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Socratic Teaching and Learning Styles: Exposing the Pervasiveness of Implicit Bias and White Privilege in Legal Pedagogy

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Socratic Teaching and Learning Styles: Exposing the Pervasiveness of Implicit Bias and White Privilege in Legal Pedagogy

RORY BAHADUR* AND LIYUN ZHANG**

Abstract: *Legal educators who deny the efficacy of utilizing learning style theory inaccurately support their dismissal through misunderstanding and misrepresenting the science supporting such techniques. These erroneous conclusions are often the result of implicit bias and dysconscious racism favoring dominant white male norms and privileges. Such denial is not only*

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I would like to thank my co-author Professor Rory Bahadur for being an inspiration to me in bringing legal education and learning science together responsibly, and helping me see the tremendous potential and value of such cross-disciplinary collaboration in advancing learning and teaching in legal education as well as developing research in educational psychology related to realistic legal education settings. I am honored to be able to contribute to the writing of the article on *Socratic Teaching and Learning Styles: Exposing the Pervasiveness of Implicit Bias and White Privilege in Legal Pedagogy*.

disingenuous and inaccurate, but also highly detrimental to legal education, perpetuating a system that discourages and devalues the contributions and efforts of minority students.

Learning style preferences are a product of a student's cultural background. Legal educators who recognize this and adapt their teaching methods to accommodate the modal preferences of an increasingly diverse student population encourage student motivation, confidence and ultimately success. Those who embrace learning style theory do not suggest that students can only be taught, or learn, in their preferred mode. Instead, they recognize the proven value of introducing new subject matter to adult learners mindful of these differences.

This paper makes four recommendations toward increased understanding and effective use of multimodal teaching methods; (1) critically examine the misunderstanding and misapplication of scientific data that supports the effectiveness of adapting teaching methods to student learning preferences, including the prevalent nomenclature mistakes made by detractors that conflate the concepts of learning styles, preferences and methods, as well as the concepts of teaching and learning; (2) recognize implicit biases and other forms of racism that interfere with the ability to reach all students; (3) show respect for our culturally diverse students by acknowledging their differences and adapting our methods accordingly; and (4) encourage legal educators to engage in cross disciplinary collaboration with fields such as neuroscience and educational psychology which have already made headway in proving the learning benefits of multimodal instruction.

Ultimately, there are voices from the privileged teaching class of the academy mischaracterizing learning science and teaching strategies to validate the mainstream way we have taught in law schools for more than a century. This mischaracterization perpetuates the exclusion of minority students from legal education, and the mischaracterization is palatable and readily accepted because of implicit bias and systemic racism.

TABLE OF CONTENTS

I. INTRODUCTION.....	117
II. ERRONEOUS SOCRATIC METHOD SUGGESTIONS.....	120
III. ERRONEOUS TREATMENT OF LEARNING STYLES.....	134
A. The Science Cuts More Narrowly than Suggested.....	136
B. Learning Styles versus Learning Preferences.....	139
IV. LEARNING PREFERENCES MATTER IN LEGAL EDUCATION.....	141
A. Teaching versus Learning, an Unscientific Argument that Learning Preferences Matter.....	141
B. Scientific Arguments that Learning Preferences Matter.....	143
i. The Cultural Relevance of Learning Preferences.....	146
ii. Contextualizing the Impact of Bias and Privilege on Interpreting Neuroscience.....	149
iii. The Motivational and Metacognitive Significance of Learning Preferences.....	160
V. NOT MISSING THE NEUROSCIENCE FOREST FOR THE NEUROMYTH TREES: USING ACTUAL SCIENCE TO GUIDE PEDAGOGY.....	166
A. Educational Psychology: An Evidence-Based Resource for Legal Educators.....	173
B. Bridging the Gap: Interdisciplinary Collaboration between Legal Education and Educational Psychology.....	175
VI. CONCLUSION.....	176

I. INTRODUCTION

In the last few years there has been a plethora of articles and discussion posts about the science of good teaching in the legal academy.¹ Some of these are careful to make clear that teaching scientifically is not a panacea.² Others seem to make the incautious claim that scientific teaching alone is enough to bring about utopian and exponential improvements in student learning and outcomes.³

A previous article hopefully dispelled the mistaken notion that simply applying the latest “in vogue” scientific method is enough to radically improve student learning and outcomes.⁴ This article addresses the fallacy of attempting to establish effective teaching absolutes and demonstrates such pronouncements are often the result of superficial research into legal pedagogy and neuroscience. One-size-fits-all teaching approaches are often manifestations of implicit bias-fueled system justification – an unconscious failure to recognize the need to encourage and increase diverse student participation in legal education. These approaches are appealing because they bolster and protect the privileges of the dominant norms. In education this phenomenon is called dysconscious racism.⁵

In the absolute pronouncement category, perhaps the most recent, erroneous and quite frankly, harmful article to legal pedagogy in this regard is *Something Borrowed*.⁶ It concludes the Socratic method of teaching is a

¹ See e.g., Rebecca Flanagan, *Better by Design: Implementing Meaningful Change for the Next Generation of Law Students*, 71 ME. L. REV. 103 (2018) [hereinafter Flanagan]; Danielle Cover, *Brain-Wise Lawyering for the Clinical Law Student*, 26 CLINICAL L. REV. 421 (2020) [hereinafter Cover]; Louis Schulze, *Using Science to Build Better Learners: One School’s Successful Efforts to Raise its Bar Passage Rates in an Era of Decline*, 68 J. LEGAL EDUC. 230 (2019) [hereinafter Schulze]; Deborah Borman & Catherine Haras, *Something Borrowed: Interdisciplinary Strategies for Legal Education*, 68 J. LEGAL EDUC. 357 (2019) [hereinafter *Something Borrowed*].

² See Cover, *supra* note 1; Flanagan, *supra* note 1.

³ See, e.g., Schulze, *supra* note 1; *Something Borrowed*, *supra* note 1.

⁴ See generally Rory Bahadur, *Blinded by Science? A Reexamination of the Bar Ninja and Silver Bullet Bar Program Cryptids*, 49 J. OF LAW & EDUC. 1 (2020) (empirically questioning the assertion that simply incorporating neuroscience-based pedagogy is impactful in increasing student learning outcomes).

⁵ Joyce E. King, *Dysconscious Racism: Ideology, Identity, and the Miseducation of Teachers*, 60 J. OF NEGRO EDUC. 133, 135 (1991) [hereinafter King] (defining dysconscious racism as “a form of racism that tacitly accepts dominant white norms and privileges.”). See also Francesina Jackson, *The Impact of “Dysconscious Racism,”* 1(4) MULTICULTURAL PERSP. 15 (1999) [hereinafter Jackson] (explaining the impact of dysconscious racism in education and that “[i]n our society, this form of racism tacitly accepts dominant White norms and privileges, without questioning the values and behaviors perpetuated.”).

⁶ *Something Borrowed*, *supra* note 1.

pedagogical panacea⁷ and that teaching which caters to different learning styles or preferences is “[t]he most concerning neuromyth in Higher Education.”⁸ Further it suggests that even though “[i]ndividual learners show preferences for the mode in which they receive information (e.g., visual, auditory, kinesthetic) [they] learn no better when they receive information this way.”⁹

Something Borrowed describes learning styles as so pervasive that “[i]n the thirty years since learning styles theory was propagated, the myth has mushroomed in scholarly publications, graduate curricula, posters, conference papers and workshops.”¹⁰ In footnote 29 of the article, the authors even identify prominent legal educators they suggest have been duped by the learning styles neuromyth.¹¹ The article also even purports to explain, using cognitive psychology, “[why] we find neuromyths compelling.”¹²

Something Borrowed is an authoritatively written article. Yet, it also illustrates the ease with which superficial pedagogical research can translate into widely accepted and erroneous pedagogical recommendations due to entrenched implicit biases which perpetuate the exclusion of minority students from legal classrooms.¹³

This article initially examines and refutes several flawed assumptions on which *Something Borrowed* relies. First, we demonstrate how the authors misidentify the Langdellian Case Study Method (LCSM) as the Socratic Method, resulting in a purported justification of the Socratic method by erroneously applying its favorable learning attributes to the LCSM.¹⁴

This article also demonstrates the ease with which *Something Borrowed* relegates copious evidence that the LCSM disproportionately disenfranchises minority students in legal education to the realm of the trivial and inconspicuous. We further explain this ease of relegation as an example of system justification fueled by confirmation bias in a white dominated educational environment.¹⁵

Next, we address *Something Borrowed*'s contention that pedagogy research suggests recognizing adult learners have learning styles/preferences

⁷ *Something Borrowed*, *supra* note 1, at 379–86.

⁸ *Id.* at 361.

⁹ *Id.* at 362.

¹⁰ *Id.*

¹¹ *Id.* at n.29.

¹² *Id.* at 365.

¹³ See Scott Fruehwald, *Weekly Legal Education Roundup*, LAW PROFESSOR BLOG NETWORK: TAXPROF BLOG (Dec. 27, 2019), https://taxprof.typepad.com/taxprof_blog/2019/12/weekly-legal-education-roundup-3.html#more (listing the article as one of the best legal education articles of 2019).

¹⁴ See *infra* section II.

¹⁵ See *infra* section III.

is “[t]he [m]ost [c]oncerning [n]euromyth in [h]igher [e]ducation.”¹⁶ This mistaken notion is refuted by a careful examination of the research *Something Borrowed* relies on.¹⁷

This careful examination yields the following conclusions:

1. The learning science research does not cut nearly as broadly as *Something Borrowed* suggests.¹⁸
2. Educators use the word learning “style” to mean learning “preference” and no competent adult educator would suggest that their students needed to be taught exclusively in a particular learning style. As a result, *Something Borrowed*’s concerns are essentially attacking a straw person.¹⁹
3. Learning preferences matter in adult education. We demonstrate this intuitively and scientifically, and ultimately conclude that recognizing learning preferences is essential to increasing the diversity of our student body and ensuring we are culturally competent teachers. This failure to recognize learning preferences may be another example of system justification perpetuating the status quo of minority underrepresentation in legal education.²⁰

Furthermore, we explain the metacognitive significance of learning preferences, reaffirming that the core principles of good legal pedagogy should be inclusiveness and engagement which encourage and equip our multi-cultural students to develop complex cognitive schema outside of the classroom. This is impossible to achieve unless we tailor our presentations to account for the variety of learning preferences of the adult learners we teach.²¹

Additionally, we demonstrate that neuroscience should guide educational practices as long as we carefully distinguish neuroscience from neuromyth, and that educational psychology is a valid learning science and can be a valid evidence-based resource for legal education.²²

In the end, the problem does not lie in whether current practices engage the Socratic Method or the LCSM. The issue is much larger than incorrect labeling or the instigation of pedagogical dueling. The prevailing methods, whatever label attached, are all teacher-based interrogation of students. The bigger problem is the mischaracterization of learning preferences and active

¹⁶ See *Something Borrowed*, *supra* note 1, at 361.

¹⁷ See *infra* section III.a.

¹⁸ See *infra* section III.a.

¹⁹ See *infra* section III.b.

²⁰ See *infra* section IV.

²¹ See *id.*

²² See *infra* section IV.b.i.

learning methods, that ultimately support and validate using LCSM in an increasingly diverse law school population. Failing to support and encourage diverse students in law school fails to deliver fully formed diverse lawyers into the justice system, public sector, private sector, and world at large, at a time when diverse voices desperately need to be heard.

Ultimately, more than just ‘borrowing’ and superficial research is needed to improve legal education. Rather we need to think about how we can actively collaborate with educational psychologists.

II. ERRONEOUS SOCRATIC METHOD SUGGESTIONS

Readers can reasonably but erroneously conclude that *Something Borrowed* advocates for the continued use of Socratic teaching or the implementation of modified Socratic teaching.²³ These recommendations need to be reexamined in light of the reality that *Something Borrowed* misinterprets what the Socratic method is. As a result of this confusion, what the article ends up recommending is a modern active learning pedagogy that is actually a radical departure from Socratic methodology.

To the extent that language in the article is reasonably understood to suggest that the Socratic method is appropriate for legal pedagogy, those suggestions need to be dispelled forcefully here. *Something Borrowed* states, for example,

The Socratic method effectuates the quintessential evocative mode of a law curriculum: the question and answer of the dialogue. Dialogue is a form of reflective thinking or inquiry that requires a certain communion between listener and speaker: an inquiry with the purpose of pursuing “truth” or progressing toward understanding or meaningfulness.²⁴

* * *

[L]aw andragogy, which embodies the Socratic method of dialogue, can and should leverage this powerful self-regulating practice to enhance law learning.²⁵

The article further suggests Socratic dialogue, or what is erroneously referred to as a slight modification of the Socratic dialogue incorporating the

²³ *Something Borrowed*, *supra* note 1, at 379–86 (heaping praise on the Socratic method).

²⁴ *Id.* at 381.

²⁵ *Id.* at 390.

QFT-method, is the optimal pedagogy for law school classrooms.²⁶ The article describes this optimal methodology as follows:

Law professors can use the QFT to begin the Socratic dialogue. Traditionally, the law professor would formulate a question that requires a response from the student, calculated to direct the class discussion toward a tested solution to the legal problem and to demonstrate the process of rational elimination of imperfectly defined and unjustified intuitions. But in flipping to use the QFT process, the professor would instead pose a statement, then divide the class into groups and have the students work under the rules of the QFT process delineated above.

Using QFT as the Socratic method, the students explore their own questions that test the foundation of potential responses. The QFT process as participatory learning coaches students to develop the abilities to think critically and to present ideas effectively. As in the traditional Socratic method, students develop a sense of which arguments are likely to be regarded as convincing, which provocative, and which acceptable,” but all students participate in the process rather than in a one-to-one student-to-professor ratio that the remainder of the class observes.²⁷

The above pedagogical description is not remotely Socratic, but it is an active learning strategy that is unrelated to the Socratic method.²⁸ To suggest

²⁶ *Something Borrowed*, *supra* note 1, at 390 (explaining “[i]nstead, law andragogy, which embodies the Socratic method of dialogue, can and should leverage this powerful self-regulating practice to enhance law learning.”).

