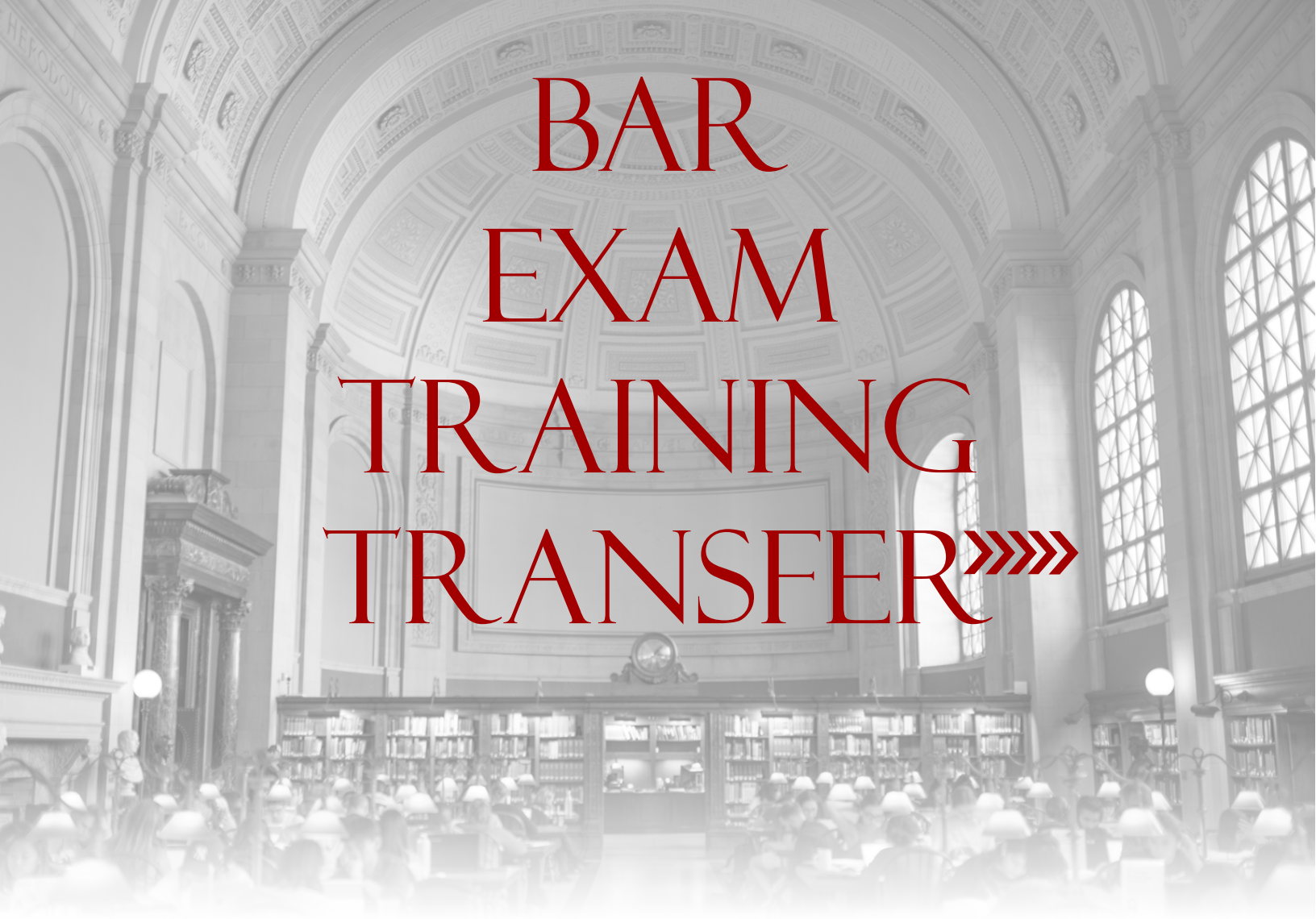

BAR EXAM TRAINING TRANSFER

How a Law School Learned to Improve a System Outcome with Evidence-Based Practice

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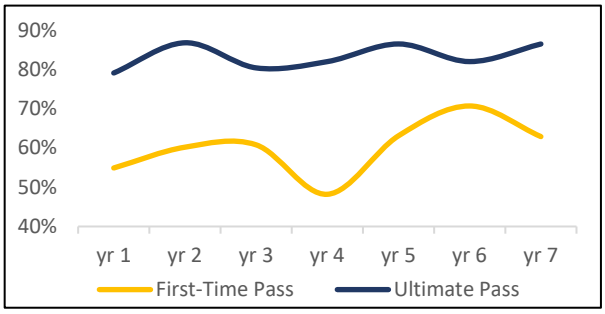
EXECUTIVE SUMMARY

This project took place at a law school whose graduates were struggling to pass the bar exam on their first attempt. The school's 30-year first-time pass rate was 15% below the state average. Despite changes to curriculum, academic support, and leadership, improvement remained elusive. The law school wanted to redesign its bar preparation program. More broadly, the school wanted to learn how to use evidence-based practice to improve system outcomes. Our main goal was to specify program changes that, based on best evidence and context-sensitive analysis, would optimize bar performance. Our secondary goal was to help the law school learn how to manage complexity and make decisions that improve results. The law school's first-time pass rate languished an average of 23% below its ultimate pass rate. Nearly a quarter of graduates proved capable of passing after first experiencing the major setback of bar failure. We wanted to explain the gap and learn to close it.

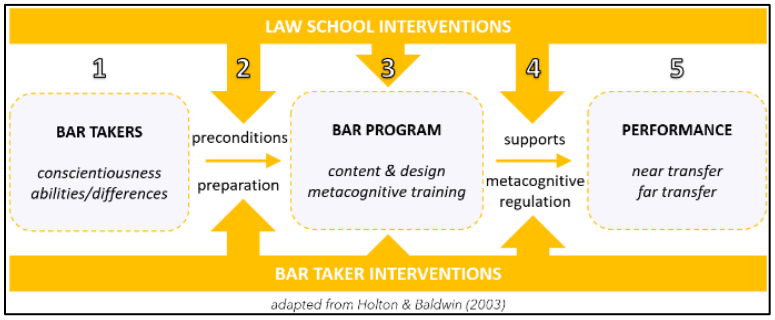


RELEVANT LITERATURE

I identified three categories of bar studies. ***Enrollment studies*** compare enrollment in a law school bar prep program to bar outcomes. Findings indicate a program's overall impact but not how to improve it. ***Usual-suspects studies*** compare LSAT, undergraduate GPA, law school GPA, and learner demographics to bar outcomes. Findings show who needs intervention but not how to intervene. ***Examiners studies*** are statewide analyses of bar performance across law schools. California found only 2% of variance in bar scores was attributable to the law school one attended (THE STATE BAR OF CALIFORNIA, 2018). New York found personal study activities best predicted bar passage (AccessLex Institute, 2018). Holding these studies against one another suggests bar performance is about the learner, not the law school. We thus focused on the law school's training of personal study practices. We did not look there alone, but we looked there especially.

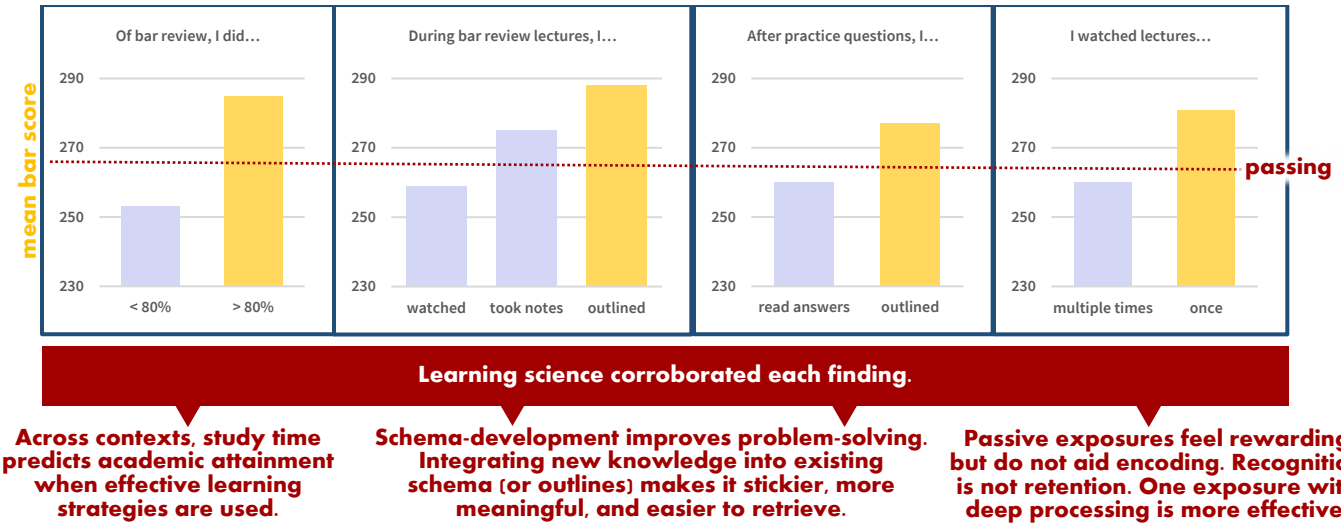
CONCEPTUAL FRAMEWORK

Law school bar prep programs train students to use effective learning strategies in individual bar study. Critical trainings are metacognitive, not legal. I adapted the Holton and Baldwin (2003) framework for evaluating training programs to the specific context of bar prep. Unlike prior bar research, the framework entails inquiries both cognitive and non-cognitive, makes the learner a unit of analysis but situates the learner in environmental context, and focuses not on the outcome of bar passage, but on training transfer—a linkage prior research overlooked.



PROJECT DESIGN

Preliminary findings shaped our project design. During early discussions, the law school provided and I analyzed existing data from past surveys of bar takers. Consistent with the literature, individual learning activities proved to relate most closley to bar performance.



In a regression model, these four variables explained 40% of the variance in bar scores (R^2 = .40). Our project became focused on how to optimize transfer of the four key learning activities. I did not recommend the program focus on them exclusively. Rather, I suggested there was a context-sensitive evidentiary basis to give them extra attention, while maintaining other activities.

PROJECT QUESTIONS

Our project questions were more granular than the enrollment studies, involved variables more influenceable than the usual-suspects studies, and were more sensitive to context than the examiners studies. We sought actionable insights. Our questions targeted key elements in the law school's program at the stages of transfer delineated in our conceptual framework.

Stage 1	***Does conscientiousness relate to transfer?***
Stage 2	***Does 1L experience (first year of law school) relate to transfer?***
Stage 3	***Does the program successfully promote metacognitive knowledge of effective learning activities?***
Stage 4	***Does faculty coaching support maintenance (of trainings)?***

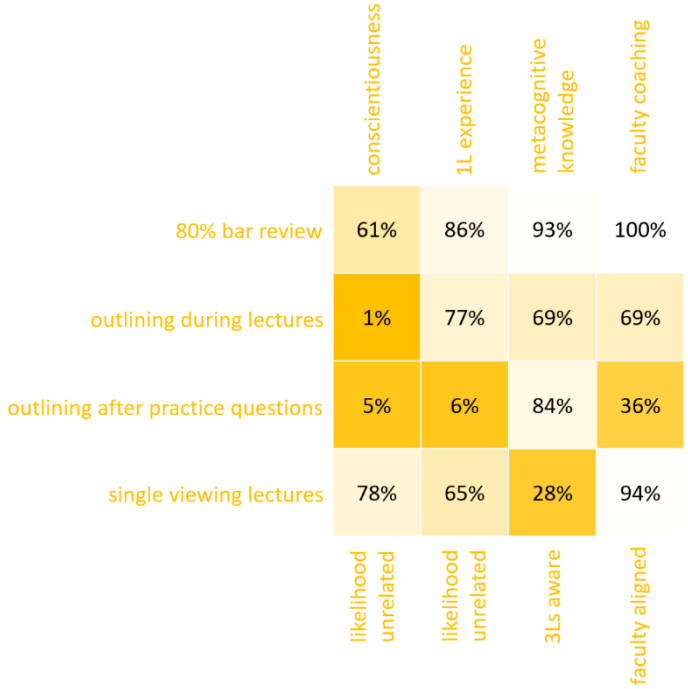
DATA COLLECTION AND ANALYSIS

We gave three pre-tested surveys to (1) students in the program, (2) faculty who advise graduates during bar study, and (3) graduates in the midst of bar study. We asked closed- and open-ended questions about the four key learning activities. For Question 1 at Stage 1, I used regression analysis to compare scores on the CCM-S conscientiousness scale to acceptance of each key learning activity. For Question 2, I used regression analysis to compare perceived helpfulness of 1L programming to acceptance of each key learning activity. For Question 3, I found simple

percentages of students able to identify each key learning activity. For Question 4, I found percentages of faculty whose advice to bar takers was consistent with each key learning activity.

