogical goal in the clinic, how can clinicians achieve this goal? This section suggests techniques for the

clinical setting that enable students to draw on previous experiences to facilitate learning in the clinic. These techniques enable clinicians to implement the general strategies of explicitness, generalization, repetition, analogizing, and metacognition. Facilitating backward-reaching transfer can improve students' performance and learning in the clinic by helping them to connect their range of previous learning experiences to the clinic, solidifying the scaffolding of knowledge and skills those students will bring to the role of attorney.

There are four categories of techniques described here, embracing a range of strategies that many clinicians experience in teaching and supervision.⁷⁹ The first, drawing on the psychological concept of intentional scaffolding, is explicitly identifying the relevance of previous experiences and suggesting students' use of these experiences to inform their current learning. The second is using leading or questioning techniques to encourage students to draw their own connections to previous experiences. This second category includes techniques that use reflection to increase working memory, such as asking students to reflect on analogous previous experiences or asking students to identify the reasons behind their choosing to perform a task or solve a problem in a particular way. The third category draws on the psychological theory of spaced study by designing metacognitive exercises that provide space for students to draw their own connections to previous experiences that can be sources of transferred learning. This type of exercise can include prompts that ask students to generalize the problem they are currently confronting to prompt transfer of learning. A fourth category is to communicate connection building and transfer of learning as a goal of the clinical experience and part of the clinic's design, and to affirm students' efforts to incorporate transfer into their own learning experience. This last category necessarily draws on the psychological concept of forced recall and includes creating opportunities for repetition, recall, and practice.

Dear reader, can you recall consciously transferring previously learned information or methods to solve problems of your own? At this moment, can you identify a current issue in your teaching and think back to how you solved a similar problem in a different context in the past?

To understand how to operationalize the techniques, this section will use a hypothetical general direct services clinic, where students serve multiple clients, conduct initial client interviews to determine the issues the client faces, and then pursue the appropriate solutions to these issues. In this clinic, the clients frequently require representation in connection with obtaining benefits such as unemployment benefits or social security, and also often have a landlord-tenant matter with which they require assistance. The clinic is designed to include weekly seminar sessions dedicated to interviewing, case theory, litigation skills such as direct and cross examination, and ethics. In addition to seminar sessions, the students have regular meetings with a supervisor to plan and debrief their client representation experiences. Each

79. See, e.g., James H. Stark et al., *Directiveness in Clinical Supervision*, 3 B.U. PUB. INT. L. J. 35 (1993).

of the examples described below is meant to represent a different point in the timeline of a student's experience in the clinic, and to encompass both classroom and supervision experiences. The goal of these techniques is to facilitate backward-reaching transfer techniques that draw on a recognition of both "far" and "near" applications, as discussed above in sections I and II of this article. For each technique, the example will describe potential entry points for the supervisor to facilitate transfer and will also anticipate the range of student responses to these techniques.

Building Rapport in the Initial Interview

In this clinic, the initial client interview is the first major "performance" task of the students' clinic experience. The initial interview is the source of endless teaching and learning opportunities, including learning the professional skills of establishing rapport with a client and building that client's confidence in her representative.⁸⁰ Many students struggle with this initial rapport and confidence-building in their first client interactions, despite the logical assumption that students have a variety of earlier experiences that have asked them to build confidence and rapport.⁸¹ Thus, in this example, backward-reaching transfer of learning involves establishing connections between those previous student experiences and the initial client interview.

One technique for facilitating transfer could occur in a seminar session that prepares students for interviewing. In this classroom setting, the teacher could ask students, either as part of their assignment or in an in-class exercise such as a "quick write" or "pair share" to answer questions such as:

Think of a recent situation in which you met someone new. What did you do to begin to establish a connection with that person? What did that person do to begin to establish a connection with you?

Think of the last time you were uncomfortable, nervous, worried, or upset. What made you feel better? Was it something someone else did? What about that experience alleviated your discomfort?