²⁷ *Id.* at 388–89.

²⁸ Cynthia J. Brame, *Active Learning*, VANDERBILT CTR. FOR TEACHING (2016), <https://cft.vanderbilt.edu/guides-sub-pages/active-learning/> [hereinafter Brame] (explaining that group work is a hallmark of active learning:

Active learning approaches also often embrace the use of cooperative learning groups, a constructivist-based practice that places particular emphasis on the contribution that social interaction can make. Lev Vygotsky’s work elucidated the relationship between cognitive processes and social activities and led to the sociocultural theory of development, which suggests that learning takes place when students solve problems beyond their current developmental level with the support of their instructor or their peers (Vygotsky 1978). Thus active learning approaches that rely on group work rest on this sociocultural branch of constructivist learning theory, leveraging peer-peer interaction to promote students’ development of extended and accurate mental models.).

that it is a modified Socratic method is more than inaccurate. It in fact misappropriates active learning pedagogy and attempts to reclassify it as a traditional law school pedagogical method. While it is easy enough to disregard quibbling about labels, it undermines and disregards the efforts and struggles of active learning pioneers who have put their reputations on the line for decades, fighting an academy that refuses to change. The only connection that *Something Borrowed's* method has to the Socratic method is that it involves asking a question to the class. But, asking a question does not the Socratic method make.

Initially, it is important to realize that what *Something Borrowed* refers to as the 'Socratic method' should really be called the Langdellian Case-Study Method ("LCSM") because traditional law school teaching represents Langdell's modification of the Socratic method for use in a case-study approach to legal education rather than true Socratic dialogue.²⁹ "Like Socrates, Langdell used questions to provoke critical thinking. But unlike Socrates, Langdell seemed to believe that he knew, and his students could be

See also Bernadette Van Hout-Wolters & P.R.J. Simons, *Active Learning: Self-directed Learning and Independent Work*, in *NEW LEARNING* 21 (2002), https://www.researchgate.net/publication/225312699_Active_Learning_Self-directed_Learning_and_Independent_Work (explaining that self-directed learning is often a hallmark of active learning).

²⁹ See Sheila I. Vélez Martínez, *Towards an Outcrit Pedagogy of Anti-Subordination in the Classroom*, 90 *CHI.-KENT L. REV.* 585, 591 (2015) [hereinafter Vélez], explaining that *Something Borrowed* is not the first article to erroneously conflate the Socratic method with the Langdellian Case Study Method:

Some scholars have often erroneously referred to this method as the Socratic method. The designation of the Langdellian method of instruction as the Socratic method has been criticized as a mischaracterization of the true nature of Socratic dialogue. The case method as conceived by Langdell involves a teacher asking a series of questions, usually to a single student, in an attempt to lead the student "down a chain of reasoning either forward, to its conclusions or backward to its assumptions." Professor Neumann, in his thought provoking article, "A Preliminary Inquiry into the Art of Critique," masterfully deconstructs the way the Langdellian method as it is currently used in law school is in fact Protagorean as it coincides with the techniques of Protagoras, Socrates' rival. In particular, Neumann highlights that it was Protagoras who taught students how to develop equally plausible arguments for and against a given proposition. For Neumann the wide use of the Langdellian Method has had the "unfortunate effect of inhibiting law school teachers from developing a more truly Socratic method of critique, one that can better teach analytical art to individual students while avoiding the hazards of the Langedellian technique." Neumann explains that the most important element of a true Socratic method is left out of the Langdellian method: where students have the opportunity to engage in knowledge production.

expected to discover, the truth of the matters being considered.”³⁰

The crux of the Langdellian method involved a belief that there were correct answers to these questions.

Believing the law to be a science, Langdell concluded that it should be studied as a science. Just as students of natural science derive the laws of nature from real-world phenomena, so should students of law derive legal doctrine from cases. From his theories of law and legal education, we infer that when Langdell posed questions about cases, he expected students’ answers to reference the “correct” underlying doctrine.³¹

Something Borrowed’s assertions to the contrary³² are incompatible with the reality that Langdell believed that there were universal truths and that the correct answers to the questions he asked were the ones that embodied or captured these universal truths.³³

Something Borrowed also repeats another dispelled notion about Socratic teaching as if it is a universal truth by claiming the process is a back and forth conversation between student and teacher – both parties moving together towards some mutually discovered verity. The authors seem to believe that all voices are taken into account and a collective conclusion is reached.³⁴

The reality of course, as explained by Kris Franklin, is the exact opposite.

The nature of Socratic dialogue as it usually functions in the casebook law classroom tends to involve a solitary

³⁰ Peggy Cooper Davis & Elizabeth Ehrenfest Steinglass, *A Dialogue About Socratic Teaching*, 23 NYU REV. L. & SOC. CHANGE 249, 262 (1997) [hereinafter Cooper Davis].

³¹ *Id.* at 263.

³² For example, in *Something Borrowed*, *supra* note 1, at 384, Borman states, “The aim of Socratic pedagogy is not to discover truth, however, at least not in the sense of discovering certainty. Rather, Socratic pedagogy is an educational process, which has as its foundation the principle that all knowledge is fallible and stands open to future revision. The Socratic method is democratic.”

³³ Cooper Davis, *supra* note 30, at 263.

³⁴ *Something Borrowed*, *supra* note 1, at 384, claiming,

Socratic pedagogy at its core is naturally a deeply reflective form of education, in which thinking is understood as a process of inquiry. In an inquiry, our disagreements as well as our agreements shape the dialogue. The backward and forward movement of agreement and disagreement is what lends rigor to an inquiry as it moves from convergent to divergent thinking through the course of the dialogue.

interlocutor conversing with one or only a very few students at a time. In theory all other students/observers are thoroughly engaged in critically considering both sides of this discourse, but it seems doubtful that those who are not part of the exchange remain attentively and fully engrossed at every moment.³⁵

Something Borrowed's misrepresentation of the LCSM is also reflected in its suggestion that the QFT can be used as the Socratic method.³⁶ One of the hallmarks of the LCSM dialogue is that it is instructor driven.³⁷ Harvard University, where the methodology was born, states in describing the LCSM method that it “[e]mploys a hub-and-spoke discussion between professor and

³⁵ Kris Franklin, *Method Lawyering: Immersion Teaching Illustrated*, 69 J. LEGAL EDUC. 1, 13, n.50 (2020) [hereinafter Franklin] (citing Jeremiah A. Ho, *Function, Form, and Strawberries: Subverting Langdell*, 64 J. LEGAL EDUC. 656, 658–70 (2015), [hereinafter Jeremiah Ho]; see also Vélez, *supra* note 29, at 595, explaining:

As A. Benjamin Spencer has recently argued, the ability of the case-dialogue method to transmit analytical skills effectively has never been demonstrated. Elizabeth Mertz advanced this argument in her article, “The Language of Law School.” There, she describes studies of teaching methods that fail to show any connection between the method used and the ability of students to engage in effective legal analysis. Additionally, Spencer asserts that “the type of thinking promoted by the method is limited to certain kinds of legal analysis, neglecting some of the basic problem-solving skills that today’s practitioners need to develop solutions to their clients’ problem.” In anticipation of students’ interactions with their clients’ problems, law students should be taught to be active problem solvers and not vicarious learners.).

³⁶ *Something Borrowed*, *supra* note 1, at 389.

Using QFT as the Socratic method, the students explore their own questions that test the foundation of potential responses. The QFT process as participatory learning coaches students to develop the abilities to think critically and to present ideas effectively. As in the traditional Socratic method, students develop a sense of which arguments are likely to be regarded as convincing, which provocative, and which acceptable, but all students participate in the process rather than in a one-to-one student-to-professor ratio that the remainder of the class observes.

Lawyers need to be able to formulate questions for a deposition, not merely to present an original theory to the court. The construction and phrasing of a question shapes the kind of information the questioner can expect to receive. This dialogue andragogy in the classroom through QFT and modified Socratic method, therefore, trains students to “present ideas to groups, defend those ideas, and propose solutions to legal problems” in a low-stakes venue, providing the foundation for public speaking to clients and corporate boards, or in courtrooms or administrative proceedings; it is integral to becoming a lawyer.

³⁷ Franklin, *supra* note 35.

student.”³⁸ The ‘hub-and-spoke’ means that the students’ answers are followed up by a professor question. LCSM pedagogy is neither active nor student centered, but it is a classic example of passive sage on the stage, teacher centered pedagogy,³⁹ which has been shown to leave a respondent feeling “passive, powerless, and unknowing.”⁴⁰

Conversely, the QFT methodology proposed in *Something Borrowed* is an active learning methodology, which is the complete opposite of LCSM teaching. Claiming that the QFT methodology is Socratic or modified Socratic does a disservice to the members of our profession who have long suggested that LCSM teaching needs to be replaced by active learning strategies.

Active learning refers to deeper student involvement in the learning process. The approach relies on students using their own existing skills to codify new information rather than just transferring the information. By using skills like reading or discussing with classmates to wrestle with the material, the student takes a leading role in their learning and is more likely to confront their own pre-conceived notions and values.⁴¹

Some of the observable hallmarks of active learning are “working with other students on projects during class; making a presentation; asking questions or contributing to discussions; participating in a community-based project as part of a course; working with other students outside of class on

³⁸ Harvard Law School, *The Case Study Method*, <https://casestudies.law.harvard.edu/the-case-study-teaching-method/>.

³⁹ See Cooper Davis, *supra* note 30, at 258, 259 explaining,

As with a lecture, however, Socrates has structured and controlled the process. Socrates draws the illuminating diagram and, by asking only inauthentic questions, he walks the slave through it. Also, in the end it is Socrates, not Meno’s slave, who states the solution. Meno’s slave has followed along and answered the discrete questions put to him, but has he also constructed an understanding of the process as a whole? In some ways, the dialogue seems to have encouraged Meno’s slave to be a relatively active learner; yet, in others, the dialogue has only reinforced the slave’s subordinated and passive position.

* * *

In response to Socrates’ questions, Meno generally says little more than “I suppose not,” “true,” or “so it appears.” The dialogic process seems to make him passive and relatively silent.

⁴⁰ *Id.* at 270.

⁴¹ Brame, *supra* note 28, explaining strategies that promote active learning as [I]nstructional activities involving students in doing things and thinking about what they are doing (Bonwell and Eison, 1991). Approaches that promote active learning focus more on developing students’ skills than on transmitting information and require that students do something—read, discuss, write—that requires higher-order thinking. They also tend to place some emphasis on students’ explorations of their own attitudes and values.

assignments; discussing ideas from a course with others outside of class; tutoring peers.”⁴²

Active learning is a “constructivist-based practice that places particular emphasis on the contribution that social interaction can make [based on] the sociocultural theory of development, which suggests that learning takes place when students solve problems beyond their current developmental level with the support of their instructor or their peers.”⁴³ It should come as no surprise then that one of the hallmarks of active learning is group work because group work typifies the “sociocultural branch of constructivist learning theory, leveraging peer-peer interaction to promote students’ development of extended and accurate mental models.”⁴⁴

Another hallmark of active learning is student-centered, rather than teacher-centered, classrooms and high student engagement.⁴⁵ Once an informed lens is applied to the recommendations in *Something Borrowed*, it becomes patent that what the article recommends as Socratic or modified Socratic is actually the classic active learning pedagogy that others have recommended for decades.

Recommending the QFT methodology and describing it as Socratic or a minor variation on Socratic pedagogy is inaccurate. It demonstrates a lack of understanding of what the term Socratic teaching means in the context of

⁴² Brame, *supra* note 28.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ Joel Michael, *Where’s the evidence that active learning works?*, 30 *ADVANCES IN PHYSIOLOGY EDUC.* 159, 160 (2006) (explaining that active learning is defined as

The process of having students engage in some activity that forces them to reflect upon ideas and how they are using those ideas. Requiring students to regularly assess their own degree of understanding and skill at handling concepts or problems in a particular discipline. The attainment of knowledge by participating or contributing. The process of keeping students mentally, and often physically, active in their learning through activities that involve them in gathering information, thinking, and problem solving. [And] student-centered instruction [SCI] is an instructional approach in which students influence the content, activities, materials, and pace of learning. This learning model places the student (learner) in the center of the learning process. The instructor provides students with opportunities to learn independently and from one another and coaches them in the skills they need to do so effectively. The SCI approach includes such techniques as substituting active learning experiences for lectures, assigning open-ended problems and problems requiring critical or creative thinking that cannot be solved by following text examples, involving students in simulations and role plays, and using self-paced and/or cooperative (team-based) learning. Properly implemented SCI can lead to increased motivation to learn, greater retention of knowledge, deeper understanding, and more positive attitudes towards the subject being taught.).

legal pedagogy. Rather, QFT is the classic embodiment of active learning methodology, and it is not related to the hub and spoke, sage on the stage nature of LCSM teaching in law schools.⁴⁶

The larger harm in erroneous nomenclature is the disservice it does to people like Laurie Zimet, Paula Lustbader, and Gerry Hess who were the pioneers of active learning in legal academia,⁴⁷ and who realized, as early as

⁴⁶ Michael, *supra* note 45, at 160.

⁴⁷ See, e.g., Gerald Hess, *Heads and Hearts: The Teaching and Learning Environment in Law School*, 52 J. LEGAL EDUC. 75, 100–01 (2002):

Paula Lustbader cogently describes the importance of learning styles for law teachers: “Theories about learning styles indicate that learners have a preferred mode of learning, that people learn in different ways, that a variety of learning styles will be present in any classroom, and that no one teaching method is effective for all students.” Empirical research has demonstrated the wide variety of learning styles of law students. An effective teaching and learning environment includes a variety of teaching and learning methods to help students with different learning styles excel. Effective teachers employ a range of methods, including Socratic dialog, large- and small-group discussions, writing exercises, visual aids, and simulations. As one of our student interviews explained:

“I am a visual learner as well. I’m definitely one of those students who needs to reflect on her notes before answering a question, who’s better in small-group exercises, who hates talking in front of a large group. Professors don’t necessarily value students’ different learning styles. They don’t allow room for different kinds of teaching methods to be responsive to those styles. I think I could have learned a lot more in my first-year classes if we had divided up into groups and discussed policy, if we had written take-home exercises or prepared outlines.” And, as Parker Palmer notes, an effective environment includes silence and speech. Our student interviews concurred:

“Give people time to think about the question and process an answer. I think teachers tend to be sort of uncomfortable with silence, and students do too, but I think there could be more silence in the classroom to let people generate responses.”