FINDINGS

In the heatmap below, dark cells represent points in the transfer process where a key learning activity meets the most resistance. They indicate the greatest roadblocks to adoption of the learning activities most closely related to bar performance. The first two columns show p-values converted to percentages. Low values indicate a relationship. The second two columns show percentages of students and faculty aligned with each key learning activity.



Interpretation of Findings

1. **Incoming learner conscientiousness.** Learners low in conscientiousness resist high-difficulty tasks of outlining during lectures and after practice questions. They readily accept advice to complete 80% of bar review and to view lectures only once, because these seem like allowances.

2. **1L experience.** Learners who found their 1L academic support course unhelpful are very unlikely to outline after practice questions, perhaps because they do not trust the advice of the law school's support program enough to exceed minimal requirements of bar review.

3. **Metacognitive awareness of learning activities.** Students are mostly aware of key learning activities, except viewing lectures only once, perhaps because it is counterintuitive.

4. **Faculty coaching.** Faculty advice reinforces key learning activities, except outlining after practice questions.

We consulted the literature to learn how to remove the main roadblocks to transfer. We sought targeted, surgical program changes most likely to improve bar performance by improving transfer of learning activities most closely related to bar performance.

RECOMMENDATIONS

1

Simulate outlining in context of lectures and PQs.

It is easier to change conscientious states—activities in context—than the overall trait. Simulate outlining during lectures and PQs. Model thought processes explicitly. Express reasoning behind outlining judgments in feedback. Have peers model thought processes to create beneficial norms. Space practice. Because learners who found 1L unhelpful are unlikely to outline after PQs, simulate this context more heavily.

2

Share learning science on *why* it is best to view lectures once.

Hybrid metacognitive training works best. Combine explicit instruction in cognitive phenomena with exercises that demonstrate the phenomena at work. Multiple exposures do not aid encoding. Deep processing achieved by outlining does. Add in-program testing to confirm awareness and give learners the benefit of retrieval practice.

3

Align faculty with outlining after PQs.

Instruct coaches to advise accordingly. Share evidence from learning science showing how schema-development aids problem-solving. Structured, detailed knowledge enables students to make inferences, see deep problem structures, and think more quickly and clearly during complex problem-solving. As with students, sharing the science with faculty is more effective than unexplained directives.

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INTRODUCTION

This improvement project took place at a law school grappling with low bar exam passage. Framed more broadly, the project involved an organization struggling to change a system outcome. Our goal was to specify a set of program changes that, based on best evidence and context-sensitive analysis, would optimize bar performance in the law school's learning community. From a metaperspective, a secondary goal was to model how a law school, like any organization facing a complex challenge with limited resources in an unstable environment, can use evidence-based disciplines to manage complexity, reduce uncertainty, and make decisions that improve results. We reached powerful findings specific to the law school's problem and setting, but how we reached those findings should be of greater interest to decision-makers in legal education. This project is an example of how a law school begins to architect success.

Bar passage is one of many outcomes of a law school organizational system. Imposing deliberate change on a system outcome is about learning to confront and mitigate the complexity of the system. A law school is an ecology of program activities, administrative processes, organizational structures, normative substructures, social practices, communities, identities, power relations, and other affordances and constraints that shape outcomes. A law school decision-maker—no matter how wise or experienced—cannot mentally account for the interactions of so many variables mediating and moderating learning. Nor can they anticipate how conditions will reconfigure when a change is introduced to the system. The workings of the system are simply beyond human perception, which is inescapably biased (Bazerman, 2001), and working memory, which has known limits (Willingham, 2006). The only way to make reliable decisions is to offload the cognitive challenges of accounting for and prioritizing the relationships among the many interrelated considerations.

Law schools must take up tools of disciplined observation and scientific inquiry. For instance, improvement science offers ways to derive and specify solvable problems and potential causes from complex systems that seem to defy order (Langley et al., 2009; Meyer, 2020). The field of program evaluation provides methods for defining how a program is thought to impact a problem, so that impact can be measured (Rossi et al., 2019). The social sciences provide techniques for measuring aspects of human experience and behavior that seem immeasurable (Babbie, 2017). Data science provides ways of computing the significance of and relationships among measured variables (Silver, 2012).

By building organizational capacities around these tools through hiring and professional development, a law school can marry its decision-making to evidence. Ultimately, what is left to a decision-maker's cognition is a choice among well-defined alternatives with more predictable downstream consequences. Intuition gives way to reason, opinion to fact, guesswork to analysis.

Law school faculty should appreciate the value of evidence-based practice. After all, lawyers swear oaths to follow evidence. In court, we forbid arguments not backed by evidence. We understand that the collective decision-making of juries is by no means perfect but still more

reliable when based on evidence evaluated against predefined standards. Lawyers should carry their commitment to evidence from the courtroom to the classroom. Like jury deliberations, faculty meetings should not be left to an unstructured, power-laden contest of opinions. The stakes of legal education—as high as those of many jury verdicts—merit our best efforts to avoid caprice.

This project was based on a consultation agreement between the author and the law school, akin to the research-practice partnerships (RPPs) becoming more common in learning organizations outside legal education (e.g., Carnegie Foundation, 2022). The law school dared to break from legal education's normative decision-making traditions and follow the best available evidence to solutions for its bar problem.

The project followed a two-wave approach. First, we used existing data to identify influenceable variables most closely related to bar performance among the law school's graduates. Consistent with the literature, these proved to be individual learning activities. While the project was ongoing, the law school acted on our initial findings. The bar preparation program emphasized to learners the key study practices we identified and stopped promoting practices we found to be unrelated to bar performance.

In the second wave, we collected new data to support granular program redesign decisions that would optimize utilization of the key learning activities identified in the first wave. Because learners will often slip back to using ineffective, intuition-based learning strategies after being encouraged to use effective, evidence-based strategies (Biwer et al., 2020), we sought to intentionally design program elements that would invite and sustain utilization.

To summarize the project design in a few words, we figured out what matters most and learned how to influence it best.

Below, I describe the organizational context of the project and the problem of practice we faced. I synthesize the literature we used to design the project and make meaning of our evidence. I share the conceptual framework we developed to structure and discipline our evaluation of the law school's bar preparation program. I explain our methods of data collection and analysis, our findings, and resulting recommendations to the law school. All in all, I recount one law school's experience learning to improve a system outcome with evidence-based practice.

PROJECT ENVIRONMENT

The success of our project was not due to conditions especially favorable to evidence-based practice. As is so common in legal education, the law school environment was both unstable and problematic. At the time of our project, relevant leadership roles were turning over, legal education was changing in the wake of pandemic remote education, and the bar exam itself—our target outcome—would soon change with the advent of the NextGen Bar (National Conference of Bar Examiners, n.d.). We were keenly aware that today's solutions would go stale

as the environment reoriented around them tomorrow. We needed not only to define concrete actions the law school could take to have the most likely and significant immediate impact on bar results for current graduates, but also to lay groundwork for iterative program improvement in response to tomorrow's evolving challenges. Like law students, how law schools learn dictates what they learn over time.

The law school faced the usual pressures to respond to unfavorable bar results with swift, visible, large-scale action. Organizations in crisis often think they must make a show of quick, aggressive response. They favor wholesale, splashy program changes with unknowable consequences over surgical, behind-the-scenes design work that would improve outcomes reliably but incrementally. No one has time for evidence-based practice when the sky is falling, so they miss their best chance to hold it up.

A year prior to our project, the law school replaced its entire academic support and bar preparation programs. Law schools often choose this approach over collecting and analyzing evidence of what program features work and should be kept and what program features do not and should be redesigned (Meyer & Noël, 2022). Because the law school hit the reset button, the program was starting from scratch in figuring out what it was getting right and wrong. Our project required a first-wave inquiry into what program elements related to bar outcomes, before we could learn how to optimize them.

Faculty decision-making at the law school was characteristically micropolitical. As is commonplace in law schools, relationships and power dynamics were fraught between stakeholders like academic support, doctrinal faculty, and administrators. Other interests of legal education competed with the bar for the law school's limited resources. Under these conditions, we could not seek ideal solutions while ignoring whether they would be adopted. Unpracticable recommendations would be worthless. We sought the best solutions the law school could and would actually accept and use.

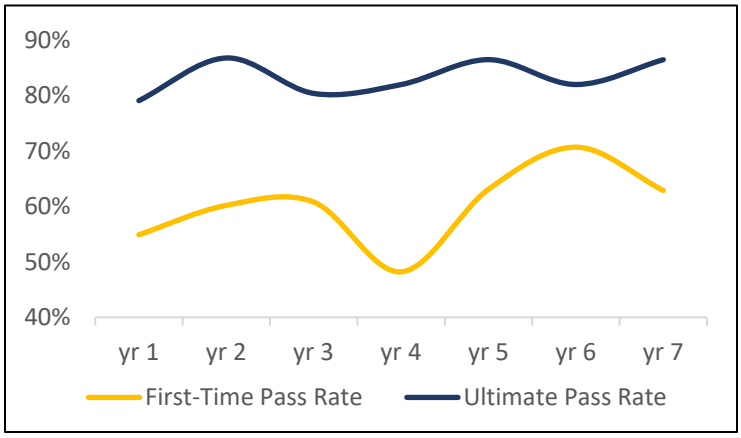
PROBLEM OF PRACTICE

The consulting and NDA agreements underlying this project required that the law school remain unidentified. However, conditions at the law school surrounding its bar problem are common enough to describe here.

The law school admits cohorts of more than 200 students. Students have a median Law School Admission Test (LSAT) score that—based on national data not specific to the law school—places them at moderate risk for bar failure, and they have a lower 25th percentile LSAT at high risk (Law School Transparency, n.d.). Over the last 30 years, the law school's first-time bar pass rate languished an average of more than 15% below the jurisdiction pass rate. During that time, the law school undertook the usual bar-focused initiatives, such as curricular changes, partnerships with educational services companies, new academic support programming, leadership changes, and taskforces that generated reports about who was and was not passing the bar. But

improvement remained elusive.

Our project oriented around a particular aspect of the bar passage problem—the law school's first-time pass gap. Nearly a quarter of the law school's graduates eventually passed the bar after experiencing the personal and professional setback of first-time failure. Over a recent seven-year period, the law school's mean ultimate pass rate was roughly 23% higher than its mean first-time pass rate. We wanted to explain the gap and learn how to close it.



The law school wondered why so many of its graduates who ultimately prove capable of passing the bar fail initially and what the law school might do to front-load their successful efforts. The law school was not alone in wondering. Each year, some 5000 law school graduates nationwide pass the bar exam after having failed at least once (e.g., National Conference of Bar Examiners, 2021). They do so on the merits of the same legal educations they brought to prior attempts. They do so despite having had good reason to make their initial efforts their best, given the grave consequences of failure. Their law schools had good reason to support their first attempts, given the existential concern of first-time pass rates, which impact admissions and reputation. Why then do so many bar takers fail before they pass?

LITERATURE REVIEW

The following synthesis of the evidence from bar research and the learning sciences suggests that the most significant driver of bar performance is what learners do during individual bar study. Of course, why learners do what they do (or do not do what they do not do) is a complex and important question reaching far beyond personal accountability. But as an evidence-based starting point for an improvement project focused on bar performance, the literature suggests that the best place to look for ways to help bar takers is their personal learning activities.