Have you ever used the services of a professional (such as a doctor, nurse, lawyer, accountant, financial advisor, etc.)? Before meeting this person, how did you picture him or hope he would behave? How did reality contrast with your mental image? What did the person do to build your confidence in him as a professional? What did he do that diminished your confidence?

After individual student recollection and reflection prompted by these questions, the entire class can discuss connections between these experiences and the students' new clients. This technique falls in the category of leading

80. See, e.g., Alex J. Hurder, *Negotiating the Lawyer-Client Relationship: A Search for Equality and Collaboration*, 44 *BUFF. L. REV.* 71 (1996).

81. See STEFAN H. KRIEGER AND RICHARD K. NEUMANN, JR., *ESSENTIAL LAWYERING SKILLS* 82-87 (2007).

students to identify connections and accomplishes several teaching goals related to transfer. First, students are asked to individually identify “far” experiences that transfer to the pending task of establishing rapport. Second, students hear other students’ experiences that may inform their own learning. Third, the exercise models a path to transfer of learning—identifying potentially analogous experiences and drawing connections with the current task—that students can replicate for themselves. In addition, the clinician can use this classroom opportunity to identify backward-reaching transfer as a goal for the clinical experience.

Rapport-building in an initial interview can also be an opportunity for “near” transfer of learning. In this clinic, students will have more than one client, and thus more than one initial interview. Thus, the clinician can also focus on transfer of learning from a first clinic experience to a subsequent clinic experience. This may happen through metacognitive reflection exercises that are part of the design of the clinic. For example, after each representation ends, students are asked to write a case reflection memo and debrief their case with their supervisor. It may be that this structured reflection elicits student observations about building rapport with the client. Thus, developing this professional skill is already a priority and thus the focus of transfer of learning from the first client experience to the second. It may also be that the supervisor can prompt some transfer between clinic experiences in the preparation for the second client’s interview. Questions that may facilitate this near transfer include:

In your first client’s initial interview, what did you think went well?

Do you think your client connected with or responded to you? What did you observe? Why do you think that happened? Do you think choices you made or things you said or did created that opportunity?

Do you think your first client was uncomfortable in the initial interview? What did you observe? Why do you think that happened? Do you think choices you made or things you said or did created that opportunity?

In terms of connecting with your client or making her feel comfortable, what will you do the same in your second interview? What will you do differently?

Again, the clinician’s questions help the student to draw connections between the experiences by focusing reflection on the potential sources of transfer of learning for this particular task.

Eliciting Facts from a Client

Another source of learning in the initial interview is gathering thorough and detailed facts from the client. Student attorneys often struggle with eliciting

facts from a client that give the student a complete picture of the relevant incident or issue.⁸² For example, a student may ask a client if she was sick on a particular day. The client says that she had stomach pains. The student then moves on to the next day and asks if the client was sick. The client says no. By moving to the second day so quickly, the student does not ask follow-up questions about the first day, such as how the pain affected the client, whether the client sought medical assistance, whether the client took medication, or whether the client had experienced this kind of problem before. These follow-up questions, if asked, would have elicited that the client was in severe pain the morning of the first day and went to the emergency room, where they told her she needed to return for additional testing (which she did not, due to the cost) and gave her prescription medication.

The instinct to move to another topic or event before thoroughly inquiring as to the first one is a natural one, and the discipline of remaining with a topic and “drilling down” on the facts is a skill that students can develop in clinic. One way of enhancing this learning opportunity is to facilitate transfer of students’ previous experiences with fact-gathering.

A classroom opportunity for facilitating transfer to the skill of fact-gathering is asking students to reflect on previous experiences that may lead to “far” backward transfer. For example, students could discuss the following questions in small groups in a classroom setting:

Think of a situation you have been in which someone asks you for information. Examples of these might be a job interview or a medical examination. What questions did the other person ask you in this situation?

Which of these questions solicited full or detailed information from you?

Which of these questions solicited a response from you that included only partial information?

What was the difference between the questions that solicited full information and the questions that solicited partial information?