See also David Domínguez, Laurie Zimet, et al., *Inclusive Teaching Across the Curriculum: Academic Resource and Law Teachers Tie a Knot at the AALS*, (1997), <https://pdfs.semanticscholar.org/4c9a/6590478096c0e81abe9b76ea932a5c5a0b2d.pdf>, [hereinafter Domínguez]; Paula Lustbader, *From Dreams to Reality: The Emerging Role of Law School Academic Support Programs*, 31 U. S.F. L. REV. 839, 840, 853–54, explaining the importance of learning style recognition to increase the enrollment and success of minority students.

[T]he legal system does not adequately represent the values or serve the needs of a culturally diverse society because the legal profession is dominated by the voices and values of persons who come from a white, upper-middle class, heterosexual, and often male experience. This experience is not reflective of the voices, values, and experiences of a diverse society because it promotes exclusivity over inclusivity, individuality over community, economic efficiency over moral or humanistic efficiency, and rights over care-orientation. Many people have

1997, that active learning catering to diverse student populations through a

argued that the legal system will continue to inadequately respond to a culturally diverse society until a critical mass of diverse lawyers and legal academicians enter the system and influence it. The underlying purpose of most Academic Support Programs (ASPs) is to diversify the legal profession by helping more diverse students gain admission into, remain and excel in, and graduate from law schools, so they can pass a bar examination and gain entry into the legal profession.

Lustbader, *supra* note 47, at 839–40;

Learning is an individual process. As such, people have different learning styles. For example, some students are more visual learners, some are more auditory, and some are more kinesthetic. In addition, some students process and learn through writing, while others process and learn through speaking. Moreover, some students are abstract, conceptual thinkers, while others are concrete and practical. Academic support faculty enhance student learning because they teach to different learning styles by employing a variety of teaching strategies in every session. The most common strategies are learning through collaborating, learning through writing, and learning through experiencing. In addition, the small size of study groups enables academic support faculty to design learning experiences that incorporate various learning styles and processes. For example, students who tend to not talk in larger classes are encouraged to talk in the study sessions. Because the class is smaller, more students become actively engaged with the material. To help students process orally, ASP teachers create numerous mock oral arguments and play games such as charades and jeopardy.

Id. at 853–54. See Domínguez, *supra* note 47, at 886–87, recognizing that students from different backgrounds have different comfort levels and the importance of recognizing these variations in the teaching methods:

As we continued to generate ideas, it became clear that we wanted to introduce how students have different levels of comfort and feelings of belonging in a class. We wanted the audience to experience the feelings of being a novice in a new, challenging endeavor where there were unacknowledged norms and values and no developmental (step-by-step) instruction. We considered having the audience perform the “Macarena” to illustrate this point. There would be different comfort levels as some people, those familiar with the “Macarena” or more at ease with dancing in general, would thrive. Others, who were unfamiliar or uncomfortable with dancing or the “Macarena,” would lack confidence, feel awkward, and fail. Some would get the “Aha”/dance steps quickly and some would take longer. Several people might create additional, creative steps, and others would be satisfied going through the motions. We would then explore how each audience member felt during the exercise, which teaching method(s) helped, and at what stage the person got the “Aha.” The audience could then use this experience and relate it to the law school environment. Some students have a higher comfort level because their prior knowledge or their learning style, gender, race, sexual orientation, class, or other trait enables them to be more at ease with the content and teaching methods used in law school. We were very excited about using this dance until we examined our assumptions about it.

recognition that the different environments students come from affect the way they learn was essential to “inclusive teaching.”⁴⁸ Since the 1990s, these and other individuals have been arguing that legal education based on the LCSM perpetuates the exclusion of minorities from legal academia and that active learning is a more inclusive pedagogy⁴⁹ which needs to be implemented to facilitate the success of more non-majoritarian students in legal education.

That the LCSM methodology perpetuates the exclusion of people of

⁴⁸ Domínguez, *supra* note 47.

⁴⁹ Brame, *supra* note 28, at 3:

In addition to the evidence that active learning approaches promote learning for all students, there is some evidence that active learning approaches are an effective tool in making classrooms more inclusive. Haak and colleagues examined the effects of active learning for students in the University of Washington’s Educational Opportunity Program (EOP) who were enrolled in an introductory biology course (Haak et al., 2011). Students in the EOP are educationally or economically disadvantaged, are typically the first in their families to attend college, and include most underrepresented minority students at the University of Washington. Previous work had demonstrated that the researchers could predict student grades in the introductory biology course based on their college GPA and SAT verbal score; students in the EOP had a mean failure rate of ~22% compared to a mean failure rate of ~10% for students not in the EOP. When multiple highly structured approaches to promote active learning were incorporated into the introductory biology course, all students in the course benefited, but students in the EOP demonstrated a disproportionate benefit, reducing the achievement gap to almost half of the starting level. Given the pressing need to make U.S. college classrooms more inviting and productive spaces for students from all backgrounds, these results provide another compelling reason to incorporate active learning approaches into course design.

color and women⁵⁰ from legal education should be unsurprising. Langdell introduced the LCSM when he was the dean at Harvard Law School, a mere five years after the abolition of slavery.⁵¹ Langdell's tenure as dean ended in 1895, a full twenty-five years before the Nineteenth Amendment was ratified.⁵² Of course Langdell was a product of his time. Many of his contemporaries correctly held slavery as an unspeakable atrocity, fighting in support of its abolition,⁵³ and Massachusetts was an abolitionist hotspot in the 1850s.⁵⁴ However, it is inherent in dysconscious racism to actively believe equality is just while simultaneously perpetuating systems that ensure equality can never happen.⁵⁵

The LCSM needs to not only be evaluated in terms of the absolute truths, hierarchies, and legal doctrine that were prevalent at the time but also recognized as perpetuating these hierarchies.⁵⁶ Like many historical events,

⁵⁰ See Rob Trousdale, *White Privilege and the Case-Dialogue Method*, 1 WILLIAM MITCHELL L. RAZA J. 28, 39, 42 (2010) [hereinafter Trousdale], quoting Kimberlé Crenshaw: "To assume the air of perspectivelessness that is expected in the classroom, minority students must participate in the discussion as though they were not African-American or Latino, but colorless legal analysts," and explaining,

Derrick Bell, a prominent critical race theorist, has suggested that white self-interest is the primary motivation of racial progress. As a white law student, I take Bell's suggestion as a challenge. I believe Bell is challenging all of those with racial privilege to work towards developing racial equality in ways that are not motivated by self-interest. The prevalence of Langdell's case-dialogue method pedagogy represents the failure of law schools, as predominately white institutions, to accept Bell's challenge. If law schools took white privilege seriously, they would not adopt a pedagogical approach that supports the faulty notion of perspectiveless legal analysis. If law schools took white privilege seriously, they would not create a classroom environment that places students in compromising positions due to their minority status. If law schools took white privilege seriously, they would not disguise the systemic forms of subordination embedded within the law.

⁵¹ *Id.* at 32 (Langdell was appointed Dean of Harvard in 1870, and the 14th Amendment was ratified in 1865).

⁵² See Ralph Michael Stein, *The Path of Legal Education from Edward I to Langdell: A History of Insular Reaction*, 57 CHI.-KENT L. REV. 429, 452 (1981) (Langdell left Harvard in 1895, and the 19th Amendment was ratified in 1920).

⁵³ Ronald Collins, *Oliver Wendell Holmes: A Heart Touched By Fire*, 64 AM. HERITAGE (2019), <https://www.americanheritage.com/oliver-wendell-holmes-heart-touched-fire#2> (explaining that Oliver Wendell Holmes, for example, fought in the Civil War and was shot twice).

⁵⁴ Zack Huffman, *In 1850s Boston, Slave Case Sparked Conflict*, BAY STATE BANNER (Mar. 22, 2019), <https://www.baystatebanner.com/2019/03/22/in-1850s-boston-slave-case-sparked-conflict/>.

⁵⁵ See *infra* notes 63 & 64 (explaining the mechanism by which our implicit biases override our conscious belief systems).

⁵⁶ See Jeremiah Ho, *supra* note 35, at 658.

the “truth” degrades into a subjective white-washing of the account that feels most palatable to the storyteller.⁵⁷ In that vein, the creation of the LCSM, however unintentionally, supported the absolutist hierarchy of the conqueror.⁵⁸ It is disturbing, but unsurprising, that *Something Borrowed* does not even mention this readily available and established information about the exclusionary nature of the Socratic dialogue. Nor is it surprising that they would support a teaching method that continues to propel forward as true that which furthers the goals and stories of white normative culture. This dismissal or minimization of information that suggests changes to the status quo—in this case, LCSM perpetuating the dominance of whiteness in legal education—is a hallmark of implicit bias.⁵⁹

Implicit biases powerfully override even our conscious belief systems⁶⁰ such that we act contrary to our conscious belief system and ignore or minimize the impact of information which is contrary to established unconscious heuristics operating to perpetuate the societal status quo.⁶¹ *Something Borrowed* actually refers to the implicit bias known as “confirmation bias”⁶² but because these biases do not operate on the conscious level, the authors are unaware that the same bias permeates their suggestions for legal pedagogy.⁶³

For a while the jig has been up; there is no mystery that the case method is an educational model prone to furthering hierarchies. Duncan Kennedy most famously articulated that reality in his *Legal Education and the Reproduction of Hierarchy* in 1982, and others have followed since then. Pointing out a direct cause-and-effect in law school teaching and hierarchies, Kennedy observed in crit-laden fashion that “[m]uch of what happens is the inculcation through a formal curriculum and the classroom experience of a set of political attitudes toward the economy and society in general, toward law, and toward the possibilities of life in the profession.”

⁵⁷ See Jeremiah Ho, *supra* note 35, at 658.

⁵⁸ *Id.*

⁵⁹ Rory Bahadur, *Newsworthiness as an Internet-Era Mitigant of Implicit Bias*, 88 UMKC L. REV. 1, 19 (2019) [hereinafter Bahadur].

Another result of implicit biases is that they tend to result in the phenomenon of system justification. System justification theory posits that individuals at all levels in social hierarchies tend to be motivated to justify and defend the status quo. In America, this status quo involves whites being the dominant social class. Implicit bias theory explains how this status quo can be maintained even in the face of opposing cultural norms that expressly mandate egalitarianism.

⁶⁰ *Id.* at 21.

⁶¹ *Id.* at 19.

⁶² *Something Borrowed*, *supra* note 1, at 365.

⁶³ Bahadur, *supra* note 59, at 19 (explaining, “[b]ecause implicit biases are ‘unconscious’ or ‘not accessible through introspection,’ implicit biases can override our conscious value

This ability to ignore certain powerful realities or information when it does not conform to majoritarian normativity is an example of confirmation bias.⁶⁴ Despite the impressive and accessible body of research reaffirming the harm caused by the LCSM to non-majoritarian participants in legal education, *Something Borrowed* recommends it without a hint of cognitive dissonance. This ability to make recommendations or conclusions contrary to your conscious beliefs, with no awareness of the discrepancy, is a hallmark of implicit bias and occurs because implicit biases are not subject to introspection.⁶⁵

Further implicit biases operate to preserve the societal status quo through a phenomenon known as system justification.

System justification theory posits that individuals at all levels in social hierarchies tend to be motivated to justify and defend the status quo. In America, this status quo involves whites being the dominant social class. Implicit bias theory explains how this status quo can be maintained even in the face of opposing cultural norms that expressly mandate egalitarianism.⁶⁶

Especially important in this context is confirmation bias, a type of cognitive bias that involves favoring information that confirms one's previously existing beliefs or biases.⁶⁷ For example, in the immigration context, *Rubenstein* explains,

When presented with conflicting information, people tend to foreground information that comports with their preexisting

systems such that people act according to implicit biases even when the resulting actions are in direct contradiction to the values they actually believe they have.”).

⁶⁴ See Neil Levy, *Implicit Bias and Moral Responsibility: Probing the Data*, 94 PHIL. & PHENOMENOLOGICAL RES. 3, 4 (2016); see also Michael Brownstein, *Implicit Bias*, STANFORD ENCYCLOPEDIA OF PHIL. (Edward N. Zalta ed., Feb. 26, 2015), <https://plato.stanford.edu/entries/implicit-bias/>, (defining implicit bias as “a term of art referring to relatively unconscious and relatively automatic features of prejudiced judgment and social behavior”). (The example of implicit bias used in this article is as follows: “Frank explicitly believes that women and men are equally suited for careers outside the home. Despite his explicitly egalitarian belief, Frank might nevertheless implicitly associate women with the home, and this implicit association might lead him to behave in any number of biased ways, from trusting feedback from female co-workers less to hiring equally qualified men over women.”).

⁶⁵ Bahadur, *supra* note 59, at 19.

⁶⁶ *Id.*

⁶⁷ *Confirmation Bias*, AMERICAN PSYCHOLOGICAL ASSOCIATION: DICTIONARY OF PSYCHOLOGY (2020), <https://dictionary.apa.org/confirmation-bias>.

beliefs. Thus, owing to confirmation bias, people who already think that migrants steal American jobs are more likely to internalize cohering reports and reject nonconforming information.⁶⁸

Because implicit biases tend to preserve the status quo and the status quo of legal education involves an educational environment dominated by whiteness,⁶⁹ information that is inconsistent with this status quo is going to be less impactful, even to people, presumably like the authors of *Something Borrowed*, who consciously believe that the educational system should be more inclusive.⁷⁰

⁶⁸ David S. Rubenstein, *Immigration Blame*, 87 FORDHAM L. REV. 125, 147 (2018) [hereinafter Rubenstein].