If what learners do in bar preparation is the greatest driver of bar performance, then capable learners might fail initially because they are not aware of the learning activities required to pass—what exactly they need to do in the weeks leading up to the bar. Thus, encouragingly, the literature provides a satisfying explanation for the law school's first-time pass gap.

Below, I evaluate leading bar research. I describe why common research designs have limited the usefulness of bar-related findings. I emphasize certain important but neglected findings that run contrary to common views about how to help bar takers. Because very little bar research has

involved learning scientists, I interpret bar-related findings against the learning sciences to make meaning around widely misunderstood evidence. Finally, because existing bar research surfaces issues of metacognitive training, I briefly summarize relevant research in that field.

BAR RESEARCH

Most bar studies are not designed to produce evidence showing what to change about a bar preparation program to improve its impact in context. Many studies ask who needs intervention, rather than how to intervene. Studies that do focus on interventions tend to look at the overall impact of a program, rather than what discrete elements are more or less related to bar performance. In effect, program designers do not learn what to keep, drop, or reconfigure. Studies of what discrete learning activities are related to bar performance tend to ask what works, rather than the context-sensitive question of what works for whom under what conditions (Nielsen & Miraglia, 2017). Below, I survey existing bar studies with special attention to how the instant project and future research can produce evidence more useful to program designers.

Significant bar studies fall into three categories of research design I refer to as (1) enrollment studies, (2) usual-suspects studies, and (3) examiners studies.

ENROLLMENT STUDIES

In enrollment studies, bar researchers measure the relationship between enrollment in a law school bar preparation program and bar performance, using linear regression if bar scores are available and logistic regression for pass/fail outcomes if not (e.g., Ruiz, 2020; Johns, 2016; Alphran et al., 2011). Researchers do not specify as independent variables discrete program elements, learning activities, or context mediators. Consequently, they learn how well a program is working overall, but not what to change to improve it.

Invariably, enrollment studies find statistically significant relationships between enrollment in the authors' bar preparation programs and bar outcomes (e.g., Ruiz, 2020; Johns, 2016; Alphran et al., 2011). Invariably, that overall finding results in an overall design decision—to leave the program unchanged.

For instance, an enrollment study at the Denver Sturm College of Law found a statistically significant relationship between enrollment in the school's two bar preparation courses and bar exam scores (Johns, 2016). From that finding, the conclusion was that the law school should "not interpose any fundamental changes on the Bar Passage Program" (Johns, 2016, p. 34). Instead, the recommendation was "fine-tuning" (Johns, 2016, p. 34). But the decision of what to tune, how, how much, and why would require further study generating additional evidence.

An enrollment study at Florida International University College of Law found a statistically significant relationship between enrollment in the school's bar preparation course and bar passage (Ruiz, 2020). Again, the conclusion was that the program "will not be fundamentally

changed unless and until data begins to dictate otherwise" (p. 59).

An enrollment study at the UDC David A. Clarke School of Law found that enrollment in the school's bar preparation program had a statistically significant relationship with bar passage (Alphran et al., 2011). From that finding, the recommendation was that the program should "continue to sail!" (Alphran et al., 2011, p. 39). But, as in all enrollment studies, there was no evidence upon which to say how to improve the sailing or whether the program was on the best tack. All that could be said was that something was working, so don't rock the boat.[1]

Enrollment studies have helped blaze a trail for evidence-based practice in legal education. They also show where the research should go next. They highlight the need for more design-oriented research questions. They whet our appetites for more granular inquiries.

The basic assumption of published enrollment studies is that, because the programs had an overall relationship with bar outcomes, readers should make their own programs more like the authors' programs. But readers are left to speculate from the authors' characterizations of their teaching practices what program activities might have mattered and why. More granular inquiries are needed to make evidence-based decisions about what program elements are beneficial and how those elements may interact with differing context variables at other law schools. Our project is an example of how to develop, interpret, and leverage evidence from more granular inquiries.

USUAL-SUSPECTS STUDIES

Another group of studies seeks to identify what variables outside a law school bar prep program predict bar outcomes. The usual suspects here are LSAT score (e.g., Gilmore, 2016; Rothstein, 2006; Merritt, 2015), undergraduate GPA (e.g., Day, 2004; Trujillo, 2007), learner demographics (e.g., Wightman, 1998), law school CGPA (e.g., Georgakopoulos, 2013; Alphran et al., 2011), and taking courses in bar-tested subjects during law school (e.g., Farley et al., 2019; Austin et al., 2017; Rush & Matsuo, 2007).

Like enrollment studies, usual-suspects studies help pave the way for evidence-based practice in legal education but cry out for next-order inquiries. Usual-suspects studies answer the readily answerable question of who needs intervention, but not the very challenging learning-design question of how to intervene.

For instance, a usual-suspects study at Texas Tech University School of Law was intended "to identify students who are at risk of failing the bar exam so that appropriate intervention strategies could be developed and implemented" (Austin et al., 2017, p. 783). Indeed, an early

[1] In fact, these researchers went so far as to explicitly reject the possibility that more granular analysis would be informative: "No single factor is responsible, but rather, it is a combination of increased admissions scores, strengthening of the academic curriculum, and a full scale effort at early bar preparation" (Alphran et al., 2011, p. 23).

step in program design is determining who needs intervention, because scale is a first-order consideration in program design (Bettinger et al., 2017). The next (far greater) challenge is learning what interventions are appropriate in context and how to implement them. When too many bar takers are failing, figuring out what to do about it is much harder than figuring out who to do it with. Future research should rise to the greater challenge.

The Texas Tech researchers described their findings as "being used to foster discussion among the law faculty, and to discuss curricular requirements, as well as potential curricular reform, if deemed appropriate" (Austin et al., 2017, p. 783). But further evidence would be needed for any proposed solutions, curricular or otherwise, to be evidence-based and reliable. The garbage can model of organizational decision-making would tell us that law schools are collections of "choices looking for problems, issues and feelings looking for decision situations in which they might be aired, solutions looking for issues to which they might be the answer, and decision makers looking for work" (Cohen et al., 1972). In other words, it should not be taken for granted that solutions uncoupled from evidence have anything to do with the problems they are supposed to address. They may simply reflect proponents' random preferences. Future research should demonstrate how to couple program design decisions to evidence. This project attempts to do so.

Because usual-suspects studies are mostly single-site, the usefulness of their findings is limited by context variation (Meyer & Noël, 2023). For instance, a usual-suspects study at the University of Cincinnati College of Law looked at LSAT, UGPA, 1LGPA, and CGPA (Farley et al., 2019). When the researchers found graduating law school CGPA best predicted bar passage at UC Law—far better than LSAT and UGPA—they concluded, "At a minimum, we believe our findings suggest that legal education matters" (Farley et al., 2019, p. 626). But variation in conditions from one law school to another will change the predictive value of these context-sensitive variables. As Ruiz (2020) observed, LSAT and UGPA will be more predictive of bar performance at law schools with less effective bar preparation programs. Ultimately, whether legal education matters to bar passage depends on the education.

Perhaps a law school can use usual-suspects studies from other organizational settings as a starting point to identify underperformers in its class who would benefit from intervention. But it is easy enough for a law school to find an evidence-based answer to this question specific to its learner population. A law school can determine the predictiveness of its own usual suspects simply by pulling a dozen fields of data from its database and having a data analyst run a few computations.

Like enrollment studies, usual-suspects studies are not designed to generate evidence on which to design program interventions. 1LGPA and graduating CGPA—if found to relate to bar performance in the context of a particular law school—do not show a program designer what to do for struggling learners. Half the students in every class have below average GPAs. The difficult question is what to do about it.

The usual suspect of learner demographics is critical to consider in designing equitable programs. But figuring out whether learners in a particular identity group are more likely to fail the bar is a

simple matter of comparing reported demographics to bar results. Learning to mitigate the problem, on the other hand, is monumental. It demands years of self-work and system redesign with justice-oriented, culturally sustaining, asset pedagogies (Gutierrez & Johnson, 2017)—work we have hardly begun in legal education. Discovering that a learning environment is not inviting authentic participation in opportunities to learn across communities is just the beginning. We must now learn how to redesign learning environments to be more equitable.

Perhaps it is useful in law school curriculum design to know whether the usual suspect of taking courses in bar-tested subjects relates to bar passage in the context of a particular law school. But it is little help in designing a bar preparation program. Regardless of whether it is wise to map a law school curriculum to bar subjects, bar preparation programs already use bar subjects. Moreover, as described below, research shows that what a bar taker does in individual bar preparation has a great deal more to do with bar results than what their law school does in the three years prior. In effect, curriculum mapping is likely to tinker around the edges of a bar pass problem. Research on the subject continues (Skipp, 2022).

EXAMINERS STUDIES

For findings not tied to unique law school conditions, there are a small number of multi-site bar studies commissioned by bar examiners (THE STATE BAR OF CALIFORNIA, 2018; AccessLex Institute, 2018) and the Law School Admission Council (Wightman, 1998; Anthony et al., 2013). Examiners studies look at data from bar takers who attended various law schools.

Significant among them is a study commissioned by the California Bar in 2018. In the California Bar study, researchers made a predictive model using the usual independent variables of LSAT, UGPA, demographics, and CGPA (THE STATE BAR OF CALIFORNIA, 2018). The model explained 52.3% of the variation in bar exam scores (THE STATE BAR OF CALIFORNIA, 2018). As in the Cincinnati single-site study (Farley et al., 2019), law school CGPA was the most predictive variable (THE STATE BAR OF CALIFORNIA, 2018).

A remarkable finding from the California Bar study, emphasized by Ruiz (2020) but otherwise largely neglected, was that the law school attended by a bar taker accounted for only 2% of the variation in bar score. How do we explain this finding? Are we stuck with it? Does it mean that nothing a law school does will ever make a difference?

Reassuring answers to these questions can be found in an important study commissioned by the New York Board of Law Examiners (NYBOLE) in 2016 and reported in 2018. NYBOLE commissioned the AccessLex Institute to conduct a two-year study identifying drivers and barriers associated with first- and second-time bar passage on the Uniform Bar Exam in New York (AccessLex Institute, 2018). Looking beyond the usual suspects, the NYBOLE study included in the mix other independent variables representing learning activities, personal circumstances, and context mediators. The researchers used logistic regression analysis to compare these variables to first- and second-time bar passage (AccessLex Institute, 2018).

With these variables in the mix, the two main predictors of bar success were found to be (1) hours spent studying, and (2) use of effective learning strategies (AccessLex Institute, 2018).

Weekly average hours spent studying in the month leading up to the exam was a significant predictor for first-time takers (p = .001) and second-time takers (p = .023) (AccessLex Institute, 2018). Because study participants provided responses on their first and second attempts, AccessLex established that increasing study hours had a causal effect on second-time bar passage (AccessLex Institute, 2018).

Quality of study was "equally paramount" (AccessLex Institute, 2018, p. 3). Study methods were found to mediate the impact of increased study time (AccessLex Institute, 2018). That finding is consistent with research outside legal education showing that study time only emerges as predictive of academic performance when quality of study is taken into account (e.g., Plant et al., 2005).

The NYBOLE study helps explain why the law school one attended was found to be so inconsequential in the California Bar study. To put it plainly, it's the learner, not the law school. The NYBOLE study showed that what learners do in bar preparation has more to do with bar performance than what law schools do in the three years prior. Whether a bar taker benefits from their legal education during bar preparation depends on whether they make good use of their legal education.

This is not to say that what law schools do does not or cannot matter. Rather, it tells us that the best way a law school bar preparation program can help learners pass the bar is to help them take up effective independent learning strategies. It's not about learning law; it's about learning how to learn law. A law school bar preparation program should not reteach law; it should teach how to learn law (Schulze, 2019).

The NYBOLE study reached another important but underappreciated finding about the relationship between personal circumstances and bar outcomes. Variables like household size and employment were found to be significant for first-time takers *but not second-time takers* (AccessLex Institute, 2018). Qualitative evidence showed that second-time takers better managed and optimized their study practices to overcome still-existing personal circumstances and commitments. Among participants who failed on their first attempts, those who managed challenges to increase study hours were up to 19% more likely to pass on their second attempts (AccessLex Institute, 2018, p. 13). Ultimately, it was not the absence of personal difficulties but the overcoming of personal difficulties with effective learning strategies that led to bar passage.