These questions lead students to identify and reflect on experiences they have had with fact-gathering, but from a different perspective. This process triggers opportunities for “far” backward transfer, where a student’s insight about a previous experience informs his client interviewing technique. In instances in which the students are not able to identify potentially analogous experiences, the clinician can explicitly name one, such as a doctor’s appointment.

For example, a student has likely been at a doctor’s appointment in which the doctor asks a series of standard, narrow questions (Are you short of breath? Are you fatigued? Do you have nausea?), but not an open question (Is there

82. See Laurie Shanks, *Whose Story Is It, Anyway?—Guiding Students to Client-Centered Interviewing Through Storytelling*, 14 *CLINICAL L. REV.* 509 (2008); KRIEGER & NEUMANN, *supra* note 81, at 96-102; Linda F. Smith, *Client-Lawyer Talk: Lessons from Other Disciplines*, 13 *CLINICAL L. REV.* 505 (2005).

anything else that doesn't feel right or is bothering you?). The student may not have thought of that experience as relevant to client interviewing, but the classroom exercise above leads the student to draw the connections to this experience and to transfer the insight that open questions can lead to more thorough information-gathering to client interviewing.

As with the preceding rapport-building example, there is also the opportunity for "near" transfer from a first client experience to a subsequent client experience. This may be from a previous internship or volunteer experience that has involved interviewing, or it may be from a first clinic case to a second one. Again, the clinician can facilitate transfer of learning by providing space for self-initiated reflection and also through supervision sessions where the student is asked to explicitly examine their previous information gathering approaches and success.

Researching the Procedure for Eviction

The first two techniques discussed were more classic "skills" elements of clinical learning, and both concerned interaction with clients. These learning opportunities are particularly suited for backward transfer techniques because students have a large pool of previous interactions with other people to draw on for backward transfer of learning. However, more "knowledge"-based elements of clinical learning are also suited for backward transfer.

Assume that a student has conducted an initial interview and learned that the client, who lives in Washington, D.C., received a letter from the landlord saying that he was going to be evicted for failure to pay his rent. The student now needs to learn the process for eviction in the District of Columbia so that she can advise the client and take possible action. This may seem like a straightforward task to the experienced practitioner, but to the clinic student who has not encountered landlord-tenant law before, the question of how to research a particular procedure can be mystifying. This is, in part, because doctrinal law school classes orient students toward case research over statutes, regulations, or court rules, and case research will rarely be the best path to learning a procedure. One supervision approach is to simply provide the relevant statute, regulation or rules to the student. But this is rarely the clinician's choice. Rather, the clinician can help the student learn how to solve this type of problem, and that supervision can include techniques to facilitate backward-reaching transfer.

One technique to encourage transfer in this situation is to use a supervision meeting to lead the student through analysis and reflection that will help her draw connections to previous experiences. For example, the clinician could ask the student to think of a previous instance in which she has had to learn how a process works. This might be how to dispute a credit card charge, how to ride the subway in a new city, or how to get advance tickets to a concert. The clinician can then ask the student to examine how she navigated this particular process with questions such as:

Where did the student start to figure out the process?

How did she identify this first step? What were the sources of information?

Did she try some paths that did not work, and how did she figure out what else to try?

How did she know when she knew enough to navigate the process?

If the student's example is how to ride the subway, her responses may include that she looked online before her trip and found a travel guide that said you had to buy a ticket at a machine in the station. Then, when the student got to the station, the machine wasn't accepting bills. So the student read the instructions next to the machine, which said that the attendant could also sell tickets. When the student looked at the attendant's booth, it was closed. So she asked a person in the station for help and learned that there was an open booth at a different entrance to the station, so she went there and purchased a ticket.