⁶⁹ Deborah L. Rhode, *Law Is the Least Diverse Profession in the Nation. And Lawyers Aren't Doing Enough to Change That.*, WASH. POST (May 27, 2015), <https://www.washingtonpost.com/posteverything/wp/2015/05/27/law-is-the-least-diverse-profession-in-the-nation-and-lawyers-arent-doing-enough-to-change-that/>. See also Mark C. Alexander, *Varied Perspectives, Better Solutions: The Case for Diversity in Law School Leadership*, NAT'L L. J. (Mar. 1, 2020), <https://www.law.com/nationallawjournal/2020/03/01/varied-perspectives-better-solutions-the-case-for-diversity-in-law-school-leadership/#:~:text=There%20is%20a%20notable%20lack,top%E2%80%9480%94are%20people%20of%20color> (explaining that “[t]here is a notable lack of diversity in the legal profession. At law schools, student racial diversity is approximately 31%. Minority lawyers make up less than 17% of the profession, according to the National Association of Law Placement. Only nine percent of law partners—those at the top—are people of color.”).

⁷⁰ Bahadur, *supra* note 59, at 19.

Because implicit biases are “unconscious” or “not accessible through introspection,” implicit biases can override our conscious value systems such that people act according to implicit biases even when the resulting actions are in direct contradiction to the values they actually believe they have. Another result of implicit biases is that they tend to result in the phenomenon of system justification. System justification theory posits that individuals at all levels in social hierarchies tend to be motivated to justify and defend the status quo. In America, this status quo involves whites being the dominant social class.⁷⁰ Implicit bias theory explains how this status quo can be maintained even in the face of opposing cultural norms that expressly mandate egalitarianism.

See also, Lakshmi Hutchinson, *Addressing Implicit Bias in the Social-Impact Sector*, IDEALIST (Mar. 4, 2020), <https://www.idealists.org/en/careers/implicit-bias-social-impact>:

Because implicit biases are unconscious, they may be in direct opposition to what we *say* we believe. Most social-impact professionals undoubtedly believe they are working against racism and sexism, but the fact remains that:

- Approximately 80% of leadership positions in nonprofits and foundations are held by white people, despite candidates of color having the same credentials.

Ultimately, *Something Borrowed*'s suggestion that professors should use "QFT as the Socratic method"⁷¹ indicates a fundamental misunderstanding of what the Socratic method is as it relates to legal pedagogy. This misunderstanding unacceptably hinders the development of effective pedagogy by incorrectly suggesting active learning can be achieved by relatively insignificant modifications to an archaic, discriminatory, and outmoded method of legal education.⁷²

It is important to remember that while *Something Borrowed* purports to be recommending and justifying the use of LCSM pedagogy, it actually is not.⁷³ A reader unaware of the article's mislabeling of the pedagogy recommended in the article can therefore plausibly conclude that the article advocates for the perpetuation of LCSM or a slight modification thereof.⁷⁴

This mislabeling is not helpful to increasing diversity in legal education. Facilitating the conclusion that Socratic pedagogy is appropriate for current legal education buttresses the impediments to inclusivity of minority students in legal education.

However, the misunderstanding or mislabeling of Langdellian pedagogy is the least problematic aspect of Borman's article. It is the article's examination of neuromyths and its failure to distinguish between learning styles and learning preferences that truly warrants discussion.

III. ERRONEOUS TREATMENT OF LEARNING STYLES

Something Borrowed minimizes the significance that a law school classroom is full of students who all have different learning preferences, and consequently, why it is important to provide a pedagogical environment which engages all learning preferences. It is difficult to deny that being in an

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- According to the 2018 Guidestar Nonprofit Compensation report, female CEOs of nonprofits earn 4% to 20% less than their male counterparts.
 - A 2012 study by the Greenlining Institute found that "communities of color receive less than 5% of all charitable donations from the more than 72,000 foundations in the country."

Clearly, implicit bias affects not only interpersonal relationships, but also the diversity of an organization's leadership and the actual outcomes of grantmaking and social impact projects. Each decision informed by implicit biases can have a far-reaching impact within organizations and the communities they serve.

⁷¹ *Something Borrowed*, *supra* note 1, at 389.

⁷² *See id.* at 390 (concluding "law andragogy, which embodies the Socratic method of dialogue, can and should leverage this powerful self-regulating practice to enhance law learning."); *see also* Trousdale, *supra* note 50 (explaining that the Socratic Method is the pedagogy associated with white privilege).

⁷³ *See supra* notes 32–40 and accompanying text.

⁷⁴ *See Something Borrowed*, *supra* note 1, at 390.

environment which facilitates a novice learner initially processing information in a way that he or she prefers, or in a way that is comfortable to them, gives the novice learner the feeling of confidence that the material is not so foreign or unattainable. These feelings of unattainability and low confidence are much more pervasive among students of color and other non-majoritarian members of our student population.⁷⁵

⁷⁵ See Trousdale, *supra* note 50, explaining:

This academic environment places minority law students in compromising positions. Kimberlé Williams Crenshaw, a law professor and critical race theorist, examined the minority law student experience in her article, *Foreword: Toward a Race-Conscious Pedagogy in Legal Education*. Crenshaw began with the assumption that minority law students often have different values, beliefs, and experiences than their classmates and professors. Crenshaw found that these differences are rarely discussed in a law school classroom because of the dominant assumption that legal analysis should be objective. As described by Crenshaw, the objectivity of legal analysis is presumed to posit “an analytical stance that has no specific cultural, political, or class characteristics.” Crenshaw coins this mode of analysis “perspectivelessness.”

Crenshaw explains how the analysis of legal issues through the mode of perspectivelessness effects minority law students. Crenshaw begins with a discussion of perspectivelessness itself: “While it seems relatively straightforward that objects, issues, and other phenomena are interpreted from the vantage point of the observer, many law classes are conducted as though it is possible to create, weigh, and evaluate rules and arguments in ways that neither reflect nor privilege any particular perspective or world view. Thus, law school discourse proceeds with the expectation that students will learn to perform the standard mode of legal reasoning and embrace its presumption of perspectivelessness.”

Crenshaw argues that this dichotomy places minority students in a compromising position. Operating within the case-dialogue method leaves minority law students with one of two options. They may choose to deny their identity and analyze issues “objectively” within the Langdellian framework. Or they may accept and assert their identity and risk being ostracized for failing to think like a lawyer. Thus, if a minority student wants to participate in the “objective” discussion of a court’s reasoning she must leave her racial identity at the door and put on the hat of a supposedly colorless legal analyst. Crenshaw describes the consequences of such an analysis:

“The consequence of adopting this colorless mode is that when the discussion involves racial minorities, minority students are expected to stand apart from their history, their identity, and sometimes their own immediate circumstances and discuss issues without making reference to the reality that the ‘they’ or ‘them’ being discussed is from their perspective ‘we’ or ‘us.’”

The result is a classroom environment that actively encourages the silencing of minority students. Forced to stand apart from their own self,

Something Borrowed does not discuss the fact that, by acknowledging and consciously utilizing a multimodal pedagogy catering to different learning preferences, we are providing novice and overwhelmed learners the opportunity to use their preferred method for initial schema creation for the broadest of concepts. Nothing then prevents that novice learner from using a variety of methods to master the material and create more complex schema, and no serious educator should suggest that because of a “learning style” the student is only capable of learning the material in one way. Furthermore, Borman and Haras’ insistence that learning preferences have absolutely no use in the legal classroom furthers the already present inequality and perpetuates the harm done to non-majoritarian students.⁷⁶

A. The Science Cuts More Narrowly than Suggested

Something Borrowed cites to authors who are harshly critical of learning styles, but even these authors recognize that people have different methods which they choose to employ in their learning. For example, *Something Borrowed* makes this explosive statement in its argument against recognizing learning preferences or learning styles:

The history of learning styles provides important lessons for the law classroom and, by extension, law teaching as an area

minorities are generally more reluctant than their white counterparts to speak in the classroom.

The silencing of minority law students supports both the private, everyday forms of white privilege discussed by Peggy McIntosh and the public, more systemic forms of white privilege discussed by Cheryl Harris. In reference to the everyday privilege discussed by McIntosh, the white law student can complete the assigned reading and answer a professor’s questions in class, assured that the legal reasoning asked of them will affirm their racial identity and history. This privilege is as much an asset as the property hornbook sitting inside the white student’s backpack. The white student, while sitting in class, unhindered by thoughts of identity, remains oblivious to the systemic forms of racial subordination embedded within the law.

In reference to the systemic forms of white privilege discussed by Harris, discussions of whiteness as property never occur, as the voices that have the power to reveal the law’s endorsement of racial subordination are silenced. In the cruelest of ironies, the minority law student works within a legal educational system that produces “students who are dedicated to the maintenance of the status quo, even though that status quo is oppressive to them.”

The premise of objectivity, the bedrock of the case-dialogue pedagogy, creates a classroom environment steeped in an unconsciousness of whiteness. The pedagogy subordinates minority law students and preserves white privilege.

⁷⁶ See *infra* section IV.b.

of practice. Learning styles theory is described as theoretically incoherent and conceptually confused; it has a demonstrably negligible impact on classroom practice and so is an inefficient use of instructors' time. Some education scholars fear for the legitimacy of education, a discipline being undermined by pseudoscience and a tendency to ignore research-based practice.⁷⁷

In support of that assertion, *Something Borrowed* cites, among others, Frank Coffield's study, *Learning Styles: Unreliable, Invalid and Impractical and Yet still Widely Used*.⁷⁸ Yet, in contrast to *Something Borrowed*, Coffield makes an informed distinction between learning styles and learning preferences and acknowledges that in discussing learning with students we should ask them to consider "their own learning preferences and the preferences of others around them."⁷⁹ In fact, Coffield goes on to say the ideal answer from a student when asked what kind of learner they would be is, "I'm all types rolled into one. And I use different styles, depending on what I'm doing and how I'm doing it."⁸⁰

Additionally, the scholarship cited in *Something Borrowed* does not apply as broadly as the article posits. For example, Dekker et al., in their article *Neuromyths in Education: Prevalence and Predictors of Misconceptions among Teachers*, addressed the specific neuromyth that "learning could be improved if children were classified and taught [exclusively] according to their preferred style."⁸¹ Similarly, Coffield's study did not address learning "preferences", but it was meant to prevent teaching interventions which were based *solely* on learning "styles."⁸² The neuromyth study was rebutting the notion that "only one sensory modality is involved with information processing."⁸³

Something Borrowed fails to acknowledge that studies like Coffield's were in direct response to a very disturbing practice in pedagogy that was

⁷⁷ *Something Borrowed*, *supra* note 1, at 363.

⁷⁸ See *id.* at n.32 (citing Frank Coffield, *Learning Styles: Unreliable, Invalid and Impractical and Yet still Widely Used*, ELM MAGAZINE (2013) [hereinafter Coffield]).

⁷⁹ Frank Coffield et al., *Learning Styles and Pedagogy in Post-16 Learning. A Systematic and Critical Review*, LEARNING & SKILLS RES. CTR. 1, 121 (2004).

⁸⁰ Frank Coffield, *Learning Styles: Unreliable, Invalid and Impractical and Yet still Widely Used*, in BAD EDUCATION: DEBUNKING MYTHS IN EDUCATION 215, 225 (Philip Adey & Justin Dillon eds., 1st ed. 2012) [hereinafter BAD EDUCATION].

⁸¹ Sanne Dekker et al., *Neuromyths in Education: Prevalence and Predictors of Misconceptions Among Teachers*, 3 FRONTIERS IN PSYCHOL. 1, 2 (2012), http://www.academia.edu/1985122/Neuromyths_in_education_Prevalence_and_predictors_of_misconceptions_among_teachers [hereinafter Dekker].

⁸² BAD EDUCATION, *supra* note 80, at 224.

⁸³ Dekker, *supra* note 81, at 2.

justified based on the learning style literature; namely that “too many teachers are labeling students in the belief that they have a fixed learning style that cannot be changed.”⁸⁴ The recognition and validity of subjective learning preferences, and the responsibility that we as culturally relevant teachers have to acknowledge and incorporate these realities into our classroom presentations, is not at all affected by these studies.

In fact, *Something Borrowed* uses a Geake study to support most of its assertions,⁸⁵ and although the article does not cite to that particular Geake study, it mentions and dispels exactly the same “neuromythologies”: learning styles,⁸⁶ left brain versus right brain,⁸⁷ the idea that people use only ten percent of their brains,⁸⁸ and the existence of multiple intelligences.⁸⁹ That study was concerned in part about learning styles in the context of educating children and separating the learners into rigid and labelled categories⁹⁰ in a manner that, despite Borman’s implications to the contrary, has never occurred in legal pedagogy.

Ironically, the scholarship used to support conflation of learning styles and learning preferences in *Something Borrowed* suggests recognizing the difference between them is actually useful and reflective of the respondent’s learning preference.⁹¹ But *Something Borrowed* also erroneously hacks away

⁸⁴ BAD EDUCATION, *supra* note 80, at 228.

⁸⁵ John Geake, *Neuromythologies in Education*, 50(2) EDUC. RES. 123 (June 2008) [hereinafter Geake].

⁸⁶ *Something Borrowed*, *supra* note 1, at 358; *see also* Geake *supra* note 85 at 130.

⁸⁷ *Something Borrowed*, *supra* note 1, at 360; *see also* Geake *supra* note 85 at 128.

⁸⁸ *Something Borrowed*, *supra* note 1, at 360; *see also* Geake *supra* note 85 at 130.

⁸⁹ *Something Borrowed*, *supra* note 1, at 359; *see also* Geake *supra* note 85 at 126.

⁹⁰ Geake, *supra* note 85, at 130:

The idea is that children can be tested to ascertain which is their dominant learning style, V, A or K, and then taught accordingly. Some schools have even gone so far as to label children with V, A and K shirts, presumably because these purported differences are no longer obvious in the classroom. The implicit assumption here is that the information gained through one sensory modality is processed in the brain to be learned independently from information gained through another sensory modality.