If second-time takers can neutralize challenging life circumstances by using effective learning strategies, first-time takers can, too. They just need to be encouraged to know and do whatever second-time takers come to know and do during bar preparation. If use of effective learning strategies can supersede personal circumstances enough to render them insignificant to bar passage, programs that focus on individual learning activities may do more to empower learners to overcome personal challenges than programs that focus on the challenges themselves.

INTERPRETING BAR RESEARCH WITH LEARNING SCIENCE

In the NYBOLE study, second-time takers participating in focus groups described improving their study approach by outlining, rather than merely watching lecture videos (AccessLex Institute, 2018). In legal education, "outlining" refers to making a structured, hierarchical, detailed representation of a learner's mental schema in a domain of law. The term is something of a misnomer, because a learner's "outline" of their legal knowledge is intended to be comprehensive in scope and depth. Because schema-development improves complex problem-solving (Taconis et al., 2001), we would expect that outlining would improve bar performance more than passively watching lecture videos.

Many second-time takers in the NYBOLE study were not more likely to pass when they "tailor[ed] their bar preparation activities to fit their individual learning styles" (AccessLex Institute, 2018, p. 3). This too is unsurprising. Learning styles are a debunked but persistent neuromyth (Nebel, 2022). There is no evidence that individuals have learning styles in which they learn more effectively (Nebel, 2022; Pashler et al., 2008). Further, the unreliability of learner intuitions about what helps them learn is well-established (Roediger & Karpicke, 2006). We should expect bar takers who follow notoriously unreliable intuitions about how to change their study practices to likely change for the worse. The conclusion to draw from this evidence is that bar takers need direction from learning experts in what learning strategies are most effective.

Cognitive science has resoundingly established learning activities that feel useful to learners are often not useful at all. Passive learning activities are ineffective but feel comfortable, while high-difficulty, error-generating learning activities are effective but feel uncomfortable (Brown et al., 2014; Metcalfe, 2017). Consequently, learners' perceptions of the effectiveness of their own learning activities tend to be opposite the truth (Roediger & Karpicke, 2006).

For instance, passively reading a text seven times does not result in more retention than reading it once (Tulving, 1966), while retrieval practice results in much greater retention (Roediger & Karpicke, 2006). However, if you ask learners how helpful it was to reread a text over and over, they will eagerly affirm that it was very helpful (Roediger & Karpicke, 2006). The growing recognition from multiple readings felt reassuring to them, but recognition is not retention. Meanwhile, if you ask learners how helpful it was to undertake retrieval practice several times after reading a text once, they will—perhaps grumpily—report that it was far less helpful than rereading would have been (Roediger & Karpicke, 2006). Being unable to recall everything from the text felt discouraging to them. But ultimately, when you test the two groups of learners, their performance will defy their perceptions of their own learning. Those who undertook retrieval practice and reported it unhelpful will significantly outperform those who reread and reported it helpful (Roediger & Karpicke, 2006).

Consequently, surveying learners about what learning activities they find helpful (or asking bar takers how they improved their study practices) is a great way to design comfortably ineffective programs. Rather, program designers must take responsibility for being the ones who know how

learning works. Certainly, they should engage with learners about learner experiences and perceptions, because circumstances, attitudes, and relationships mediate learning. But when it comes to what individual learning strategies to promote, it is better for program designers to lead with cognitive science than follow the learner's gut.

The NYBOLE study recommended helping bar takers reduce employment hours and leisure activities to make more time for study (AccessLex Institute, 2018). Programs that go that route should be cautious about learners self-reporting their study time and effort. Learners tend to overestimate and overreport how much they study (e.g., Biwer et al., 2020). They do so not because they are deceitful, but because they are human and subject to perception bias. Learners self-handicap (Thomas & Gadbois, 2007). They make external attributions in advance, to explain potential future failures, which justify lessor effort and thus bring the failures to fruition (Simon & Feather, 1973; Miller, 1976; Luginbuhl et al., 1975). They do so not because they want to fail, but because they are human and driven to preserve self-worth (Covington, 1984). As learners, we are all subject to self-defeating tendencies. Recognizing them is not insulting to the learner. It is an evidence-based step towards being a better educator and supporter of learning.

METACOGNITIVE TRAINING

In designing our project, we were mindful of the evidence that bar outcomes depend most on how learners study. We accepted that the most likely place to look for ways to make significant impacts on bar performance was the personal learning activities of the law school's bar takers. We did not look there alone, but with limited time and resources, we looked there especially.

Because the most likely way a program can help bar takers is to support them in appreciating and following through on the necessity of putting in ample study hours with effective learning activities which tend to be high-difficulty, our focus became how to get learners to study long, smart, and hard. Getting learners to study long, smart, and hard is a matter of metacognitive training.

Metacognitive training seeks to increase metacognitive knowledge and use of self-regulation skills to act on that knowledge (Schraw, 1998). What learners know about how they think and learn is known as metacognitive knowledge or awareness (Schraw, 1998). The extent to which learners comport their study activities accordingly is known as metacognitive (self-)regulation (Schraw, 1998). Metacognitive knowledge includes both declarative knowledge (knowing about cognition and learning, such as how memory works) and procedural knowledge (knowing how to learn with a repertoire of strategies; Schuster et al., 2020). Regulation involves the metacognitive skills of planning (establishing learning goals and selecting effective strategies to meet them) and monitoring (observing progress in comprehension and performance; Schuster et al., 2020; Hertzog & Dunlosky, 2012).

For bar takers, the key knowledge to transfer from a law school bar preparation training program to the daily work of individual study is not legal, it is metacognitive (Schulze, 2019). Thus, the

mechanism by which transfer occurs is metacognitive regulation.

Transfer occurs when learning in one context improves performance in another (Schuster et al., 2020). Transfer is described as near when the transfer context is similar to the training context and far when the transfer context is dissimilar (Schuster et al., 2020). Similarity/dissimilarity is assessed on dimensions of content (what is transferred) and context (where it is transferred) (Barnett & Ceci, 2002). Content can include the specificity of the skill learned, the nature of the change in performance, and the memory demands entailed in the transfer task (Barnett & Ceci, 2002). Context can include the domain of knowledge, physical setting, time, functionality, social context, and modality (Barnett & Ceci, 2002). Whether bar preparation training transfer is near or far depends on the program and the context.

Researchers have studied near and far transfer of training in both metacognitive knowledge and skills. Metacognitive knowledge that "contains a repertoire of specific strategies" pertaining to a particular learning task is resistant to transfer (Schuster et al., 2020, p. 457). For example, if a law student were trained in a trial advocacy course to combat mind-wandering by noting main points of rebuttal during an opponent's closing argument, the student may not think to apply that same strategy for the same reason in the context of watching a bar review lecture. However, domain-general metacognitive knowledge, such as how memory works, is more transferable, particularly once a learner has developed foundational metacognitive knowledge (Schraw, 1998). Meanwhile, metacognitive skills are squarely task-general and have been found to transfer readily (Schuster et al., 2020).

For metacognitive training pertaining to a problem-solving task (like legal problem-solving), hybrid training approaches are more beneficial to transfer of both metacognitive knowledge and skills than non-hybrid approaches (Schuster et al., 2020). Non-hybrid training might involve learning the cognitive strategy of a problem-solving procedure (Schuster et al., 2020), while hybrid training would also involve learning how to use a metacognitive skill to regulate the cognitive strategy (Schuster et al., 2020). For example, non-hybrid bar preparation training might involve learning how to develop legal knowledge using an outlining process, while hybrid training might also involve self-testing with retrieval practice to monitor progress gained in the outlining process.

Hertzog and Dunlosky (2012) place the focus of metacognitive training on the learner's ability to choose cognitive tools to fit various tasks. They advise that metacognitive training should entail developing a "well-stocked cognitive toolbox" containing "a set of processing strategies" to select from in the pursuit of learning goals, such as retrieval practice and spaced repetition (Dunlosky. 61-62). Once learners have the tools, they must then remember to use them when appropriate. That is, they must "make task appraisal a habit of mind" in which they interrupt reflexive behaviors, recognize a need to act strategically, and decide what tools or set of tools fit a particular task (Hertzog & Dunlosky, 2012, p. 62).

In the field of legal education, Schulze (2019) argued for explicit instruction in metacognitive knowledge, particularly with regard to retrieval practice and schema-development. Research in

the learning sciences shows that retrieval practice serves encoding and retention more than multiple passive exposures (Roediger & Karpicke, 2006) and schema-development improves problem-solving more than practice solving problems (Taconis et al., 2001). Because the bar exam requires learners to retain an enormous amount of legal doctrine and then use it in complex problem-solving, retrieval practice and schema-development are critical learning strategies in bar preparation.

CONCLUSION

Interpreting existing bar research against learning science, we learned that a law school bar preparation program is most likely to improve bar performance by focusing on individual learning activities. These activities should involve extensive time using evidence-based, effective learning strategies, which tend to be high-difficulty, error-generating, and uncomfortable. Put simply, learners who study long, smart, and hard are most likely to pass. To encourage learners to study long, smart, and hard, bar preparation programs should design effective metacognitive training that promotes (1) metacognitive knowledge, particularly around retrieval practice and schema-development, and (2) supports metacognitive regulation through which learners transfer metacognitive knowledge to the individual work of bar study. Thus, our project focus became optimizing transfer of metacognitive training.

CONCEPTUAL FRAMEWORK

Training transfer refers to whether, how, and how much trainees carry knowledge, skills, and attitudes developed in a training program back to their work contexts (Rahman, 2020) and persist to demonstrate them there (Blume et al., 2010). Training transfer is often evaluated in the context of professional development and job trainings (Wenzel et al., 2014), but law school bar preparation programs are not so different. The main concern is the same—will trainees carry what they learn into their daily work? The daily work of law students is individual and self-directed study (Schulze, 2019). Law school bar preparation programs train law students to do the predominantly independent work of bar preparation with effective learning strategies in the weeks leading up to the exam. It is hoped trainees will carry learning strategies, skills, and attitudes from law school classrooms to the places where the bulk work of bar preparation is done—cafes, breakrooms, libraries, trains, buses, kitchen tables, offices.

Like job trainings that prepare trainees to perform in the workplace, the bar exam targets professional competencies. From an organizational perspective, the dangers of ineffective trainings are the same for law schools as for any organization—wasted resources and unchanged outcomes (Wenzel et al., 2014).

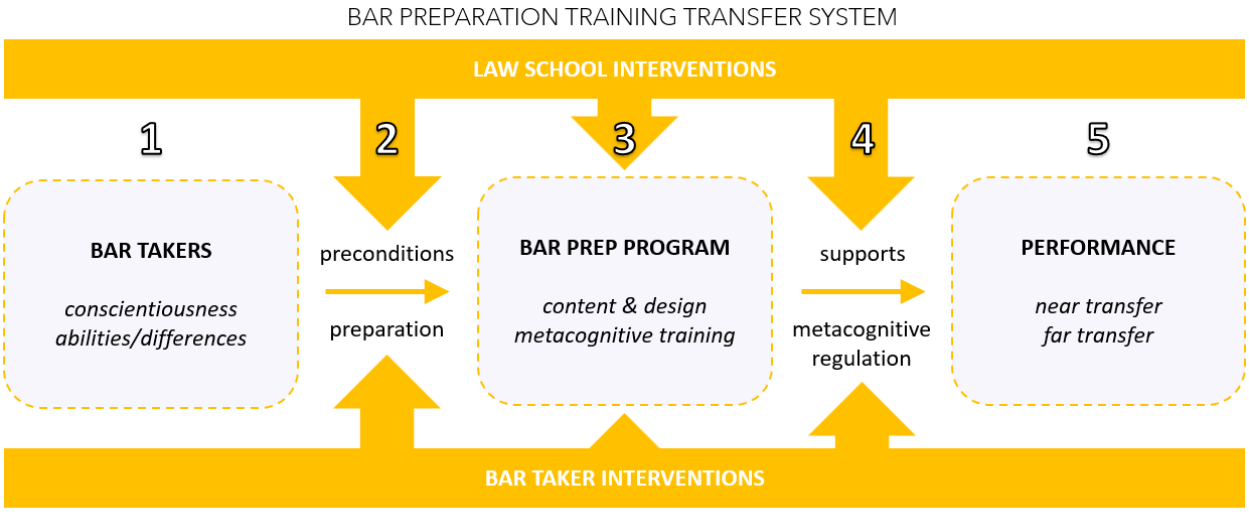
Conceptualizing bar preparation as training transfer is also justified by how well the analytical frameworks used to evaluate training transfer align with and encompass the many circumstances and concerns of bar preparation training. In our early discussions at the law school around this project, attributions for the bar passage problem abounded. Stakeholders were aware that bar

preparation entails challenges both cognitive and non-cognitive (Ruiz, 2020), both individual and environmental (Devito et al., 2022; Hess, 2002). It was no surprise when our talks jumped from the learner to the organization, from cognition to context, from the time before bar preparation to the day of the exam. We needed to turn a critical eye not just to the learner but also to the learning environment. We needed an integrative framework appropriate to the problem at hand that would allow us to explore various explanations at various levels of inquiry in a coherent way. In search of that framework, we found the Holton and Baldwin (2003) model.