To facilitate transfer, the clinician can then help the student draw the connections between her present task—determining the process for eviction—and the experience of figuring out how to ride the subway. For example, the student's initial instinct was to look at a travel guide to learn about the subway. The clinician can affirm this instinct and ask the student to identify an analogous first step in landlord-tenant law, such as a guide to D.C. housing law or a treatise. The clinician can also ask the student to describe why just reading the travel guide was not enough. The resulting insight into the need for detail can transfer to the student planning how to obtain this next level of detail about landlord-tenant law. Just as there were instructions next to the subway ticket machine, there are "instructions" for landlord-tenant court: the relevant regulations and rules. Finally, the clinician can ask the student to describe the role played by the conversation with a local resident in her process of figuring out the subway, and then ask whether there is an analogy here, such as identifying an "expert" on landlord-tenant practice in D.C. to consult.

This process of facilitating transfer from the experience of figuring out how to ride the subway to figuring out eviction procedure is "far" transfer—the previous experience with which the student is drawing connections is not an obvious source of insight for clinical practice. There are also more closely related analogies, or sources of "near" transfer. For example, the student's representation of the client will presumably involve preventing eviction, and many students will have no sense of how courts treat the remedy of eviction. So a source of "near" transfer may be doctrinal classes in other subject areas where a drastic remedy was the potential outcome. The clinician can ask the student to try to think of examples of drastic outcomes from doctrinal classes—giving up a child, being deported, forfeiting property—and then to describe the processes that were required before that outcome could occur.

The generalization of insights such as the notice protections that are required before drastic remedies are allowed helps transfer that knowledge to the student's analysis of eviction.

There may also be opportunities for "near" transfer within the clinic experience: If the student previously handled an unemployment case, the student likely encountered a statute, regulations, and court rules in that context. So the clinician can help the student examine whether those sources of procedural knowledge might exist in the landlord-tenant context, and how similar research methods might be helpful.

Developing an Oral Advocacy Style

Performance in court is often the central source of anxiety for clinical students, and it is a final example of a clinical learning opportunity in which the clinician can facilitate backward-reaching transfer.⁸³ This particular example is one in which student anxiety creates particularly strong obstacles to identifying previous experiences as sources of transferred learning. Thus, a clinician's choice to focus on this backward-reaching transfer may be particularly helpful. Using the narrow example of oral argument, the clinician can use several techniques to facilitate transfer.

A technique that translates across settings is student reflection about previous experiences speaking to authority figures or those with power, or experiences in which students have had to persuade someone to do something for them. The clinician could do this through a written reflection such as a journal or class assignment, through a classroom quick-write or small group exercise, or in a supervision session. This reflection might lead to examples such as trying to persuade a teacher to improve a grade, persuading a parent to let you borrow the car, getting out of a speeding ticket, or convincing a co-worker of a particular choice. The clinician can then use these examples to draw some generalizable insights such as:

What arguments were effective? What arguments were not?

Did you change your tone to speak to this audience?
How? Why? Did it help your case?

Did you perceive reactions from your audience? What reactions?
Why do you think your audience had those reactions?

Did you adjust what you were saying because of
your audience's reactions? What about how you were saying it?

Did your audience share your goals? How do you know? If not, did

83. See Judith L. Ritter, *Grownin' Up: An Assessment of Adult Self-Image in Clinical Law Students*, 44 AKRON L. REV. 137 (2011) (discussing experiences with student preparation for and performance in hearings); C.K. Gunsalus & J. Steven Beckett, *Playing Doctor, Playing Lawyer: Interdisciplinary Simulations*, 14 CLINICAL L. REV. 439, 449 (2008) (discussing anxiety in trial simulations).

you try to convince the audience of your goals? How did you do that? Did your audience understand what you wanted? How do you know that? If yes, how did you communicate that? If no, what was the source of confusion or ignorance?

How easy or hard was it for your audience to agree with you? Why? Did you try to make it easier for them? How?

Each of these questions is designed to elicit student reflection about effective oral advocacy techniques—whether it is reading the judge’s reaction and adjusting accordingly, being clear about what your “ask” is, or creating “yes-able” propositions.⁸⁴ The clinician can then use these insights (in a classroom setting, perhaps collected on the board, or from written assignments, perhaps collected and distributed to the class) to help the student begin to plan her approach to oral advocacy. This example of “far” transfer is one that enables students to understand what they already know about effective oral communication, and to appreciate that the courtroom is not a wholly unique setting. This insight, allowing for transfer as to particular qualities of oral advocacy, is also a broader insight that can transfer to all areas of hearing preparation.