⁹¹ *See Something Borrowed*, *supra* note 1, at nn.22 & 32 (citing Walter L. Leite et al., *Attempted Validation of the Scores of the VARK: Learning Styles Inventory with Multitrait–Multimethod Confirmatory Factor Analysis Models*, SAGE PUB. (2009) [hereinafter Leite]).

See also Leite explaining that questions such as these which are based on VARK support the use of the VARK as a low-stakes diagnostic tool by students and teachers. Therefore, those who wish to use the instrument as a way of helping students identify their preferences should feel comfortable in this use. The large amount of material provided on the VARK Web site to help learners adapt their learning strategies to materials representing different modes of presentation are definitely useful, and students should be encouraged to explore them.

Leite at 336.

at the educators who have been trying to reform legal pedagogy by insisting that we recognize the individuality and diversity of our students. In footnote 29 of the article, the authors dismiss Michael Schwartz and Paula Manning as perpetrators of “myths” because these educators encourage their students to think about their own learning preferences.⁹²

This article will demonstrate the neuromyth ship *Something Borrowed* is piloting does not even have a berth at the pedagogical dock of culturally relevant teaching. Using different modalities affords students the opportunity to apply their preferred learning methodology to create the most efficient contextual hooks to the material in the precious little time we have with them in the classroom. Nothing then prevents that novice learner from using all different types of methods to master the material, and no serious educator should suggest that because of a “learning style,” a student can only learn the material in only one way.

B. Learning Styles versus Learning Preferences

Something Borrowed does an excellent job of negating an argument that no serious educator has made for a very long time, and for which no real record of the argument being made outside of the childhood education scenario exists. The article “conclusively establishes” that no one has a permanent or exclusive learning style, and, as a result, it suggests that teaching as if learning styles exist is a waste of labor.⁹³ However, buried in the avalanche of research purporting to debunk learning styles, the article acknowledges that adult learners have well established learning preferences.⁹⁴

What the article ignores is that most serious educators use the term learning style to mean learning preference. As Roxanna Montoya-Gonzales explains, “A learning style is basically a learning preference, that’s what it is. It just means you prefer to learn in a certain way.”⁹⁵ Yet *Something Borrowed* suggests that even though learning preferences exist, they should

⁹² See *Something Borrowed*, *supra* note 1, at n.29.

⁹³ See generally *id.*

⁹⁴ See *id.* at 362.

In other words, there is a difference between the way we prefer to receive information (often these are emotional/noncognitive choices) and the way we actually learn. Learning styles are associated with subjective, not objective, aspects of learning. The preference for how people study is not a learning style but is based upon typing, also little supported from primary research.

⁹⁵ Ashley Sutherland, *We All Learn Differently, And That’s Ok*, THE STATE PRESS (Mar. 29, 2017), <https://www.statepress.com/article/2017/03/spopinion-learning-styles-are-helpful-to-individualized-learning> [hereinafter Sutherland].

be dismissed because they are irrelevant to the efficacy of student learning.⁹⁶ This assertion itself is a strawman argument, because while controlled experiments suggest learning preferences may not impact information retention, there is overwhelming research suggesting they impact a learner's motivation or desire to learn, which is just as important as raw information intake to the process of learning.⁹⁷

Motivation is driven by feelings of competency and feelings of incompetency are especially prevalent among students of color.⁹⁸ Disregarding learning preferences therefore disproportionately disenfranchises students of color.

Before addressing this normative defect in the article's treatment of learning preferences, however, it is important to address an empirical weakness. In lumping learning styles and learning preferences together, the article states, regarding adult learners, "It is true *both* that people [adults for the purposes of the article] exhibit preferences for receiving information *and* do not process information more effectively when they are taught according to that preferred learning style."⁹⁹ In support of that assertion, the authors cite to *Symbolic Arithmetic Knowledge without Instruction*.¹⁰⁰

That two-page article in the *Journal of Nature* is devoid of any reference to learning preferences or styles. It is unclear how this escaped both the authors and the editorial team at the *Journal of Legal Education*, but the exclusive focus of that article is on children around five years old with no formal arithmetic training and finds *only* "that children are able to solve symbolic addition and subtraction problems *even in the absence of relevant*

⁹⁶ See *Something Borrowed*, *supra* note 1, at 362 ("It is true *both* that people exhibit preferences for receiving information *and* do not process information more effectively when they are taught according to that preferred learning style.").

⁹⁷ See *infra* section IV.

⁹⁸ Bonita London, Vanessa Anderson & Geraldine Downey, *Studying Institutional Engagement: Utilizing Social Psychology Research Methodologies to Study Law Student Engagement*, 30 HARV. WOMEN'S L. J. 389, 406 (2007).

We have evidence that the threat of evaluation in law school is differentially experienced by women and students of color relative to white men, and that women and students of color report feeling less competent than white men. However, when students are reminded that the standards for law school are high and that their admission is an indication that they are capable of meeting these standards, the threat to their feelings of competence should be diminished, based on the work of Cohen, Steele, and Ross. The adoption of institutionally encouraged "wisdom" in mentoring and evaluating should address and alleviate feelings of incompetence in a field that is challenging and lead to increased feelings of inclusion and engagement.

⁹⁹ *Something Borrowed*, *supra* note 1, at 362.

¹⁰⁰ *Id.* at n.26 (citing Camilla K. Gilmore et al., *Symbolic Arithmetic Knowledge Without Instruction*, 447 NATURE 589, 592 (2007) [hereinafter Gilmore]).

instruction.”¹⁰¹

However, our discussion proceeds as if *Something Borrowed* did have support for the assertion that teaching to learning preferences does not improve pedagogical efficacy in law school.¹⁰² The truth is that learning preferences matter more in the study of law than perhaps any other discipline, and many people fail to appreciate this because they fail to distinguish between teaching and learning in law school.

IV. LEARNING PREFERENCES MATTER IN LEGAL EDUCATION

A. Teaching versus Learning, an Unscientific Argument that Learning Preferences Matter

Something Borrowed fails to acknowledge that in law school, most of the learning does not occur during the time in which the professor is teaching the student. In order to contextualize this notion, simply ask yourself what grades your students would achieve on a doctrinal examination if all they did was come to class and take notes. In other words, what would their grades be on your exam if they never read the cases or material before class, and never spent the time after class to outline the material?¹⁰³

Without any science to back me up, I tell my students the following: they have to read and struggle with the material *before* class and should be coming to class with what they think is a neat and tidy doctrinal box of

¹⁰¹ *Gilmore*, *supra* note 100, at 590.

¹⁰² We proceed this way because other people have made the same statement as if it was a firmly established pedagogical reality. *See infra* note 141.

¹⁰³ See also email discussion with Professor Lisa M. Blasser, Director of Academic Success and Bar Preparation at Western State College of Law in Irvine, California. Professor Blasser conducted a two-year qualitative phenomenological study on the study process law students undertake to succeed in law school. The scientific data from her study indicates that approximately 5-10% of a successful law students' learning occurs inside the classroom. The data further indicates that successful students typically utilize the classroom lecture as an opportunity to merely: (1) confirm whether the paragraphs of the case that they translated into their own words were accurate; (2) confirm whether the rule they pulled from their brief/outline was the correct rule; (4) confirm whether the rule they translated into their own words was accurate; (5) take notes of the professor's cues and what the professor writes on the board; (6) change/confirm any rule and highlight important facts or professor/student comments; and (6) confirm whether they can apply or distinguish the rules from the cases to new fact patterns raised by the professor or other students in class. Professor Blasser's study also indicates that the remaining 90%-95% of a successful law students' learning happens during the study process that successful law students employ before the semester and every week before class and after class, leading up to the midterm and final exam. *See also*, LISA M. BLASSER, NINE STEPS TO LAW SCHOOL SUCCESS: A SCIENTIFICALLY PROVEN STUDY PROCESS FOR SUCCESS IN LAW SCHOOL 54-55 (2021).

knowledge, constructed from reading the assignments.

My job as a law professor is to destroy the contours of that box. During the limited time I have with students in the classroom, I need to help them begin understanding how much more complex the concepts are than they believed when they entered the class. During class time, I am convincing them how much bigger and more intricate the doctrinal box needs to be than the one they entered class with, in order to really capture the breadth and nuance of the doctrine. It is impossible to actually construct the required box for them in two to three hours per week.

After class, *students* need to reconstruct that box. They need to examine the doctrine they felt comfortable coming into class with and relate and expand that doctrine to incorporate the nuance and complexity introduced in the classroom. My job as a law professor is not to fill the box for them, but to make sure each novice and overwhelmed learner leaves that class with very rudimentary contextual hooks from their prior knowledge to the new knowledge addressed in class, such that they are equipped to redesign and fill the box during the process called outlining or assimilating. But even more importantly, it is my job to ensure that students leave the classroom feeling confident that they are capable of creating the advanced cognitive schema required to successfully build the box and learn the material.

Anyone who has actually practiced law and attempted pretrial resolution using a demand letter does not need to be convinced that there are some opposing counsels for whom it is most effective to send a formal, well-written, and detailed demand letter, and that there are others who *prefer* to initiate the resolution process by chatting about the issues over a casual lunch meeting. For this latter person who prefers a lunch chat, much of the letter would be wasted labor, because opposing counsel *prefers* to initially understand material via collaboration. Once initial understanding occurs, nothing then prevents that novice learner—or the opposing counsel attorney hearing new information and proposals for the first time—from using all different types of methods to master the case, including reviewing documents (visual), creating flowcharts and considering how the facts might justify a different outcome (kinesthetic), or even chatting with colleagues about the case (collaborative).

We cater to opposing counsel's learning preference because we have a duty to be efficient in resolving the case for our client, and we respect the adult attorney's preferred way of being exposed to new information or perspectives regarding settlement. In addition to making the opposing counsel more receptive to the new information, catering to another's learning preference indicates a certain respect for an adult's choice regarding how they initially want new information to be conveyed. If, instead of agreeing to lunch, you said, "We don't need to waste time eating and talking, I've already sent you a letter," science isn't needed to explain that you have just

made opposing counsel less receptive to the new information you proposed in the settlement letter. In this latter case, we would be communicating that we doubt the attorney's competence or ability because they prefer to receive new information in a different manner than we prefer to communicate or receive it. Here, the learning preference is not the end of the story. It is merely the vehicle we chose to indicate respect for the lawyer's developed preferences as an adult and an *introductory* method for new information. This interaction is not how the lawyer, or the student learns, as *Something Borrowed* might claim, so much as the springboard they use to enter the process of learning.

If we respect that different lawyers are more receptive to new information depending on the way the material is conveyed, then we have a duty to convey the material we teach future lawyers (our students) in a multimodal fashion, to facilitate and respect the varied preferences they have perfected over the course of at least eighteen years for initial schema creation, and are aware of what works best for them. As with the attorney above, nothing then prevents that novice learner from using different types of methods to master the material and no serious legal educator has, to my knowledge, suggested that because of a "learning style," a student is capable of learning the material in only one way.

B. Scientific Arguments that Learning Preferences Matter

Learning is "a process that leads to change which occurs as a result of experience and increases the potential for improved performance and future learning."¹⁰⁴ Three critical components of learning are: (1) it occurs in the mind; (2) it involves changes in knowledge, beliefs, behaviors, and attitudes; and, (3) it is not something done to students but something that students do.¹⁰⁵ Teaching and learning are not the same concepts, and most learning does not occur in the classroom, but outside of it, when students study and review the materials on their own.¹⁰⁶ As previously mentioned, this is especially true for law school, where the average law student spends approximately thirty hours per week outside of class reading and doing other learning tasks.¹⁰⁷

¹⁰⁴ SUSAN AMBROSE ET AL., *HOW LEARNING WORKS: SEVEN RESEARCH-BASED PRINCIPLES FOR SMART TEACHING* 3 (2010) [hereinafter AMBROSE].

¹⁰⁵ *Id.*

¹⁰⁶ Polly R. Husmann & Valerie Dean O'Loughlin, *Another Nail in the Coffin for Learning Styles? Disparities Among Undergraduate Anatomy Students' Study Strategies, Class Performance, and Reported VARK Learning Styles*, 12(1) *ANATOMICAL SCI. EDUC.* 6, 7 (2019).

¹⁰⁷ Jakki Petzold, *How Much Time Do Law Students Spend Preparing for Class?*, *LSSSE INSIGHTS BLOG* (Jan. 16, 2019), <https://lssse.indiana.edu/blog/how-much-time-do-law-students-spend-preparing-for-class/>.

The difference between adult and child learners is that adults use their past experiences when learning.¹⁰⁸ Because of this, adult learners “often seek an entry point into the new material by attempting to connect to what they already know and to leverage existing strengths.”¹⁰⁹ As a result, the best learning environments allow learners the freedom to “interpret tasks and assessments” in different ways that represent each adult learner’s individual strengths and weaknesses.¹¹⁰ When adults receive new information, in order for that information to be learned, it must be catalogued in terms of something the adult learner already knows.¹¹¹ I call this process of understanding new information in the context of information already learned “contextual hooking,” because the new knowledge is framed in relation to knowledge already known. The formal name for this aspect of adult learning is “cognitive schema creation.”¹¹²

¹⁰⁸ Digital Wake, *Adult Learning: What Really Differentiates Adult Learners?*, DIGITAL WAKE (Aug. 20, 2018), <https://www.digiwake.com/adult-learning-differentiators/>.

¹⁰⁹ NATIONAL ACADEMIES OF SCIENCE, ENGINEERING, AND MEDICINE, *HOW PEOPLE LEARN II: LEARNERS, CONTEXTS, AND CULTURES* 137 (Nat’l Acads. Press ed. 2018) [hereinafter *HOW PEOPLE LEARN*].

¹¹⁰ *Id.*

¹¹¹ Tonya Kowalski, *True North: Navigating for the Transfer of Learning in Legal Education*, 34 SEATTLE U. L. REV. 51, 72, 74 (2010).