The Holton and Baldwin (2003) model for evaluating training transfer systems takes an "intervention-oriented" perspective (p. 8). The learner is treated both as an input and as "a unit in the model that may be shaped by interventions" (Holton & Baldwin, 2003, p. 9). The organizational environment is treated as a matter of system design.

The model organizes the training transfer process into five stages: (1) when learners or teams of learners enter the organizational environment with individual abilities, motivations, differences, and prior experiences; (2) the pre-training stage, when organizational preconditions and learner activities situate learners for training; (3) the training stage, when the learning event occurs according to program content and design; (4) the post-training stage, when learners maintain acquired knowledge and skills with organizational supports; and (5) the moment of individual performance representing near or far transfer (Holton & Baldwin, 2003).

We adapted and specified the Holton and Baldwin (2003) model to the narrow purpose of evaluating a law school bar preparation program.



adapted from Holton & Baldwin (2003)

While Holton and Baldwin (2003) envisioned individual learners or teams of learners entering training environments, we focused on individual bar takers. Bar takers may join informal study groups, but they choose their own learning strategies, take the bar alone, and are assessed on individual performance.

At Stage 1, we replaced Holton and Baldwin's (2003) incoming learner characteristic of motivation with conscientiousness for four reasons. First, we treated bar preparation training as occupational training, and conscientiousness has proven to be the best non-cognitive predictor of occupational performance (Wilmot & Ones, 2019). Second, to the extent bar preparation training is academic in nature, conscientiousness also has proven to be the most significant personality predictor of academic achievement (Franzen et al., 2022). Third, motivation and conscientiousness constructs correlate so highly that it has become questionable whether they are even distinguishable (Roberts at al., 2014). Fourth, unlike other occupational trainees, bar preparation trainees are mere months away from entering courtrooms as officers with fiduciary and ethical duties to represent their clients with competence, zeal, and attention to procedural and substantive detail. Motivation aside, for them, conscientiousness is professional duty, with lives and livelihoods at stake.

At Stage 3, with regard to program content and design, we specified the main purpose of law school bar preparation programs—metacognitive training. The task of law school academic support programs is not reteaching law; it is teaching learners how to learn law (Schulze, 2019). For bar-focused learners, the key knowledge, skills, and attitudes to transfer from a training program to the work environments of individual bar study are not legal in nature; they are metacognitive.

At Stage 4, with regard to the post-training upkeep of knowledge, skills, and attitudes that Holton and Baldwin (2003) referred to as *maintenance*, we specified the mechanism by which metacognitive knowledge and skills transfer to individual study—metacognitive (self-)regulation.

The resulting framework for evaluating a bar preparation training program encompasses inquiries both cognitive and non-cognitive, both individual and environmental, integrated across the five stages of training transfer.

The framework departs from prior bar preparation research in three ways. First, it treats law school bar preparation programs as training transfer systems, rather than extended legal education. Second, it adopts a systems design perspective, making the learner a unit of analysis, but also situating the learner in the environmental context, which is also scrutinized. Third, the model focuses not on the outcome of bar passage, but on the outcome of training transfer to individual study activity.

We realized prior bar research had overlooked training transfer as a linkage between bar preparation training and bar outcomes. The bar exam itself is not the performance environment to which bar preparation training transfers. Training transfers to individual bar study, which the bar exam later assesses. If there is a weak relationship between a law school's bar preparation training program and bar performance, it could mean the trained learning activities are ineffective or that the program is ineffective in getting learners to adopt the activities. To know which, the outcome of transfer must be measured.

PROJECT DESIGN

To learn how to optimize transfer of the bar preparation program's metacognitive trainings, we first had to determine what it was we wanted to transfer. We had to specify program trainings so we could measure their relationships with bar performance and evaluate their interaction with environmental elements across the five stages of transfer. Based on our literature review, we anticipated the most impactful program trainings would target individual learning activities.

Our project became two-wave. In the first, we conducted a preliminary analysis of existing data at the law school to identify, based on best available evidence, what program trainings related most closely to bar performance among the law school's graduates. We then used these preliminary findings to design the second wave—the bulk of our project—where we specified research questions and generated evidence to learn how to optimize transfer of the key program trainings identified in the first wave. In essence, the first wave, and our early findings there, became the basis for our greater project design.

PRELIMINARY FINDINGS SUPPORTING PROJECT DESIGN

Prior to this project, the law school conducted informal surveys of bar takers. Bar takers were asked about their study activities, personal circumstances, and use of program resources. Because those surveys were given anonymously, responses could not be linked to bar outcomes. Without being able to compare individual responses to individual results, the law school could not learn what variables related to bar performance. Results were of interest but uncoupled from program design decisions.

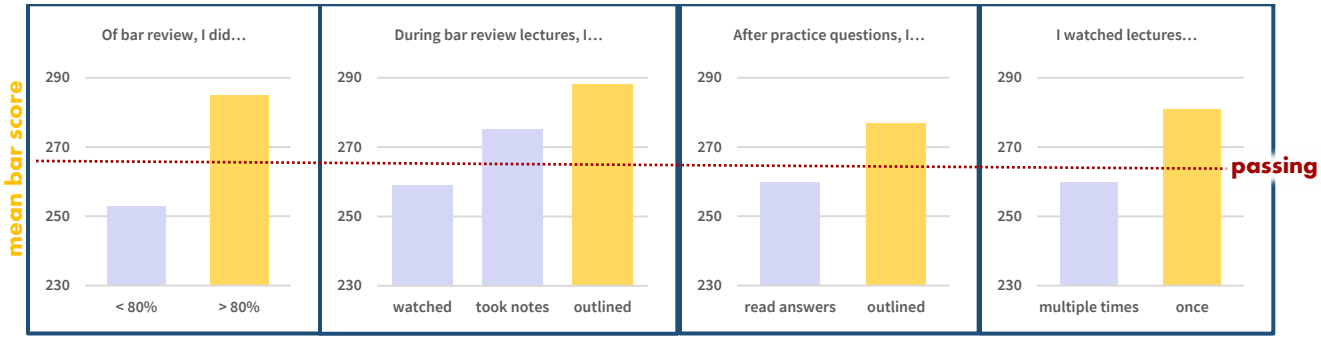
During our preliminary discussions in anticipation of this project, I recommended the law school make its July 2022 survey non-anonymous. Stakeholders worried about driving down response rate. They explained that past surveys were given anonymously to encourage participation. I argued that having some data of some level of reliability to compare to bar outcomes would be more valuable than having more data from which nothing could be learned about bar preparation. Organizations often engage in data collection without purpose and forget to ask what decisions they intend to make based on the resulting insights.

The law school accepted my recommendation. The survey was administered after the July 2022 bar and before bar results were published, with a 33% response rate ($n = 54$). As explained below, any reliability concerns related to only a third of the law school's bar takers responding were mitigated by the resulting data and findings being strongly corroborated by prior bar research and learning science. That is, we were reassured when variables found to be predictive were precisely those we should expect to be predictive.

The survey addressed a broad variety of considerations, including employment status, childcare, other life responsibilities, hours of sleep, location of study, presence of a cell phone while studying, utilization of program resources, participation in program events, bar review courses,

completion of practice questions, and various other study practices. I compared survey responses to respondents' bar scores using conditional means and regression analysis.

Regression analysis indicated that four program-promoted learning activities were most closely related to bar performance: (1) completing at least 80% of bar review (p = <.001), (2) outlining[2] after completing practice questions (p = .08[3]), rather than merely reading answer explanations, (3) outlining during bar review videos, rather than watching passively or taking separate notes (p = .02); and (4) watching lecture videos once, instead of multiple times (p = .01).



Together in a regression model, these four variables explained 40% of the variance in bar scores (R^2 = .40). For a handful of low-hanging fruit—specific program trainings that could be influenced with targeted, manageable program changes and expected to make a difference—40% was not unencouraging.

Prior bar research and learning science corroborated each finding. The NYBOLE study told us that time spent studying and use of effective learning strategies are generally the best predictors of bar performance. We would thus expect that time spent studying to reach 80% bar review completion and use of effective learning strategies like outlining would prove to be keys to bar performance among the law school's graduates. Because schema-development aids problem-solving (Taconis et al., 2001), we would expect that bar takers who develop subject-matter outlines of legal doctrine, rather than merely watching lecture videos and reading answer explanations, would be more successful at bar exam problem-solving. Because passive exposures do not aid encoding (Tulving, 1966; Roediger & Karpicke, 2006) and, rather, it is deep processing that moves information into long-term memory (Castel et al., 2012), we would expect that students who watch lecture videos over and over, rather than undertaking one effective viewing with deep processing via outlining, would be less successful.

[2] Outlining in bar review involves notating and developing bar review outlines with new understandings, connecting elements of knowledge within a structured, hierarchical, meaning-rich representation of the learner's growing mental schema in a domain of law.

[3] A p-value of .08 indicates there is an 8% probability that it is merely a coincidence our data showed this variable to relate to bar score. In scientific research, a p-value above .01 or .05 would indicate a lack of statistical significance. For purposes of our improvement project, where our goal was to improve the reliability of the law school's program design decisions, we were comfortable that 8% was better than the usual guesswork of law school decision-making.

Incidentally, like all programs that find their way to evidence-based practice, the program also learned from its 2022 survey data that several of the intuitively appealing learning activities promoted by the program were not closely related to bar performance. For example, watching bar review lecture videos on regular rather than increased playback speed was unrelated to bar score (p = .68). The mean bar score of respondents who watched lecture videos on increased speed "Almost always" was four points higher than those who sped up the videos "Never." Because schema-development helps learners think more quickly (Willingham, 2006), perhaps learners with more organized and robust domain knowledge could process along with lecture videos at higher speeds.

The program advised bar takers to put their phones away while studying, on the plausible theory that frequent distractions would compromise attention. But studying without a phone was unrelated to bar score (p = .49). The mean bar score of respondents who studied with their phones "Almost always" was ten points higher than those who studied with their phones "Occasionally." Perhaps further inquiry would show that notification and ring settings made a difference, or that some learners were better able to study productively despite interruptions. Perhaps some students were using phone apps to work on supplemental bar review programs. In any event, streamlining a program's messaging to the most significant advice makes a program more potent and prevents key trainings from being diluted (Meyer & Noël, 2022).

Our preliminary findings had four main benefits. First, the law school's bar preparation program was able to make quick improvements, even while our project was still taking shape. The program increased emphasis on the four effective learning activities we identified, and dialed back its promotion of learning activities found to be unrelated to bar performance. Compared to earlier data collection efforts at the law school, we had already taken a step towards connecting specific program design decisions to the best available evidence.