Finally, as in the previous examples, there are potential opportunities for “near” transfer from students’ law school experiences. Most clinic students will have had a courtroom experience, though many may have been simulated experiences. Despite these common experiences, students may not reflect on insights from those experiences, and thus the clinician can ask the students to deconstruct their successes, discomforts, and observations from these interactions with “judges” to help students use “near” transfer to facilitate their clinic learning.

Dear reader, can you pause for a moment and think of one backward-reaching strategy you have used in the past in your class, in addition to those described above? Are there other backward-reaching strategies you can incorporate to facilitate learning in your class?

IV. From Classroom to Cases:

Models of Forward Transfer Teaching, both Near and Far

A clinician contends with instances of negative transfer—that is, applying a previously taught principle or skill incorrectly—as frequently as anyone in the legal academy or the world of legal practice. Clinical law teachers encounter developing lawyers just as they first straddle the law school and law office worlds. We clinicians struggle to comprehend why a student capable of answering one hypothetical after another, whether in a classroom or on an exam, fumbles in the dark when the fact pattern has two arms, two legs and the ability to speak. As shown by cognitive psychology research, however, the many seemingly superficial differences between sitting in a classroom and sitting across the table from a client hamper the practitioner’s ability to put classroom knowledge into practice.

84. See BRYAN A. GARNER, *THE WINNING ORAL ARGUMENT* (2009).

A clinician helps unlock the advanced law student's capacity to draw upon learned principles and analytical skills; the clinical teacher facilitates this deep transfer largely through backward transfer. Clinicians accompany student lawyers as they frame and reframe the problems clinic clients bring to them. The previous section addressed backward transfer in the supervision and classroom teaching of clinic students. The current section surveys teaching techniques for forward-reaching transfer.

Apart from helping students engage their previously acquired issue-spotting and critical thinking skills, clinicians also teach new skills and legal knowledge. Even as they prepare students for application of many months of book learning, they have the opportunity to teach for forward transfer. Because these new skills and principles are soon put into service through the clinic's client work, clinicians also have chances to assess the effectiveness of their own efforts to teach for forward-reaching transfer.

When introducing core lawyering skills and the law students will need to know to serve their clients, clinicians use a range of transfer-oriented teaching techniques. Skills and legal knowledge that can be put to use through near transfer are best taught by "hugging" strategies such as simulating and matching.⁸⁵ As demonstrated below, certain skills can be practiced in simulations that are similar to their real-world uses but well-structured enough to be repeated and adjusted. More profound lawyering skills and theoretical understanding of the law, on the other hand, call for more open-ended bridging strategies.⁸⁶ As the teacher moves to far transfer, she calls upon her students to sort out the relevant circumstances in wider-ranging simulations and to become more aware of their learning processes.

Returning to the second section's chart of strategies that support backward-reaching transfer and forward-reaching transfer, we can differentiate among those anticipation techniques that are relevant to near transfer, far transfer or both. For near transfer, repeated practice, with measured variation and regular assessment, allows students to encode a skill's practical elements. Certain lawyering skills, such as a basic explanation to a client of the protections supporting attorney-client secrecy, can be remarkably similar from one context to another. Repeated practice in simulation, as well as observations of others practicing, can create a familiarity that makes recall of that skill easier. Changing the simulation facts can challenge the student to adjust the basic approach to suit the new circumstances.

Both near and far transfer benefit from a teacher's attention to the learners' motivations and the teacher's articulated expectations. Performance in rote recitals and highly structured exercises can be incentivized by a familiar mix of feedback and grading. Expanded simulations can often take the shape

85. For a comprehensive look at "hugging" strategies and their importance to near transfer in law teaching, see Kowalski, *True North*, *supra* note 44, at 97-99.