Schemas were thought of as “data structures” that enabled new information to be encoded according to its similarity with other frequently occurring events already embedded within existing memory, as well as filling in the narrative and “adding to” the information that was presented.

* * *

Theorists also believe that this mindfulness during the learning process will help the learner to see similarities between contexts, allowing her existing schema to evolve and encompass new information. When a person’s schema adapts to include new information and patterns, it becomes much easier to “connect the dots,” cueing latent learning that might be useful to solve a new problem. When educators present material with these strategies, they encourage their students to mindfully encode material in useful patterns or schema, making it easier to recall and use the information later.

¹¹² See, e.g., Schulze, *supra* note 1, at 233, 248–49.

Another concept running throughout our program is cognitive schema theory. As I will describe in Part III, the idea of this theory is generally that the brain has a formal way of organizing interconnected ideas, and a precondition to mastery of the material is understanding the hierarchy, order, and organization--or schema--of that material. To do so, learners must construct that schema by consolidating the information for themselves in the organized fashion the material takes on.

* * *

Like self-regulated learning, CST is a subset of constructivism. Constructivism holds that real learning happens when students make a concept their own by actively discovering knowledge using their own reasoning processes. The ideal educational objective is not the amassing

Catering to learning preferences when teaching facilitates cognitive schema creation. The Pashler article¹¹³ relied on in *Something Borrowed*¹¹⁴ actually supports this assertion. Pashler distinguishes between learning preferences and learning styles and states that “the existence of preferences with some coherence and stability is not in dispute.”¹¹⁵ Learning preferences, according to Pashler, are defined as the preferences “people will, if asked, volunteer [about] their preferred mode of taking in new information and studying.”¹¹⁶ Examples of different learning preferences would be the preference to receive information verbally or visually via pictures.¹¹⁷ And these preferences have psychometric stability, evidenced by the fact that the volunteered preferences were significantly correlated to the “mode of elaboration” —visual or verbal—people elected to receive in lessons.¹¹⁸

It is therefore fairly uncontroversial to note that adult learners prefer to start from the learning activity they feel most comfortable with.¹¹⁹ *Something Borrowed* dismisses the significance of these preferences because they are

of “stuff” but instead that instruction should be focused mainly on developing learners’ thinking--the exact thesis of this essay. It embodies the old maxim that instructors should be the “guide on the side” instead of the “sage on the stage.” The problem, as I have noted before, is the misguided impression that instructors are indeed there to be the sage on the stage and that the sage is obliged to make doctrine and schema effortlessly obvious. So, what is CST, and how can it help?

CST focuses on the active construction of knowledge by creating cognitive structures around which information can be assimilated and stored in long-term memory. A cognitive schema is a heuristic that promotes the encoding and retrieval of knowledge. In essence, organizational frameworks or mental structures aid the learner both in putting together the arrangement of a topic and in recalling that information. For instance, the memory palace (or “method of loci,” a tool that has existed since Aristotle) structures ideas and facilitates learning, encoding, and recall.

See also Doris Lee, John McCool & Laura Napieralski, *Assessing Adult Learning Preferences Using the Analytic Hierarchy Process*, 19(6) INT’L J. LIFELONG EDUC. 548, 549 (2010) (explaining “Due to their wealth of life experiences, adults learn better when they can form a linkage or connection between the newly learned information and their prior experience or knowledge.”).

¹¹³ Harold Pashler et al., *Learning Styles: Concepts and Evidence*, 9 PSYCHOL. SCI. IN THE PUB. INT. 105 (2008) [hereinafter Pashler].

¹¹⁴ See *Something Borrowed*, *supra* note 1, at n.31.

¹¹⁵ Pashler, *supra* note 113, at 108.

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ *Id.*

¹¹⁹ Yasemin Gülbahar & Ayfer Alper, *Learning Preferences and Learning Styles of Online Adult Learners*, in EDUCATION IN A TECHNOLOGICAL WORLD: COMMUNICATING CURRENT AND EMERGING RESEARCH AND TECHNOLOGICAL EFFORTS 270, 276 (A. Méndez-Vilas ed. 2011).

subjective.¹²⁰ But by examining the genesis of these learning preferences, it becomes apparent that their subjectivity is the very reason it is critical to understand how students prefer to create their initial contextual hooks or cognitive schema and to facilitate the creation of those hooks by varying methods in the limited time we have with them in the classroom.¹²¹

i. The Cultural Relevance of Learning Preferences

Learning preferences are culturally derived, and to ignore them may be the result of dysconscious racism. Dysconscious racism is a form of racism that tacitly accepts dominant white norms (such as, I might add, the Langdellian Case Study method)¹²² and privileges.¹²³ Even though the

¹²⁰ See *Something Borrowed*, *supra* note 1, at 362.

¹²¹ See *infra* section IV.b.i.

¹²² See Vélez, *supra* note 29, at 596 (explaining that the Langdellian Case Study Method involves

a hierarchical control of power and knowledge that mirrors society and marginalizes students in multiple levels. That is, the professor is the center of the discussion and the validator of the production of knowledge. The professor continues to control what is said, who is to say it, how it should be said and what is correctly said. Therefore, there is little space for a democratic educational experience -- for teaching and learning simultaneously. I am not suggesting that the use of the case method as originally proposed or as later reimagined and reinvented is the single sole reason why legal education is inherently oppressive. It is oppressive because it perpetuates a power structure that privileges a white Anglo-Saxon-hetero perspective and dominance as to what is knowledge, truth and law under the mask of neutrality and reason.)

See also Jeremiah Ho, *supra* note 35, at 658 explaining:

For a while the jig has been up; there is no mystery that the case method is an educational model prone to furthering hierarchies. Duncan Kennedy most famously articulated that reality in his *Legal Education and the Reproduction of Hierarchy* in 1982, and others have followed since then. Pointing out a direct cause-and-effect in law school teaching and hierarchies, Kennedy observed in crit-laden fashion that “[m]uch of what happens is the inculcation through a formal curriculum and the classroom experience of a set of political attitudes toward the economy and society in general, toward law, and toward the possibilities of life in the profession.” A recent cadre of law scholars has continued to pronounce the hierarchical potency of Langdell’s law school model and examined how such hierarchy “endures”—even after a century and a half since Langdell and the formalists, and since the flaws and inaccuracies in the way the formalists both thought about the law and have taught it have been identified. As Olufunmilayo Arewa, Andrew Morriss, and William Henderson recently articulated, “the development of the current model of legal education [from Langdell] included features that facilitated the establishment of an enduring hierarchy.”

¹²³ See King, *supra* note 5.

cultural competency of teachers has improved, the knowledge and valuation of our students' varied cultural heritages is still neglected, especially in the context of institutional democratic pluralism.¹²⁴

As early as 1993, Vernellia Randall, a pioneering African American educator in the Academic Support Field, had to defend her recognition of different learning styles/preferences as an untenured professor of law.¹²⁵

Evaluating Students Learning Styles. I do not make “the discussion of learning styles a subject of” my torts class. I have never evaluated students learning styles in my torts class. I do evaluate students' learning styles as part of orientation. After orientation, I invite students to a noon meeting to discuss the results of the evaluations. In fact, this year I bribed them with pizza. The only discussion of learning styles that I have with students as a part of my torts class is the following:

Individuals do learn in many ways. Some learn better by listening, others by seeing, others by doing. I provide you with several different learning activities so that everyone will have the opportunity to learn in their dominant modes. You have to decide which of these help you and which do not. For instance, if the analytical flowcharts don't help you then throw them away and don't use them.

I make the above statement once or twice during the semester, it takes less than five minutes. I have never used classroom time to do any extensive discussion of learning styles.¹²⁶

We acknowledge that discussing the cultural genesis of learning preferences is uncomfortable because it abuts the borders of stereotyping and stereotype threat.¹²⁷ Perhaps to make the discussion less uncomfortable we can distinguish race and ethnicity from culture. Culture is “the learned behavior of a group of people that generally reflects the tradition of that people and is socially transmitted from generation to generation through

¹²⁴ Joyce Elaine King & Chike Akua, *Dysconscious Racism and Teacher Education*, in *ENCYCLOPEDIA OF DIVERSITY IN EDUCATION* 723–26 (James A. Banks ed. 2012).

¹²⁵ See Vernellia Randall, *Response to 1993 Faculty Promotion, Retention and Tenure Report – Classroom Teaching*, RACE, RACISM AND THE LAW: MY MEMOIRS (Apr. 15, 1993), <https://racism.org/my-memoirs/8242-response-to-1993-faculty?start=1> (wherein Professor Randall had to defend her recognition of learning preferences).

¹²⁶ *Id.*

¹²⁷ HOW PEOPLE LEARN, *supra* note 109, at 22.

social learning.”¹²⁸ And while culture may be reflected in the behavior and beliefs of an individual, it is also social.¹²⁹

Reputable studies have established the significance of culturally based differences in learning preferences and recommend instruction be tailored to this reality as student populations become more diverse in order to improve the learning attitude of the student.¹³⁰ As a result, teaching that caters to different learning preferences is culturally relevant teaching, and one of its hallmarks is responding to diversity in the delivery of instruction.¹³¹ Geneva Gay at the University of Washington includes an awareness of culturally dependent learning preferences and instruction tailored to diversity as essential to culturally relevant teaching.¹³² Gay describes some of the various cultural considerations relating to learning preferences that instructors of diverse student bodies should be aware of as: “[w]hich ethnic groups give priority to communal living and cooperative problem solving and how these preferences affect education’s motivation, aspiration, and task performance . . . [and] the implications of gender role socialization in different ethnic groups for implementing equity initiatives in classroom instruction.”¹³³ Rather than thinking of learning preferences as subjective and irrelevant to effective teaching as *Something Borrowed* suggests, we need to reconceptualize them as a measure of how learners from different cultures engage in our classrooms and in the process of learning.¹³⁴ This is simply one step in the many necessary steps to increase inclusion in legal

¹²⁸ HOW PEOPLE LEARN, *supra* note 109, at 22.

¹²⁹ *Id.*

¹³⁰ See e.g., Szu-Fang Chuang, *Different Instructional Preferences Between Western and Far East Asian Adult Learners: A Case Study of Graduate Students in the USA*, 40(3) INSTRUCTIONAL SCI. 477 (May 2012) (explaining that matching appropriate instructional strategy with learner’s preferences for learning can significantly affect their learning achievement and attitude).

¹³¹ See Geneva Gay, *Preparing for Culturally Responsive Teaching*, 53(2) J. TCHR. EDUC. 106 (2002) [hereinafter Gay].

¹³² She uses the word “styles” but I will use “preference” to demonstrate the contemporary understanding of the phrase at page 107.

¹³³ *Id.*

¹³⁴ *Id.* at 113. See also Patricia A. Young, *The Presence of Culture in Learning*, in HANDBOOK OF RESEARCH ON EDUCATIONAL COMMUNICATIONS AND TECHNOLOGY 349 (Michael Spector et al. eds., 4th ed. 2014).

The role of culture in learning moves beyond challenging dominate ideologies or world views; it is about defining and identifying instances, methods and processes of learning that are specific to individuals and groups. Thereafter the selection of instructional strategies begins. That is, instructional strategies cannot be applied to learners; in this sense, instructional strategies must be developed from an ethnographic evaluation of the learner. Instructional strategies are derived from versus applied to the learner.

education.¹³⁵

Suggestions that we disregard learning preferences are, like recommending the Langdellian Case Study Method, examples of dysconscious racism, because they completely disregard the variety of the cultures that our student populations represent,¹³⁶ and that cultural backgrounds influence their learning preferences.¹³⁷ To conclude erroneously that learning preferences do not matter because they are subjective, as *Something Borrowed* does,¹³⁸ is dangerous because “Each learner develops a unique array of knowledge and cognitive resources in the course of life that are molded by the interplay of that learner’s cultural, social, cognitive, and biological contexts. Understanding the developmental, cultural, contextual, and historical diversity of learners is central to understanding how people learn.”¹³⁹

Specifically, in regard to the LCSM, it is crucial not to forget that,

[s]ome students grow up in cultural environments where the welfare of the group takes precedence over the individual and where individuals are taught to pool their resources to solve problems. . . . These ethics and styles of working are quite different from the typical ones used in schools, which [like the Langdellian Case Study Method] give priority to the individual and working independently.¹⁴⁰

ii. Contextualizing the Impact of Bias and Privilege on Interpreting Neuroscience

It is not often we are able to capture the presumptive credibility of white male statements compared to others, but a discussion about learning

¹³⁵ See generally DOROTHY H. EVENSEN & CARLA D. PRATT, *THE END OF THE PIPELINE: A JOURNEY OF RECOGNITION FOR AFRICAN AMERICANS ENTERING THE LEGAL PROFESSION* (Carolina Academic Press 2018).

¹³⁶ See Jackson, *supra* note 5 (explaining that part of teaching to diverse student bodies is recognizing “the importance of personal knowledge and experiences in the teaching-learning process.”).

¹³⁷ See HOW PEOPLE LEARN, *supra* note 109, at 28.

¹³⁸ *Something Borrowed*, *supra* note 1, at 362.

¹³⁹ HOW PEOPLE LEARN, *supra* note 109, at 33. See also Basha Krasnoff, *Culturally Responsive Teaching*, REGION X EQUITY ASSISTANCE CTR 9 (Mar. 2016), <https://educationnorthwest.org/sites/default/files/resources/culturally-responsive-teaching.pdf> [hereinafter Krasnoff], further explaining that “To build a general community of learners, teachers must believe in the intellectual potential of all students and unequivocally accept responsibility to facilitate its realization without ignoring, demeaning, or neglecting students’ ethnic and cultural identities.”

¹⁴⁰ Krasnoff, *supra* note 139.

styles/preferences from June 2019 on an academic support (ASP) listserve illustrates it perfectly. During a discussion of the benefits provided by considering learning styles, a white male educator made the following authoritative statement declaring learning styles and learning preferences did not exist and recognizing them was pedagogically useless:

Good morning, and thanks everyone for a great conversation.