Second, our preliminary findings anchored our improvement efforts to a manageable number of evidence-based considerations. There are so many variables on which a law school bar preparation program could reasonably focus, and programs that try to do everything do nothing well. A program will not increase its effect size by making decisions in all directions at once towards every intuitively worthy goal. At some point, hard decisions must be made to narrow efforts. We had an evidentiary basis to narrow our focus to the four key learning activities and expect them to make a difference in bar outcomes. There was strong affirmation in the agreement of our literature review and existing evidence at the law school.

Of course, other program activities were maintained. We did not recommend the program focus on the four key learning activities to the exclusion of other program features. Rather, with evidence to conclude these particular activities weighed heavily on bar performance, we recommended the program give them special attention.

Third, these early findings generated commitment to the project among stakeholders at the law school. Before we had even designed our project or begun data collection, the program already

had a more reliable idea of what to do (and what not to do) with learners. Organizational members saw value being created and continued to engage with the project.

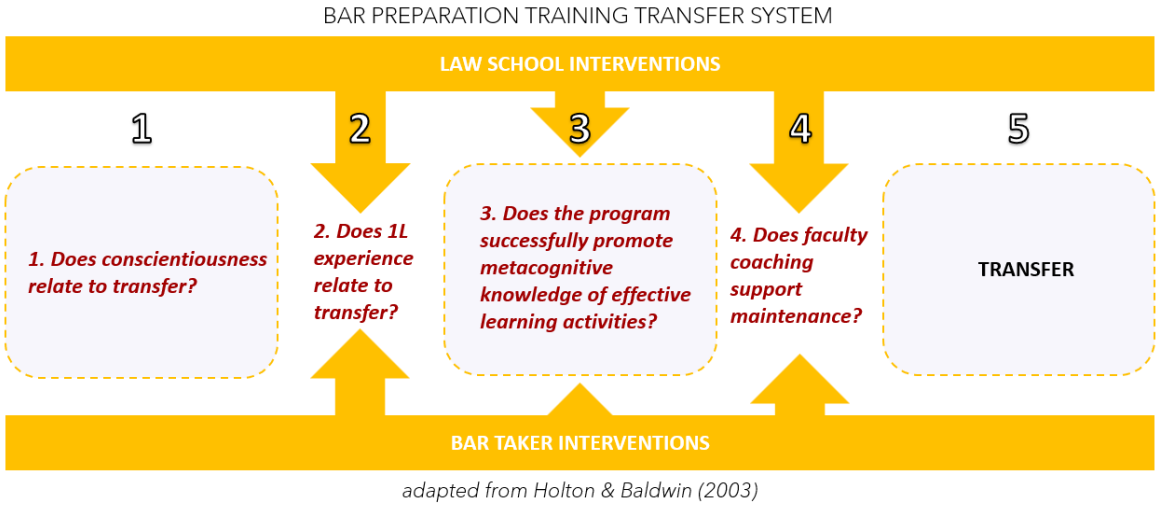
Fourth, our preliminary findings provided an evidentiary basis for project design. We defined training transfer as learners' use of the four key learning activities in individual bar study. Our project became about how the program could clear the way for each of the learning activities to traverse the five stages of transfer. If we could get more bar takers using learning activities most closely related to bar passage, we could expect to move the needle. Our project became about identifying and removing the main roadblocks to transfer.

PROJECT QUESTIONS

The bulk of our project occurred in the second wave. Here, we evaluated how well each of the key learning activities traversed the five stages of transfer, interacting with environmental elements along the way to either afford or constrain utilization among bar takers. We sought to generate evidence specific to each stage of transfer and each learning activity, so the program would be able to make surgical, targeted program changes for greatest impact.

We developed project questions that targeted important features of the law school's bar preparation training program at the four stages of transfer leading to Stage 5 transfer itself.

The questions were specific to the bar preparation training program in place at the law school. For instance, the program's Stage 2 preconditions to training consisted of a 1L academic support course leading to bar-focused training in 2L and 3L. Stage 4 post-training supports included faculty coaching, where bar takers were paired with law professors who advised them through bar review. We derived four project questions to test key features of the training program.



adapted from Holton & Baldwin (2003)

Our project questions differed from prior bar-focused research in three ways. First, unlike the enrollment studies and the usual-suspects studies, we looked at specific learning activities to generate evidence that would support granular design decisions about how to improve the law school's bar preparation program. We thus set the project up for more actionable recommendations.

Second, unlike the usual-suspects studies, we focused on influenceable variables. LSAT, GPA, and learner demographics are dictated by organizational processes and interests outside the purview of a bar preparation program. On the other hand, how learners study is something a program can do something about. We did not set out merely to learn who needs intervention. We wanted to learn how to intervene. Here, too, we set the project up for more actionable recommendations.

Third, unlike bar studies that start from scratch and ask first-order questions about what relates to bar passage, our project made it further down the road of discovery. After relying on the best available evidence to learn what likely matters most in the law school's learning community, we dedicated the bulk of our work to figuring out how to influence it. Our two-wave approach set the project up for more powerful findings. Helping a law school understand what to focus on is a start, but providing how-to guidance on what to do in implementation goes further towards ensuring findings will make a difference in practice.

DATA COLLECTION

Based on the law school's parameters and timing for the project, our data collection consisted of three surveys: (1) a Student Survey (Appendix A) of 3Ls in the law school's bar preparation training program (55% response rate, *n* = 76), (2) a Faculty Survey (Appendix B) of professors who advise bar takers or serve as coaches for the program (53% response rate, *n* = 16), and (3) a Bar Taker Survey (Appendix C) of graduates in the midst of bar preparation (those who had previously taken the first survey; 21% response rate, *n* = 29). This final survey was given with the expectation of a low response rate, merely to see if the law school could get a baseline reading of utilization of the key learning activities to compare to future measures after implementing program changes.

Surveys were pre-tested with current students, recent bar takers, and law faculty. Survey items relating to the four key learning activities were consistent with those of the law school's 2022 survey, providing some criterion-related validity. These items had already proven predictive of bar passage. All surveys included closed- and open-ended questions. Qualitative responses informed our interpretation of quantitative results. Surveys were administered via Qualtrics.

PROJECT QUESTION 1

Project Question 1, focused on the Stage 1 incoming learner characteristic of conscientiousness, asked whether there was a relationship between learner conscientiousness and transfer.

Conscientiousness was measured with the Concise Conscientiousness Measure-Short (CCM-S). The CCM-S was developed by Franzen et al. (2021) from the scale created by MacCann et al. (2009). The CCM-S was included in our first survey, given to 3L law students in the law school's spring 2023 bar preparation training program, who would graduate in May and prepare for the July 2023 bar. We compared conscientiousness scores to responses indicating adoption of each key learning activity.

PROJECT QUESTION 2

Project Question 2, focused on Stage 2 pre-training experiences of learners in the organizational environment, asked whether there was a relationship between 1L experience and training transfer. The primary introduction learners had to the academic support program that would later deliver bar preparation training was the program's 1L academic support course. We thus measured 1L experience by asking 3Ls in the bar preparation program whether they found their 1L academic support course very helpful, somewhat helpful, or not helpful at all. We compared their perceptions of the 1L academic support course to responses indicating adoption of each key learning activity.

PROJECT QUESTION 3

Project Question 3, focused on Stage 3 program content and design, asked whether the program successfully promoted metacognitive knowledge of effective learning strategies. Here, we measured learner awareness and acceptance of the four key learning activities by asking 3Ls in the program what bar takers should do in bar preparation. For example, we asked whether they should view lecture videos once, twice, or more than twice.

PROJECT QUESTION 4

Project Question 4, focused on Stage 4 post-training maintenance with organizational supports, asked whether the program's faculty coaching supported maintenance. We surveyed faculty advisers and coaches, inquiring as to whether their advice to bar takers was consistent with the four key learning activities.

DATA ANALYSIS

The relationships between conscientiousness and transfer (Question 1) and 1L experience and transfer (Question 2) were assessed with conditional means and regression analysis. Regression analysis resulted in p-values, which indicated the probability of it being a mere coincidence that our data seemed to show two variables to be related. In other words, p-values indicated the likelihood two variables were unrelated. Low values indicated a relationship.

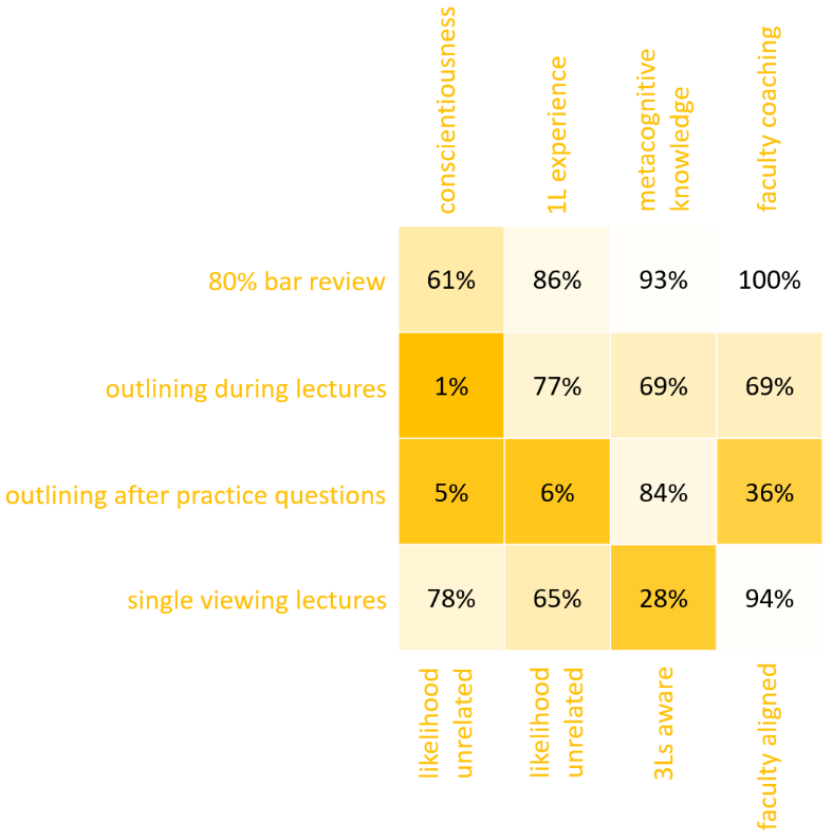
The program's promotion of effective learning strategies (Question 3) and the extent to which faculty coaching supported maintenance (Question 4) were assessed with descriptive statistics.

Simple percentages showed how many 3Ls identified each of the four key learning activities as something bar takers should do in individual bar study, as well as how many faculty advised bar takers consistently with each of the four key learning activities.

FINDINGS

We sought to specify at what stages of transfer interaction with program features and context variables resulted in each of the four key learning activities hitting the most resistance in the transfer process. The program could then make precise and efficient use of its resources, by targeting the main roadblocks to transfer.

In the heatmap below, dark cells represent points in the transfer process where a key learning activity meets the most resistance. They indicate the greatest roadblocks to adoption of the learning activities most closely related to bar performance. The first two columns show p-values converted to percentages. Low values indicate a relationship. The second two columns show percentages of students and faculty aligned with each key learning activity.



When viewing the heatmap horizontally or row-by-row, learning activities with the most dark cells are those that face the most resistance along the transfer process. Outlining after practice

questions reveals itself as the most impeded learning activity, hitting significant roadblocks at Stages 1, 2, and 4. Completing 80% of bar review has the clearest path through the transfer process. Outlining during lectures would transfer nicely, if it could just get past its main hurdle of Stage 1 learner conscientiousness. Similarly, single-viewing lectures would transfer well if it could overcome low awareness among 3Ls in the Stage 3 training program.

When viewing the heatmap vertically or column-by-column, we derived findings specific to each stage of transfer for each key learning activity.

STAGE 1 LEARNER CONSCIENTIOUSNESS

In the first column are percentages converted from p-values, providing the likelihood that the incoming learner characteristic of conscientiousness is unrelated to each of the four key learning activities. Lower values suggest there is a relationship and higher values suggest there is not.