86. For a thorough discussion of "bridging" strategies and far transfer in legal education, see *id.* at 99-109.

of cooperative and/or competitive games and provide a means of pursuing winning and doing well. Negotiations or trial and argument moots, for instance, can still have declared victors but also offer participants opportunities to reflect on and discuss the quality of their performances.

Far, or deep, transfer is what is required to prepare students in the use of complex skills across vastly divergent contexts. Here, rote repetition yields to reflective practice that builds the learners' awareness of both the abstract principles informing the skill and the learning process itself. Planning out a representation strategy is a lawyering skill that cannot be introduced without implicitly or explicitly conveying one or more approaches to lawyering itself. Some of the most well-respected examples of clinical education literature illustrate how lawyers can respond to a need for legal advice in a client-centered manner or collaborate with a client in framing a narrative of events that challenges limiting assumptions about the client.

This section examines teaching for forward transfer of four clinical skills. The first two instances represent varieties of learning for near transfer: laying an evidentiary foundation for a business record, and drafting a covenant in a contract. Each of the last two attempts the more fraught project of teaching for prospective far, or deep, transfer: creating opportunities for negotiated resolutions by analyzing the interests of the parties and planning a transactional representation.

Business Record Litany

Preparing and conducting a direct examination of a witness comprises several related skills. A properly prepared direct exam flows from the case narrative brought out by the lawyer working with his or her client. The lawyer also collaborates with the client and other supportive witnesses in going over the open-ended questions he or she will pose to help make their accounts convincing. But the direct exam also has more technical aspects. A trial attorney's ability to pose the four questions needed to lay a foundation for a written business record as admissible hearsay makes up only a small part of the overall direct-exam repertoire.⁸⁷ To the uninitiated, however, a lawyer's recitation of these four questions, especially when sandwiched between questions designed to authenticate and to establish chain of custody for the

87. Following witness identification and recognition of the document, Mauet poses the central four questions this way:

Q. Was that record made by a person with knowledge of, or made from information transmitted by a person with knowledge of, the acts and events appearing on it?

A. Yes.

Q. Was the record made at or near the time of the acts and events appearing on it?

A. Yes.

Q. Is it the regular practice of the XYZ Corporation to make such a record?

A. Yes.

Q. Was that record kept in the course of a regularly conducted business activity?

A. Yes.

document, may seem impressive and daunting. Near transfer is not always easy transfer. But even complex procedures can, through constant repetition and clear cues for use, be fully mastered.

Unlike the direct-exam skill of guiding a client through an extended narrative, the business record litany can be acquired through memorization. Committing the script to memory can begin with writing the questions from memory onto 4-by-6-inch index cards. Fluid recitation in real trial conditions will come with practice in a trial simulation as similar as possible to the actual event.

In-class transfer can be heightened through practice in artificially formal conditions that mirror a courtroom or law office. For example, it may be useful to the future skill transfer to require students to dress as attorneys and perform the litany in a school's moot courtroom. Students can also be encouraged to visualize the recitation of the litany before a judge they have met, or a Supreme Court justice whose photo they have seen, or in a courtroom they have previously visited. It may also be useful to repeat the visualization from various perspectives, such as first, second (as a witness), and even third person (as an observer in a courtroom).

Aside from the success in simulating the details of a courtroom setting, a mock trial performed for classmates, teachers and a distinguished visitor as presiding judge can also ratchet up a learning lawyer's motivation on a par with the actual day in court.

The nervous energy can also create barriers to transfer similar to those that a student lawyer might experience at trial. While this association between difficulties may not itself facilitate transfer, these challenges provide an occasion for overcoming obstacles in transferring memorized information. Even instances of teaching for near-forward transfer offer opportunities for students to be aware of their learning. When skills-teaching of this kind requires so much time for practice, however, clinicians must decide what, if any, time they wish to spend helping students see how the index cards, the constant repetition, and the performance anxiety contribute to their learning of the business-record litany and other highly structured skills.