While the literature may have established fairly well that there is no empirical support for [Learning Styles Theory], **per se**, what does that mean, exactly? It means that there is no support for the notion that if a person learns with or is taught with their preferred learning style, they will learn better. It does NOT mean that diversifying instructional or learning methods (or using multimodal methods, in the LST parlance) is invalid. Far from it!

But DIVERSIFYING teaching methods and learning methods is not the same thing as LST, *per se*, and I think it is important to appreciate that nuance. Diversifying teaching and learning methods is effective not because it strikes different learning styles; it is more effective because it promotes engagement (which I mean in the technical sense and not the generic sense). Engagement then promotes absorption, which then promotes memory consolidation and encoding.

* * *

Instead, we strongly encourage students to diversify their learning methods so as to comport with empirically validated EdPsych theory: Recall practice; spaced repetition; mixed practice; interleaving; cognitive schema; metacognition; self-regulated learning, etc. This results in higher completion percentages in bar study, a greater number of completed essays/ MCQs, and a study plan that gives students more options rather than fewer.

Happy Summer Everyone,
Louis Schulze¹⁴¹

In further support of the above missive, the author cites and provides

¹⁴¹ Posting of Louis Schulze to *ASP List Serve*, *Chicago-Kent College of the Law* (June 3, 2019) (on file with author) [hereinafter *List Serve*].

hyperlinks for fifteen sources which he claims support the notion that learning styles/preferences are “pedagogical myths.”¹⁴² Examination of these

¹⁴² See *List Serve*, *supra* note 141, erroneously listing the following sources and erroneously claiming they provide support for the fact that there is no empirical support for learning styles:

Rogowsky [*infra* note 143] (Empirical study finding no “statistically significant, empirical support for tailoring instructional methods to an individual’s learning style”).

Rohrer & Pashler [*infra* note 145, at 634] (“Our search of the extensive literature on learning styles, which included written inquiries to prolific advocates of style-based instruction, revealed that the appropriate design was used in only about 20 studies, and the results of most of them are compellingly negative.”)

[Joshua] Cuevas[, *Is Learning Styles-Based Instruction Effective? A Comprehensive Analysis of Recent Research on Learning Styles*, 13 *Theory and Res. in Educ.* 308, 308 (2015)] (“Results revealed that the more methodologically sound studies have tended to refute the hypothesis and that a substantial divide continues to exist, with learning styles instruction enjoying broad acceptance in practice, but the majority of research evidence suggesting that it has no benefit to student learning, deepening questions about its validity.”)

[Pashler, *supra* note 113, at 105] (“Our review of the literature disclosed ample evidence that children and adults will, if asked, express preferences about how they prefer information to be presented to them. There is also plentiful evidence arguing that people differ in the degree to which they have some fairly specific aptitudes for different kinds of thinking and for processing different types of information. However, we found virtually no evidence for the interaction pattern mentioned above, which was judged to be a precondition for validating the educational applications of learning styles.”)

Massa & Mayer [*infra* note 146, at 321] (2006) (finding “no support for the style-matching hypothesis with respect to verbal/visual learners”).

[Bas Jan Kolloff, *Exploring The Relation Between Visualizer-Verbalizer Cognitive Styles and Performance with Visual or Verbal Learning Material*, 58 *COMPUT. & EDUC.* 697 (2012)] (finding “no effect on learning performance.”)

Cook, Thompson, Thomas, & Thomas, 2009 [*infra* note 149] (finding “no evidence that matching learners according to their Felder-Silverman learning style had any effect on learning outcomes.”)

[Jacob Klitmøller, *Review of the Methods and Findings in the Dunn and Dunn Learning Styles Model Research on Perceptual Preferences*, 67 *NORDIC PSYCHOL.* 2 (2015)];

Geake, 2008 [*supra* note 85];

Riener & Willingham [*infra* note 147];

[SCOTT O. LILIENFELD ET AL., 50 *GREAT MYTHS OF POPULAR PSYCHOLOGY: SHATTERING WIDESPREAD MISCONCEPTIONS ABOUT HUMAN BEHAVIOR* (Wiley-Blackwell 2010)];

Dekker et al. 2012 [*supra* note 81];

Pasquinelli, 2012 [*infra* note 148];

sources reveals that they do not actually support the assertions that learning styles or preferences do not exist.

For example, the linked Rogowsky study¹⁴³ limits itself to verbal comprehension and the variations of learning when participants were taught a preface and one chapter via either e-book or audio book. The researchers narrowly limited their choice of learning style inventory and further limited their study to two particular styles. The study is explicitly not meant to be generalized or applied to broader situations and was extremely limited in its scope.¹⁴⁴

The cited Rohrer and Pashler study was concerned only with learning styles to the extent that “students might be divided into visual learners and verbal learners (on the basis of a learning style test given to each student) and then provided with instruction that emphasizes pictures or words, respectively.”¹⁴⁵

The Massa and Mayer study states that their results “*should not be taken to suggest that instruction should never be designed to accommodate individual differences*. Rather, our findings cast doubt on the effectiveness of designing instruction to accommodate individual differences [only] in the verbalizer-visualizer dimension.”¹⁴⁶

The Riener and Willingham article contains no independent research but is simply the opinions of two psychology professors who suggest preferences

[Joana Rodrigues] Rato et al., *Neuromyths in Education: What Is Fact and What Is Fiction for Portuguese Teachers?*, 55 EDUC. RES. 441 (2012);

Howard-Jones [*infra* note 241], 2014).

¹⁴³ Beth A. Rogowsky et al., *Matching Learning Style to Instructional Method: Effects on Comprehension*, 107(1) J. EDUC. PSYCHOL. 64 (2015).

¹⁴⁴ *Id.* at 77.

This research focused narrowly on verbal comprehension skills and the extent to which learning differed when instruction is presented via an audiobook compared with e-text. While there are many different schemes for classifying individual learning styles, we used only one learning style inventory (the Rundle and Dunn Building Excellence Inventory) and within that inventory focused only on auditory and visual word learning styles. *Thus, the degree to which the results of this study generalize to other disciplines or other learning styles cannot be established by this study*. Furthermore, instruction used in this study was given only one time and relied on participants learning information from the preface and one chapter in a nonfiction book.

¹⁴⁵ Doug Rohrer & Harold Pashler, *Learning Styles: Where’s the Evidence?*, 46 MED. EDUC. 634 (2012).

¹⁴⁶ Maura J. Massa & Richard E. Mayer, *Testing the ATI Hypothesis: Should Multimedia Instruction Accommodate Verbalizer-Visualizer Cognitive Style?*, 16(4) LEARNING & INDIVIDUAL DIFFERENCES 321, 335 (2006) (emphasis added).

may be related to innate abilities.¹⁴⁷

Similarly, the Pasquinelli article is simply an explanation of why certain beliefs persist but offers no empirical support for the non-existence of learning styles/preferences.¹⁴⁸

The Cook study was not even concerned with the list-serve debate on learning styles but tested only the hypothesis that,

(1) internal medicine residents with sensing learning style using a problem-first approach will have higher knowledge test scores and improved learning efficiency (knowledge scores per time spent) than sensing learners using an information first approach, while the opposite will be true for intuitive learners, and (2) sensing learners will prefer the problem-first approach while intuitive learners will prefer information-first.¹⁴⁹

That study's limited and irrelevant conclusion was only that, "[s]tarting instruction with a problem (versus employing problems later on) may not improve learning outcomes. Sensing and intuitive learners perform similarly following problem-first and didactic-first instruction."¹⁵⁰

Curiously, the last seven links offered as separate sources all link to the identical article by Phillip Newton and Mahallad Miah which was concerned with a 'pigeonholing' of learners according to invalid criteria; "for example a 'visual learner' may be dissuaded from pursuing subjects which do not appear to match their diagnosed Learning Style (e.g., learning music), and/or may become overconfident in their ability to master subjects perceived as matching their Learning Style," but beyond that it was nothing more than a study to check the extent to which educators believed in Learning Styles.¹⁵¹ Additionally, two of those links are references to Geake and Dekker which we have shown and already demonstrated are irrelevant to the learning styles/preferences debate in legal education.¹⁵²

¹⁴⁷ Cedar Riener & Daniel Willingham, *The Myth of Learning Styles*, 42(5) CHANGE 32 (2010).

¹⁴⁸ Elena Pasquinelli, *Neuromyths: Why do they Exist and Persist?*, 6(2) MIND, BRAIN, & EDUC. 89 (2012).

¹⁴⁹ David A. Cook et al., *Lack of Interaction Between Sensing–Intuitive Learning Styles and Problem-First Versus Information-First Instruction: A Randomized Crossover Trial*, 14(1) ADVANCES IN HEALTH SCI. EDUC. THEORY PRACT. 79, 81 (2009).

¹⁵⁰ *Id.* at 79.

¹⁵¹ Phillip Newton & Mahallad Miah, *Evidence-Based Higher Education – Is the Learning Styles 'Myth' Important?*, 8 FRONTIERS IN PSYCH. 1, 2 (Mar. 27, 2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5366351/>.

¹⁵² *See supra* notes 81–83 and notes 85–90.

Perhaps most disturbingly, the link to the Kolloffel study is a link to a website that appears to be selling a paper authored for students to buy and submit as their own work.¹⁵³

Ultimately there were several voices opposing this categorical statement, which were promptly ignored:

1. Natalie Rodriguez, an intersectional Hispanic female,¹⁵⁴
2. Dr. Amy Jarmon, a female educator with a Ph.D. in education and 18 years' experience working with law students,¹⁵⁵

¹⁵³ My research librarian described the link as follows:

To the best of my ability to tell, the company is posting papers on various topics that they expect students to buy. While the company says these papers are intended to spur independent thinking or some such, I strongly suspect that students actually buy them only to turn them in as their own work. There's no indication I can see of who wrote the essays, which is a bad sign.

¹⁵⁴ See Posting of Natalie Rodriguez to *ASP List Serve, Chicago-Kent College of the Law* (May 31, 2019) (on file with author).

Research and studies aside, I believe that the idea of learning style preference (that is how I refer to it as well) has value, but I would frame the discussion differently depending on the audience – student verses faculty.

For students, I tell them it can be helpful to create learning tools that incorporate their learning preferences. Over the years I have collected a multitude of examples of learning tools from some of our best students and it is clear to me that if they had tried to create a standard “outline,” they would not have done as well because their learning preference was either highly visual or highly kinesthetic. They can control the tools they create and should play to their strengths. But I also tell students that they are ultimately responsible for their own learning and that they cannot depend on learning only when information is presented to them based on their learning style preferences (i.e. it is not the responsibility of a professor to teach according to a student's preferred learning style). Further, there is something to be said about the desired difficulties created when a student has to learn material that is not presented in their learning style preference, so though it may be more challenging and uncomfortable, it is in fact beneficial for the student to struggle through information presented in a different style than what they prefer.

As a professor, I think of it less as teaching to a student's learning preference and more as an engagement issue. My goal is to provide an environment where students are most likely to learn. That means providing the information in different ways because research shows that adult learners can stay focused for only 15-20 minutes of in-class instruction when it is delivered in the same form/style.

¹⁵⁵ See Posting of Dr. Amy Jarmon to *ASP List Serve, Chicago-Kent College of the Law* (May 31, 2019) (on file with author).

I agree with many of the comments so far.

The truth is that relatively few students have one single mode for absorption learning styles. Most students are multi-modal – that is, absorb information in a variety of ways.

3. Barbara McFarland, a female academic support professional with twenty years' experience working with law students.¹⁵⁶

Despite the experience and input of these dissenting voices, once Schulze made his statement, the conversation essentially ended. One of the male¹⁵⁷ participants in the discussion was absolutely convinced Schulze was correct and praised him.

If you look at the scoring and results on the VARK absorption styles survey, the students are told the score levels and the mode or modes they prefer (Visual, Read/Write, Aural, Kinesthetic). They are told whether they are multi-modal (and which modes) or single mode (and that mode). The higher the score in the student's preferred mode/modes, the more the student notices that they absorb material better if they take advantage of that mode or modes.

I have used the VARK with probably more than a thousand students in 18 years, and the information can be very valuable to them. It helps them to use their preferences to absorb the information and informs them why some information may be more difficult for them to absorb because it is coming from ways that they do not prefer. It also tells them how to layer their preferences to reinforce absorption if they are multi-modal.

A great deal of the research has been flawed because it assumed that students are single modal which is rarely true. My view has always been that students use the information to their advantage in their own learning no matter how the classroom experience plays into their learning. If the teacher uses multiple modes of presentation, that is terrific. But ultimately, it is the student who has to absorb the information in ways s/he learns.

In the end, the cognitive processing preferences of students and not the absorption preferences are even more important.

¹⁵⁶ See Posting of Barbara McFarland to *ASP List Serve, Chicago-Kent College of the Law* (May 31, 2019) (on file with author).

I don't think having a preferred method of absorbing information is a myth, as some have termed it. To make the point to my students that they should pay attention to how they learn best, I ask how they would put together a bike or a dresser that came in a box. Would they pull out the instructions and read them through? Pick up two pieces and start to fit them together? Look at the pictures on the instructions to see what goes where? Have someone read them the instructions as they put it together? Every class, I have at least one student express a preference for each of those approaches. Others are a combination and they say so. In my experience, students have been pretty good at identifying their preferences for learning.

My takeaway from this is that if someone has a preference for how they receive information, they are more likely to assimilate the information if it arrives via that preferred method. So, to me, science behind it or not, utilizing different teaching methods benefits our students.

¹⁵⁷ See University of San Diego, School of Law, *Kevin Sherrill Biography*, https://www.sandiego.edu/law/faculty/biography.php?profile_id=4953 (last visited Mar. 20, 2021) (wherein the author of these comments uses the cisgender pronouns of he and his to describe himself eleven times).

Thank you Louis for writing the post that I wish I could have done. This is spot on, and excellently written!

I try to stay out of these learning style debates, but I will leave this here (which echoes almost exactly what Louis just wrote). It's a great quick summary in addition to the wonderful resources cited by Louis: [hyperlink omitted.]