Here, the two outlining activities—after practice questions and during lecture videos—have a close relationship with conscientiousness, while the other two learning activities do not. The literature and our qualitative survey data explain why learners low in conscientiousness are less likely to engage in the high-difficulty task of outlining during bar review.

Conscientiousness is a personality trait that encompasses constructs of self-control, responsibility, propensity to work hard, orderliness, and rule-abidingness (Roberts et al., 2014). Conscientiousness is a powerful predictor of high-difficulty educational and occupational attainment (Roberts et al., 2014). A meta-analysis of training transfer studies in various contexts has shown a relationship between trainee conscientiousness and transfer (Blume et al., 2010). Where a trainee begins on the spectrum of conscientiousness may moderate transfer (Roberts et al., 2017).

Learners with a lesser propensity to work hard are less likely to take up high-difficulty learning activities like outlining. The program instructed learners to outline generally, to outline during lecture videos, and to outline after practice questions. However, survey remarks from learners with below average conscientiousness scores reflected a commitment to passive learning activities. For instance, when asked what bar takers should do after completing practice questions, these learners focused on reading answer explanations but not following that reading with outlining. Representative remarks include:

"Review answer explanations"

"See the correct / incorrect answers"

"Look and see why you got them wrong"

"Read each explanation carefully and understand why the answer you chose is either correct or incorrect"

"Go over the explanatory answers"

"Read the sample answer"

"look at the explanations"

"Go over the answers"

Another group of respondents favored vaguely defined follow-up activities focused on repetition.

"Go over them again"

"Re do the questions"

"Re read them"

"Re-read"

Some believed the rote task of rewriting would help them retain the material.

"Rewrite the model answer"

"Read the answers and rewrite them to memorize it"

Others offered vague responses reflecting uncertainty as to what specific activities to perform.

"Internalize them"

"Go over the rules"

"Go through the questions"

"Review the questions to go over what you did wrong"

"Learn why I got them correct/incorrect"

With regard to outlining during bar review lecture videos, these respondents again favored passive tasks—namely, sitting and listening. Some demonstrated they had heard program advice about listening actively, but failed to understand that engaging with and developing bar review outlines during lectures is the critical means of remaining active.

"Focus on listening carefully"

"Intently listen"

"Listen attentively"

"Actively listen"

"Actively listen, try to take mental notes"

With regard to the two key learning activities that do not involve outlining, low-conscientiousness learners more readily accepted advice to complete 80% of bar review and to view lectures only once. These recommendations may seem more like allowances than added burdens. Eighty percent is, after all, less than 100%, and single-viewing lectures seems like less effort than multiple viewings. Meanwhile, among high-conscientiousness learners, viewing lectures multiple times may seem diligent—going above and beyond to guarantee success by outworking the competition. As is so often the case, none of these learner intuitions are correct.

Prior to the groundswell of criticism that led to the NextGen Bar, bar exam testable subject matter underwent a period of growth. Bar review programs grew to keep pace. The result was more work for bar takers in the same number of weeks between graduation and the bar. The goal of 100% completion became harder to meet. Partial completion became more acceptable and realistic. In our project context, 80% was a pivotal threshold, not an easy one to reach.

As for single-viewing lectures, the learning science described above resoundingly establishes that multiple passive exposures do not aid encoding. Merely watching videos over and over is not likely to increase retention. It is deep processing, not number of exposures, that moves information into long-term memory (Castel et al., 2012). One viewing that involves synthesizing the information into an outline requires deep processing and is thus more effective.

Moreover, learners who plan to watch lecture videos multiple times essentially relieve themselves of the responsibility to fully engage on their first viewing. For instance, one 3L remarked that during lecture videos a bar taker should "Watch the first time and then the second time watching take notes." Bar takers with this approach spend dozens of hours passively watching bar review lectures once before they even begin to effectively commit information to long-term memory. There is an opportunity cost to rewatching lectures. Hundreds of hours spent unproductively rewatching lectures are not spent on effective learning activities. Further, the time constraints of bar review simply do not allow for multiple viewings. Bar takers who intend a second viewing of all the videos are unlikely to get around to it.

STAGE 2 PRECONDITION OF 1L EXPERIENCE

In the second column are percentages, converted from p-values, providing the likelihood that 1L

experience is unrelated to each of the four key learning activities. Lower values suggest there is a relationship and higher values suggest there is not. We measured 1L experience by asking 3Ls in the bar preparation program whether they found their 1L academic support course very helpful, somewhat helpful, or not helpful at all.

The course had recently been replaced with a new course, as part of the law school's sweeping changes in response to disappointing bar results. Our survey respondents had taken a different version of the course than was currently running at the law school. However, we were not evaluating the 1L course. We were evaluating whether perceptions of the value of a 1L course related to taking up the key learning activities for bar study. If there were a relationship, the fact that more or fewer learners saw value in the current course than the prior course would aggravate or mitigate the consequences of the relationship going forward.

Here, we discovered that learners who found 1L academic support unhelpful were quite unlikely to outline after practice questions. For the same reasons that low-conscientiousness learners were more resistant to outlining activities than the other key learning activities, it stood to reason that learners who discounted the program's 1L offerings would be more resistant to the program's later, bigger asks.

But why were these learners more resistant to outlining after practice questions than during bar review lectures? Perhaps they viewed lecture videos as a formal, constitutive part of bar review, while viewing practice questions not built-into the program as optional additions. Going beyond the minimal program requirements to add not only additional practice questions but also the high-difficulty task of outlining on top of those practice questions may be especially distasteful to learners less inclined to accept program advice.

STAGE 3 METACOGNITIVE AWARENESS

In the third column are percentages of 3Ls in the training program who are aware that they should adopt each of the four key learning activities in bar study. Here, we found awareness to be generally high, except for single-viewing lectures. As discussed above, the counterintuitive nature of this learning activity likely works against its recognition and adoption.

Other key learning activities enjoyed broad recognition at Stage 3. Learners—often those high in conscientiousness—had come to appreciate the need to outline. When asked what bar takers should do during lecture videos, these learners foregrounded outlining.

"Update your outline"

"revise bar prep outlines"

"Update outlines"

"What I have and will continue to do i[s] make notes into the Barbri outline. I have found that doi[ng] this helps me structure the rule in a sequence and order."

When asked what to do after practice questions, these learners responded similarly.

"Review the correct answer and update your outline"

"Read the answers, even the ones that was correct. Also, add into my outline if not done so already"

"Read the answers. Update outline"

"Find out why I got the answer wrong and update my outline"

STAGE 4 MAINTENANCE WITH FACULTY COACHING

In the fourth column are percentages of faculty coaches whose advice to bar takers aligns with each of the four key learning activities. Here, we found the faculty to be well-aligned with the key learning activities, except outlining after practice questions. Before our first-wave analysis, the program likely did not realize how critical this activity was or promote it as heavily.

Qualitative data shed light on the nature of faculty misunderstandings. When asked how they would advise a bar taker who reports only reading answer explanations after practice questions and then moving on, some faculty found that approach quite acceptable.

"That's great."

"ok i guess"

"Compare their answers to yours"

"That can be very helpful, but don't get bogged down here."

Other faculty focused on the common bar preparation advice of revisiting missed practice questions.

"I would tell them that they should go back later and try the questions again after a little time passes."

"Good, but consider retaking the questions they got wrong or guessed correctly on."

"That makes sense, as long as they understand the explanations. AND they should come back to those questions at a later date."

"Students might also want to keep track of questions they get wrong to be sure to go over those points and to do more questions on those points."

Some faculty stressed the need to document new understandings, but among them, only one faculty member stressed the need to do so in the structured format of an outline.

"I would ask them if they then updated their notes, or memorialized aspects of the question formation that they learned from in reading the explanations."

"I would suggest writing down the rule and exception."

"I would tell them they need to do more to engage with the material. They need to update their outlines . . ."

As with 3L respondents, some faculty members offered vague responses reflecting uncertainty as to what specific activities should be performed.

"I would hope to discuss how that reflection can help them prepare."

"They should complete their own answers as well"

"I would say that the bar taker had done only part of the job of learning the material. That would begin a discussion about what it means to learn from practice questions and how that is done to maximize the learning opportunity from each question."

CONCLUSION

Our findings revealed specific localities of the greatest roadblocks to the law school's bar takers utilizing learning activities most closely related to bar performance. Our question became how to remove those roadblocks.

RECOMMENDATIONS

Our findings sent us back to the literature to develop evidence-based recommendations for the law school. From existing research on conscientiousness, metacognition, and cognition, we developed practical guidance for how to respond to our findings.

1. SIMULATE OUTLINING IN CONTEXT

Because conscientiousness is thought of as a personality trait, it is often assumed that conscientiousness is heritable and unchangeable (Blume et al., 2010). But conscientiousness changes incrementally throughout life (Blume et al., 2010). Most change comes from interplay with environmental context (Roberts et al., 2017; Blume et al., 2010), but conscientiousness can also be changed through intervention (Roberts et al., 2017). Interventions are more likely to be successful when they target conscientious states, rather than attempting to change the overall trait (Roberts et al., 2017). A conscientious state is an in-the-moment behavior that can be trained by motivating a particular activity in context (Roberts et al., 2017).

We thus recommended the program add exercises that simulate the conscientious state of outlining in the specific context of lecture videos and practice questions. Outlining simulations should involve students watching a lecture video or completing a set of practice questions, deriving new understandings, and making judgments about where and how to integrate those understandings into existing outlines.

Behavioral interventions should be introduced with metacognitive training, where trainees practice conscientious thought processes, "working 'outward' toward the relevant behaviors" (Javaras et al., 2019, p. 19). Thus, we recommended rather than merely providing sample answers or describing the result that should have been reached in an outlining simulation, instructors should provide deep feedback explicitly modeling the thought processes involved in reaching the result. Exercises should be designed so that elements of knowledge gleaned from a lecture video or practice question belong in certain locations in the hierarchical structure of a sample outline. The reasoning involved in reaching the judgment to place the element in its meaningful position should be fully articulated in feedback.

Context factors such as peer interaction can influence conscientiousness and should be incorporated in interventions to increase development (Roberts et al., 2017). Environments inconsistent with conscientiousness will undercut behavioral interventions (Roberts et al., 2017). Metacognitive training should be situated in learning environments conducive to metacognition (Schraw, 1998). Norms and values around effort and goal-orientation should be generated (Schraw, 1998). Thus, we recommended that learners who integrated knowledge elements correctly in an outlining simulation be asked to share their reasoning with the class. Having peer members of the learning community express understanding around outlining thought processes will help develop social conditions—norms and expectations among learners—that support development of the desired conscientious state.

Interventions should provide sufficient time to practice behavior changes so as to become automatic through spaced practice (Roberts et al., 2017). Thus, we recommended at least three or four outlining simulations be embedded in the program at spaced intervals.

Because learners who found 1L academic support unhelpful were less likely to outline after practice questions, we recommended spending more time simulating this learning activity than others. For instance, if the program could only accommodate three outlining simulations, two of the three should be in the context of completing practice questions.

2. Share with learners cognitive science on the ineffectiveness of repeat exposures

The ineffectiveness of multiple exposures in forming memory is counterintuitive to learners (Schulze, 2019), so it is no surprise that single-viewing lectures is the least appreciated learning activity among students in the program.

Research shows that explicit instruction in learning science helps learners adopt more effective learning strategies (Biwer et al., 2020). Schulze (2019) advocated for explicit metacognitive instruction in legal education. Like lawyers, law students want to see the evidence for themselves, not to be told by an instructor, "take my word for it."

Cognitive science is brimming with studies demonstrating that repeated exposures do not aid encoding (e.g., Castel et al., 2012), and that deep processing is what moves information into long-term memory (e.g., Craik & Tulving, 1975). The program should share with learners the evidence of these cognitive phenomena in conjunction with program exercises, such as outlining simulations, that demonstrate the phenomena at work. As explained above, hybrid metacognitive training approaches are more beneficial to transfer of both metacognitive knowledge and skills (Schuster et al., 2020).