Drafting Contract Covenants

The application of certain lawyering skills involves near transfer because those skills follow clear rules as to both when and how to use them. The young lawyer need only recognize the piece of evidence to be introduced as a business record to know that she should use the business-record litany to anticipate any hearsay objection. The questions she committed to memory, or index cards, to lay the evidentiary foundation are the same as those she would ask herself to identify a document as a business record: "Is it kept in the regular course of business?" etc. Most actions taken by a lawyer are not so strictly rule-defined. Many principles of good lawyering produce mandates or guidelines, but almost all of them require judgment for their proper application. Even

a relatively straightforward task such as drafting a covenant provision in a contract can require a teacher to adjust the near-transfer approach to skills training.

To draft a contractual promise, the student must not only learn drafting conventions but also unlearn writing techniques that made his or her prose more engaging. When putting together words intended to have legal effect, the drafting attorney must be so precisely clear as to eliminate any ambiguity. "Say the same thing the same way" is how Tina Stark states the rule.⁸⁸ In prose, the use of synonyms and pronouns makes repetition of references less monotonous. A contract drafter may be inclined to vary how he or she refers to one of the parties, the item being sold, or even the act of selling. Advocates, judges or other subsequent interpreters, however, may infer significance in the drafter's choice to use a different term even when no difference was intended. The precision and discipline of a draftsman comes not only from following certain rules time and again but also from learning how and why those rules contradict other writing precepts.

To be able to recognize when a contract provision should be drafted as a promise, or covenant, as opposed to a condition, a representation or a grant of discretion, the student must become generally familiar with how the covenant provision type differs from the rest. The transactional clinician can assume safely that her advanced law students have had little or no previous training in this very practical sort of contract analysis. Clinic seminar time can focus on just the basics of identifying contract provision types, or the teacher can connect to the very important skill of recognizing contract concepts as a means of securing client objectives and then translating those concepts into provisions. Standard written out-of-class and in-class exercises, generically similar to those in high school grammar and composition courses, can help students become familiar with these important contract tools.

Interest-Based Negotiations

Even fundamental lawyering skills that have broad applicability can involve well-defined concepts, if not scripted steps. In *Getting to Yes*, the authors urge an interest-focused approach to negotiation.⁸⁹ All too often parties in disagreement all declare positions and try to pull the other parties toward them while resisting the others' similar efforts. The authors show how discussion of each party's interests and the limits on the ability to meet them without agreement can lead to a stable, mutually beneficial resolution. Even though their approach is designed to work for almost any type of bargaining, it involves definite prescriptions that follow from the authors' understanding of how people think and act in attempts to resolve conflict. Since it is possible to teach this approach to negotiation without giving the rationale for it, the

88. TINA L. STARK, *DRAFTING CONTRACTS: HOW AND WHY LAWYERS DO WHAT THEY DO* 252 (2007).

89. ROGER FISHER ET AL., *GETTING TO YES: NEGOTIATING AGREEMENT WITHOUT GIVING IN* 42-51 (2011).

question remains as to whether transfer of the skill would be furthered by teaching the technique only and skipping the explanation.

As with the contract drafting example above, the importance of exposing the student to the theory of the practice as well as the process sometimes lies with the need to unlearn previously acquired practice. Just as many students bring with them learned writing techniques that may interfere with good contract drafting, all have had some experience of bargaining. Many may have developed a reliance on positional negotiation. The teacher could simply endorse an interest-based approach without spending time on the critique, but the negotiation method is in many ways a response to positional bargaining rather than merely an alternative to it. The lawyer using principled negotiation has to be able to recognize positional bargaining both in the adversary and in him- or herself. The authors' underlying analysis serves the principled negotiator in the key skill of recognizing and responding to fruitless negotiating tactics. While teaching for transfer can, for a highly structured skill, involve rote repetition without significant reflection, the acquisition of a fundamental skill depends significantly on the student's understanding of effectiveness in the context of the skill.