Because learners tend to slip back into using ineffective, intuition-based learning strategies after being encouraged to use effective, evidence-based strategies (Biwer et al., 2020), once is not enough for the program to address the topic. Simultaneous training in metacognitive knowledge should be spaced at intervals alongside the outlining simulations, so that learners continually reflect on the nature of their learning during learning activities. Instructors should view their work not as applying learning science *to* learners, but as applying learning science *with* learners.

In-program quizzes confirming metacognitive knowledge acquisition would provide measures of the effectiveness of these interventions and provide beneficial retrieval practice.

3. Share with faculty cognitive science on schema-development aiding problem-solving

Among the learning activities most closely related to bar performance, outlining after practice questions is the least appreciated by faculty who serve as coaches in the program. Like students, teachers tend to operate on deceptive intuitions about learning (Macdonald et al., 2017), and law faculty are no different.

A common misconception is that bar exam practice questions are a numbers game. A meta-analysis of studies assessing the effects of interventions to improve complex problem-solving in various domains has shown that schema-based instruction improves problem-solving more than practice solving problems (Taconis et al., 2001). Until learners have rich, structured domain knowledge, they are unable to make inferences needed to spot issues in the first place, much less improve at analyzing them effectively (Willingham, 2006). Meanwhile, structured, semantically saturated domain knowledge enables learners to think quickly and clearly about a complex problem (Willingham, 2006). Learners with developed mental schema in a domain are able to see patterns and appreciate deep structures, rather than getting bogged down in the superficial features of a problem (Chi et al., 1989). Practice does not make perfect, unless and until structured, deep knowledge is there to make it meaningful and give it traction.

As with law students, explicit instruction in the evidence supporting the cognitive phenomena involved will be most beneficial in aligning faculty with program messaging around the key learning activity. Given the limited time and attention law faculty have for learning about learning, we recommended the program construct and refine high-value, efficient, minimal communications requesting that faculty coaches advise bar takers about the need to outline after practice questions and providing key takeaways from learning science showing why the learning activity is so critical.

CONCLUSION

This project resulted in three recommendations addressing four main roadblocks to transfer of four learning activities most closely related to bar performance. Recommendations were presented to the Dean and other stakeholders. They were accepted, and the law school began making plans for implementation.

LIMITATIONS

Under the challenging realities of the project environment, we did not seek to meet a scientific standard of rigor at all costs. We sought as much rigor as we could achieve under the circumstances, while still moving the work forward and producing a useful result. Evidence-based practice often requires compromises between competing principles. We struck a balance between reliability and workability. Ultimately, our goal was to help the law school make decisions about its bar problem that would be *more* reliable than decisions resulting from legal education's traditional decision-making practices, not to defend our findings to a scientific community's standard of nominal uncertainty.

As for the applicability of this project outside the law school where it occurred, not only do I acknowledge our findings are of very limited usefulness to other law schools, I urge readers not to discount the powerful effects of context variation. Variation among law school environments and ever-changing environmental conditions make our findings highly specific to a certain place

and time—a passing moment at one law school in one community of learners. Law school decision-makers should be far more interested in our problem-solving process than our particular findings. The value of this project to other law schools is that it is an example of how to venture into evidence-based practice and find their own context-specific answers to their own context-specific and evolving problems.

In terms of limitations on the usefulness of this project to the law school where it occurred, the greatest is time. Our findings and recommendations fit present conditions in the law school organizational system. When the program is changed, the system will churn. System elements and processes will reorient. Moreover, changes in legal education and to the bar exam will moot our findings and recommendations sooner than later. There are no permanent solutions to unstable problems. This project is a model for yearly iterative work, repeating the steps of finding what matters most and figuring out how to influence it best. This sort of project lays groundwork with organizational members and begins to develop capacities to repeat the efforts every year.

As for limitations on the reliability of our findings and recommendations in the intended context at the intended time, survey response rates and the size of our datasets are reported above. Again, evidence-based practice is about moving as far as possible towards reliability under the realities of an imperfect practice environment.

One limitation that may have caught the reader's attention is that we relied on the law school's 2022 survey results for initial findings that dictated much of our project design and focus going forward. That survey was not part of this project, pre-tested, or validated. It had a 33% response rate (n = 54). But, as explained above, prior bar research and learning science strongly corroborated the findings. And, leveraging existing data to move the project beyond preliminary inquiries was a benefit worth the compromise.

In this project, we tried to achieve as much reliability as possible under the challenging realities of the law school environment. We struck a balance in our context. I urge all legal educators to strike a better one in theirs, improve upon our efforts, and let us all know how.

CONCLUSION

In the courtroom, lawyers venerate evidence. In the classroom, they forget they do. Year after year in law school after law school, smart and experienced faculty and administrators fail to produce steady improvement in learner outcomes. Results seem random. Faculty and staff grow frustrated by a sense of hopeless dysfunction and lack of progress. They experience change fatigue, become disillusioned, and disengage. Leaders throw ideas at the wall while organizational members scramble to operationalize a never-ending series of preferred solutions masquerading as best practices (Meyer & Noël, 2023).

Legal education need not be so haphazard. Evidence-based practice can create a sense of progress and purpose by connecting daily work to incremental successes in a law school

increasingly perceived by its community members as worthy of collaborative effort towards shared goals. Legal educators can stop making decisions in all directions at once towards every plausible idea, attune the signal in the noise (Silver, 2012), and anchor decision-making to best evidence.

This project is an example of how a law school begins to architect success by borrowing scientific tools of disciplined observation and inquiry and embarking on an iterative process of continually fitting evolving solutions to ever-changing problems and environments. Following an evidence-based process for collective problem-solving like the one described herein, law schools can impose deliberate change on system outcomes.

True evidence-based practice (not of the rhetorical or reductive varieties) will continue to be a tough sell in legal education. It goes against traditional values. Historically, lawyers have favored competitive victory through unwavering commitment to a position. We idealize the rogue advocate whose brilliance prevails. But collective-decision making is more reliable when stakeholders are open to changing their minds based on new evidence and willing to recognize that the brilliance of one person is not enough to solve complex challenges in complex organizations.

Law school initiatives in evidence-based practice are often met with objections like “data isn’t everything” and “some things can’t be measured.” Somehow, the argument to stick with legal education’s arbitrary approach to decision-making is that a more reliable approach would be imperfect. Such objections mistake the principles and expectations of evidence-based practice. Practitioners know better than anyone that their efforts will be partially flawed. The practice entails recursive interrogation of the practitioners’ assumptions, positionalities, epistemologies, axiologies, interpretations, and conclusions. Inevitably, project problems will be misconceived. Hidden variables will be overlooked. Measurements will be inaccurate and imprecise. Data collection will be incomplete and skewed. Interpretation will be biased. Solutions will be partial and implementation flawed.

However, perfect certainty has never been the goal of evidence-based practice. The goal is to *reduce uncertainty* as much as possible by relying on disciplined observation and evaluation of evidence. Everything *can* be measured, if what we mean by measurement is the reduction of uncertainty. Data *can* be everything—every fleeting impression, every interaction, every shade of human experience—if we learn to capture and code it. Objections to the comprehensiveness, quality, and reliability of data-driven design work are not reasons to prefer legal education’s normative modes of decision-making based on collective whim arising from power contests. They are reasons to get better at evidence-based practice.

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APPENDIX A

Student Survey

This 3-minute survey asks you to tell us about yourself and your views on bar preparation. Your responses will be confidential and submitted directly to [law school representative].

1. Your responses are extremely valuable to us. We would like to include them confidentially in a project to evaluate and improve our teaching methods. This project may lead to a published work, but neither the law school nor any student will be identified. May we include your confidential responses?
- Yes
- No

2. Please enter your last name.

3. Please enter your first name.

4. How helpful was your 1L academic support course?
- Very helpful
- Somewhat helpful
- Not helpful at all

5. During bar review, how many hours per week should you spend studying?
- Less than 20
- Between 20 and 40
- More than 40

6. When you take a bar review course this summer, what percentage of the course should you complete?
- Less than 50%
- More than 50% but less than 80%
- At least 80%

7. In your bar review course, you will be given lecture videos on bar-tested subjects. How many times should you watch the lecture videos?
- Once
- Twice
- More than twice

8. Please describe what you should do during bar review lecture videos.

9. What should you do during bar review lecture videos?

- Watch and listen
- Watch, listen, and take notes
- Watch, listen, and update bar review outlines

10. During bar review, you will be given practice questions with answer explanations. Please explain what you should do after you complete those practice questions to ensure you learn from them.

11. What should you do after you complete bar review practice questions?
    - Read answer explanations
    - Read answer explanations and update bar review outlines

12. Below is a list of statements. Choose how much each one is like you. Answer options range from “1. Not at all like me" to “5. Very much like me." Your professor did not create this list. It was developed by researchers and is widely used.

1. I am always prepared.
2. I do more than what’s expected of me.
3. I make an effort.
4. I work hard.
5. I behave properly.
6. I look at the facts.
7. I make careful choices.
8. I think ahead.
9. I act impulsively when something is bothering me.
10. I do unexpected things.
11. I make a fool of myself.
12. I make rash decisions.
13. I continue until everything is perfect.
14. I detect mistakes.
15. I go straight for the goal.
16. I try to outdo others.
17. I am easily distracted.
18. I have difficulty starting tasks.
19. I put off unpleasant tasks.
20. I waste my time.
21. I am a goal-oriented person.
22. I do things according to a plan.
23. I like to plan ahead.
24. I make plans and stick to them.
25. I am not bothered by messy people.
26. I leave a mess in my room.
27. I leave my belongings around.
28. I often forget to put things in their proper place.

APPENDIX B

Faculty Survey

This 3-minute survey asks about how you might advise a [law school] bar taker. Your responses will be anonymous.

1. Your responses are extremely valuable. The law school may include them anonymously in efforts to improve our bar success program. This may lead to publicly shared findings, but neither the law school nor any respondent will be identified. May we include your anonymous responses?
- Yes
- No

2. If a graduating student tells you they will not be able to study more than 20 hours per week during bar review, how would you respond?

3. During bar review, how many hours per week should a bar taker spend studying?
- Less than 20
- Between 20 and 40
- More than 40

4. If a bar taker told you they expected to complete 70% of their bar review course, how would you respond?

5. What percentage of their bar review course should a bar taker complete?
- Less than 50%
- More than 50% but less than 80%
- At least 80%

6. If a bar taker told you they were watching bar review lecture videos multiple times to help them learn the material, how would you respond?

7. How many times should a bar taker watch bar review lecture videos?
- Once
- Twice
- More than twice

8. If a bar taker told you that during lecture videos they watch, listen, and take notes, how would you respond?

9. What should a bar taker do during bar review lecture videos?
- Watch and listen

- Watch, listen, and take notes
- Watch, listen, and update bar review outlines

10. If a bar taker told you that after they complete bar review practice questions they read the answer explanations and then move on, how would you respond?

11. What should a bar taker do after they complete bar review practice questions?
    - Read answer explanations
    - Read answer explanations and update bar review outlines

12. Is there anything else we should know about your experience with bar takers?

APPENDIX C

Bar Taker Survey

This 2-minute survey asks you to tell us about yourself and how you are approaching bar preparation. Your responses will be confidential.

1. Your responses are extremely valuable to us. We would like to include them confidentially in a project to evaluate and improve how we support our bar takers. This project may lead to a published work, but neither the law school nor any respondent will be identified. May we include your confidential responses?
   - Yes
   - No

2. Please enter your last name.

3. Please enter your first name.

4. How many hours per week are you studying for the bar?
   - Less than 20
   - Between 20 and 40
   - More than 40

5. What percentage of your primary bar review course do you expect to complete?
   - Less than 50%
   - More than 50% but less than 80%
   - At least 80%

6. If you are having difficulty studying more than 40 hours per week, please tell us what could be done to help free up more time.

7. How many times do you watch bar review lecture videos?
   - Once
   - Twice
   - More than twice

8. Please describe what you do during bar review lecture videos.

9. What do you do during bar review lecture videos?
   - Watch and listen
   - Watch, listen, and take notes
   - Watch, listen, and update bar review outlines

10. Please describe what you do after you complete practice questions to ensure you learn from them.

11. What do you do after you complete practice questions?

- Read answer explanations
- Read answer explanations and update bar review outlines