Planning a Transactional Representation

In teaching how lawyers plan the transactional representation, the clinician can present the frame and allow the students to fill it as they encounter client needs. I divide the generic transactional matter into five stages: learning client objectives, factual and legal research, drafting document(s)/presentation(s), editing document(s)/presentation(s), delivery of document(s)/presentation(s). For many students, these stages and the work each involves are generically similar to the steps they have taken to complete a term paper project.

Some clinical students resist, quietly or otherwise, the direction to write out the steps. Many balk at assigning deadlines to the tasks that populate the various stages, asking, "How can I know how long it will take if I have never done it before?" The process of creating non-classroom assignments forces students to reflect on the client needs that drive the timetable. This personal organization skill itself is not so dissimilar to planning tasks law students should already have experience with. By engaging with it, they learn how to proactively anticipate their client's needs, particularly in deals that have many moving, interlocking parts.

A professor can encourage students to suggest applications of the outlining of transactional representation stages, contemplating near transfer, as well as possibilities for far transfer. While examples of near transfer (such as contract issues, administrative applications, tax appeals, employment contracts, and rental agreements) may be elicited easily, conceiving of far-transfer applications may take time and practice. Nonetheless, the results are worth the time invested as students recognize that they can use the outlining strategy for non-transactional work, such as criminal defense and civil litigation, and even farther: organizing a solo law practice and developing professional

development structures within a large firm. Writing these out for the entire class to see will help students deduce the technique of transfer and better glimpse the stretch in imagination that is critical to the process.

Dear reader, can you devise a plan to encourage your students to transfer the material you will be teaching in a few weeks into both near and far future applications?

Conclusion

In teaching for forward transfer, the clinician has not only the conventional tools of readings and written exercises, but also an important array of simulation techniques that can also introduce skills in a manner that bridges the gap between the classroom and the courtroom. With highly structured skills, the clinician should not overlook the importance of repetition and constant assessment for enabling basic competence. For more foundational skills, reflection on theory and practice can be essential even when introducing the skill. The examples above also involve varying levels of metacognitive elements, in which the student is called to awareness of his or her own learning. Every clinical skill taught warrants attention as to how it should be introduced to the advanced law student. The exercise of transfer thinking itself makes students more agile and more self-directed as they evolve from dutiful, passive students to resourceful, responsible attorneys.

V. Final Thoughts

In each of the preceding sections, the authors have sought to help you, the reader, in improving your teaching, and your own learning, by using the techniques of backward- and forward-reaching transfer. In the first section, you were introduced to current explanations of the way memory works and how new information is attached to existing scaffolds of information. This should help you consider how to guide students in relating new material to previously learned concepts. This, of course, necessitates that you, the teacher, understand where the new information should be attached.

While the concepts of backward- and forward-reaching transfer discussed in the second section of this article are simple to understand, they may not be intuitively used without conscious effort. While overtly prompting these twin techniques during class may seem stilted and disruptive, the benefits of encouraging metacognitive skills are substantial.

This article has demonstrated how backward-reaching transfer skills can improve a student's effectiveness in meeting and interviewing clients, in conducting research, and in oral advocacy. There are, of course, many more applications for this powerful skill that will provide fruitful results.

Opportunities for using forward-reaching transfer techniques are also numerous. As the examples in Part IV illustrate, a teacher can profitably encourage students to speculate on possible future applications of the skills being learned. If done effectively, the result will be similar to a "post-hypnotic suggestion," where the recollection of a particular skill or concept

will automatically pop into the learner's mind when a previously identified occurrence happens in the future. As was noted, writing on a whiteboard students' suggestions for future uses of current concepts is a valuable method for revealing the power and diverse targets of envisioning forward transfer, especially when it exposes the utility in the application of current learning to unexpectedly "far" contexts.

We hope our efforts have taken some rather recondite concepts and made them usable, encouraging you to expressly think about your own thinking and, more significantly, to direct your thoughts into considering how new information and organizational and analytical techniques can be best attached to existing scaffolds in your mind, making them useful, both in the present and in future, radically distinct, circumstances.