Basic takeaway: Forget about learning styles, they are not a thing. Instead, focus on learning strategies.¹⁵⁸

Even considering the weak citations and unsupported assertions, a statement from a white male comes with an almost irrefutable presumption of validity. This should come as no surprise because a troubling feature of the learning styles discourse “is the frequency with which it takes the form of male researchers and pundits telling female educators that their views on learning are cognitively childish and irrational and should therefore be disregarded.”¹⁵⁹

There is a recent phenomenon where people make claims of “scientific consensus where there is no such thing, that an open, ongoing area of scientific inquiry has reached a settled conclusion, and that anyone who disagrees about this is as irrational and “anti-science” as a climate denier (or a believer in Big Foot.)”¹⁶⁰

One inescapable feature of this discourse is that

[t]he strident, almost bullying tone, along with the use of words like “myth” or “urban legend” seems designed to shame or intimidate teachers and to foreclose debate; as Smets and Struyven outline in “Power relations in educational scientific communication—a critical analysis of discourse on learning styles,” the goal seems less to

¹⁵⁸ Posting of Kevin Sherrill, to *ASP List Serve, Chicago-Kent College of the Law* (June 3, 2019) (on file with author). In fact Sherrill is so convinced of this erroneous assertion about learning styles he even has a post on it on the blog for his professional tutoring services on the California bar. See Kevin Sherrill, *Bar Exam Basics: The Learning Styles Myth*, SHERRILL TUTORING (May 26, 2020), <https://www.sherrilltutoring.com/post/bar-exam-basics-the-learning-styles-myth>.

¹⁵⁹ Carol Black, *Science / Fiction: 'Evidence-based' Education, Scientific Racism, & How Learning Styles Became a Myth*, CAROL BLACK: ESSAYS (2016), <http://carolblack.org/science-fiction/> [hereinafter Black].

¹⁶⁰ Black, *supra* note 159; see also Rory D. Bahadur, *Blinded by Science? A Reexamination of the Bar Ninja and Silver Bullet Bar Program Cryptids*, 49(3) J. OF LAW & EDUC. 1 (Aug. 28, 2020) [hereinafter *Cryptids*].

accurately communicate information and more to establish a power relationship between researchers and practitioners.¹⁶¹

But the role of system justification fueled by implicit bias and structural racism in diminishing the experiences and contributions of those who are not white males is clear.¹⁶²

The elephant in the room here is that the reasoning behind the ‘scientific’ claims of ‘evidence-based’ education rest on a tautological logic that was historically designed to serve the interests of a ruling class of people and that continues to unerringly serve those interests to this day. The logic goes like this:

What “works?” Direct instruction. How do we know? Tests. Who designs the tests? The same people who have always designed the tests.

What do the tests correlate with? Success in school. What does success in school correlate with? (Hint: it’s not creativity, compassion, critical thinking, scientific curiosity, artistic vision, sustainability, justice, spiritual insight, sense of humor, interpersonal skill, practical competence, or entrepreneurial success.) Success in school correlates with more school success, through a narrow band of verbal and analytical skills that are valued and measured in schools. More school success correlates with access to the elite institutions and sites of economic and political power that require school success as a gatekeeper for entry. (Oh, yeah. And it correlates with family income.)

It’s a self-enclosed circle, self-defining, self-perpetuating, and accountable only to itself. It automatically replicates existing structures of power and automatically excludes vast swaths of humanity. That’s what it was designed to do from the beginning, and that’s what it continues to do today.¹⁶³

¹⁶¹ Black, *supra* note 159.

¹⁶² See Bahadur, *supra* note 59, at 19 (explaining “System justification theory posits that individuals at all levels in social hierarchies tend to be motivated to justify and defend the status quo. In America, this status quo involves whites being the dominant social class.”).

¹⁶³ Black, *supra* note 159. *See id.* (explaining “We should all know by now that structural racism can operate unconsciously, through unquestioned assumptions that have a racist impact

In addition to the tenuous support provided in Schulze's citations, he is factually incorrect when he states "It means that there is no support for the notion that if a person learns with or is taught with their preferred learning style, they will learn better,"¹⁶⁴ because *there is* modern and credible research in support of learning styles/preferences and their importance in education. For example, in 2017 Professor Li-fang Zhang, the Editor in Chief of the Oxford Journal of Educational Psychology, released her book with Cambridge University Press titled, *The Value of Intellectual Styles*.¹⁶⁵ According to Robert J. Sternberg of Cornell University,

In her book, Li-fang Zhang suggests that a 'missing link' [in predicting school life and success] is intellectual styles - people's preferred ways of using the abilities they have. Although some have questioned the value of the style concept, Zhang makes a powerful and compelling case for their value, drawing on a range of empirical evidence that should leave no doubt in the mind of any serious reader regarding the value of the construct.¹⁶⁶

Similarly, the Oxford Handbook of Cognitive Psychology has a chapter devoted to cognitive styles.¹⁶⁷ The book defines cognitive styles as, "ontogenetically flexible individual differences representing an individual's adaptation of innate predisposition to external physical and sociocultural environments and expressing themselves as environmentally and culturally sensitive neural and/or cognitive patterns of information processing."¹⁶⁸

Additionally, in 2014, Maria Kozhenikov, PhD, of Harvard Medical

without the oppressor intending or even being aware of the oppression." See also Bahadur, *supra* note 59, at 19, explaining that:

Another result of implicit biases is that they tend to result in the phenomenon of system justification. System justification theory posits that individuals at all levels in social hierarchies tend to be motivated to justify and defend the status quo. In America, this status quo involves whites being the dominant social class. Implicit bias theory explains how this status quo can be maintained even in the face of opposing cultural norms that expressly mandate egalitarianism.

¹⁶⁴ *List Serve*, *supra* note 141.

¹⁶⁵ LI-FANG ZHANG, *THE VALUE OF INTELLECTUAL STYLES* (Cambridge Univ. Press 2017).

¹⁶⁶ Robert J. Sternberg, *Review*, CAMBRIDGE UNIVERSITY PRESS (reviewing LI-FANG ZHANG, *THE VALUE OF INTELLECTUAL STYLES* (2017)), <https://www.cambridge.org/core/books/value-of-intellectual-styles/6F481FAA202F1691386A881C6147DE69#fndtn-information>.

¹⁶⁷ Maria Kozhevnikov, *How Do We Differ?: Cognitive Styles*, in OXFORD HANDBOOK OF COGNITIVE PSYCHOLOGY 842 (Daniel Reisburg ed., 2013).

¹⁶⁸ *Id.* at 843.

School and the National University of Singapore stated,

Educational research suggests that instructors should address both student variations in cognitive-style flexibility and the potential of the learning environment to reinforce style flexibility in learners. However, it is also essential to help students understand the range of possible styles they can attempt to use. The use of a reflective and critical approach, whereby instructors are encouraged to consider how their approach to planning could assist or restrict student learning and to consider alternative learning and teaching approaches to assist style flexibility within their students to encourage independence and not dependence on a particular mode of delivery, has been advocated in education.

* * *

[C]ognitive style has a place in, and should be integrated into, mainstream cognitive psychology and neuroscience. Not only will such integration benefit applied fields, but it also could provide a coherent framework for understanding individual differences in cognition more broadly.¹⁶⁹

The pro white male implicit bias permeates every aspect of our society,¹⁷⁰ including higher education.¹⁷¹ The next time you observe

¹⁶⁹ Maria Kozhevnikov, Carol Evans, & Stephen M. Kosslyn, *Cognitive Style as Environmentally Sensitive Individual Differences in Cognition: A Modern Synthesis and Applications in Education, Business, and Management*, 15(1) PSYCHOL. SCI. IN THE PUB. INT. 3, 26–27 (2014).

¹⁷⁰ See generally Bahadur, *supra* note 59.

¹⁷¹ See generally China Jenkins, *Addressing White Privilege in Higher Education*, 20(4) ACAD. EXCHANGE Q., 121 (2016), <https://oaktrust.library.tamu.edu/bitstream/handle/1969.1/158792/Addressing%20White%20Privilege.pdf?sequence=1&isAllowed=y>. See also Francis E. Kendall, *Understanding White Privilege*, GOLDEN BRIDGE SCHOOL 1, 7–8 (2002), <https://www.cpt.org/files/Undoing%20Racism%20-%20Understanding%20White%20Privilege%20-%20Kendall.pdf> [hereinafter Kendall] (explaining “White privilege is an institutional (rather than personal) set of benefits granted to those of us who, by race, resemble the people who dominate the powerful positions in our institutions.”).

Hallmarks of white privilege are:

- “Being allowed, by others like us, to take up most of the airtime without saying much of substance.” *Id.* at 7.
- “We bring a critical mass with us wherever we go. Even if I am the only white person in a room of university administrators of color, I know that most of the other administrators in the nation’s schools look, relatively speaking, like me.” *Id.* at 8.

disparate treatment of white males and minority males at the hand of police and someone suggests that the starting point of credibility that the police attribute to the minority male is not significantly lower than that attributed to the white male, remember that even established educators afforded, without verification, the presumptions of truth and validity to inaccurate conclusions and erroneous attributions because they were made by a white male, even in the face of empirically and experientially supported, very qualified and experienced female and minority dissenting voices.¹⁷²

The uncomfortable truth is that this is the same principle of implicit societal bias that causes a black man in Kenosha, Wisconsin, to be shot in the back seven times when entering the car his children are in, while in the same town, police are handing out bottled water to white supremacists armed with assault rifles, one of whom shot three people, and the police are saying, “We appreciate you guys, we really do.”¹⁷³ The phenomenon is also described as white privilege.¹⁷⁴

iii. The Motivational and Metacognitive Significance of Learning Preferences

The legal classroom is a place where students only have time to form

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- “We believe that we have an automatic right to be heard when we speak because most leaders in most organizations look like us.” Kendall, *supra* note 171, at 8.

¹⁷² The list-serve discussion essentially ended at this point.

¹⁷³ Mark Joseph Stern, *The Conservative Defense of Kyle Rittenhouse Is Dangerous Nonsense*, SLATE: NEWS & POL. (Aug. 27, 2020), <https://slate.com/news-and-politics/2020/08/conservatives-defend-kenosha-shooter-kyle-rittenhouse.html>.

¹⁷⁴ See Cory Weinberg, *The White Privilege Moment*, INSIDE HIGHER ED: NEWS & VIEWS (May 28, 2020), <https://www.insidehighered.com/news/2014/05/28/academics-who-study-white-privilege-experience-attention-and-criticism> (“White privilege is about the way white people are treated, generally favorably.”). White privilege should more precisely be called white male privilege because:

All of us who are white, by race, have white privileges, although the extent to which we have them varies depending on our gender, sexual orientation, socioeconomic status, age, physical ability, size and weight, and so on. For example, looking at race and gender, we find that white men have greater access to power and resources than white women do. The statistics from the 1995 Glass Ceiling Commission show that, while white men constitute about 43% of the work force, they hold 95% of senior management positions in American industry. Looking purely at white privilege, white women hold about 40% of the middle management positions, while Black women hold 5% and Black men hold 4%. Unless we believe that white women or African American men and women are inherently less capable, we have to acknowledge that our systems are treating us unequally. White privilege has nothing to do with whether or not we are “good” people.

Kendall, *supra* note 171, at 2.

their initial contextual hooks to the new material presented in the classroom, while further complex schema creation and mastery happens in the relatively larger time period outside the classroom where outlining and review occur.¹⁷⁵ Therefore it is critical that the pedagogy employed during the classroom period promote self-efficacy and self-attribution to motivate students to learn and leaves them feeling competent to do so.¹⁷⁶ Understanding the variety of learning preferences is essential to motivating student learning because motivation is improved by paying attention to how learners choose to engage with their learning environments.¹⁷⁷ Additionally, self-efficacy in learning and self-attribution is strongly influenced by whether a learner believes they fit into an environment.¹⁷⁸ Feelings of incompetence are most acute in students from cultures where college attendance is not the norm because stereotype threat reinforces the completely false notion that they are less competent.¹⁷⁹

Generating student interest in the material is another way of increasing student motivation to learn, and those who expect to succeed will expend more effort at the task.¹⁸⁰ In fact, higher student interest levels are directly related to student engagement and learning, and the pedagogical choices made by educators are directly related to engagement and motivation.¹⁸¹ Thus, it is no surprise that effective motivation is influenced by “how learners make sense of and choose to engage with their learning environments.”¹⁸² In other words, effective and motivating learning environments should provide

¹⁷⁵ See *supra* section IV.A.

¹⁷⁶ Feeling competent may also foster motivation and interest.

¹⁷⁷ HOW PEOPLE LEARN, *supra* note 109, at 110.

¹⁷⁸ *Id.* at 112.

¹⁷⁹ *Id.*

[An] important aspect of self-attribution involves the beliefs about whether one belongs in a particular learning situation. People who come from backgrounds where college attendance is not the norm may question whether they belong in college despite having been admitted. Students may misinterpret short-term failure as reflecting that they do not belong, when in fact short-term failure is common among all students. These students experience a form of stereotype threat, where prevailing cultural stereotypes about their position in the world cause them to doubt themselves and perform more poorly.

Id. This is also likely related to the impact of emotion on learning. Feelings of fear and general negative emotional states can result from a student feeling they don't fit in or that they have having trouble connecting with material in class. Negative emotions such as these impact motivation. See HANDBOOK OF RESEARCH ON EDUCATIONAL COMMUNICATIONS AND TECHNOLOGY 67 (J. Michael Spector et al. eds., 4th ed. 2014) [hereinafter HANDBOOK ON EDUCATIONAL COMMUNICATIONS] (“Optimizing academic emotions can in turn optimize motivation and ultimately learning and performance.”).

¹⁸⁰ *Id.* at 113.

¹⁸¹ *Id.*

¹⁸² *Id.* at 110.

an opportunity for students to choose the modality or preference they have for engaging with the material. Additionally, learners tend to be persistent in their learning when they think that learning is a manageable challenge.¹⁸³ What better way to make a challenge seem manageable to a culturally and situationally diverse group of students than to make pedagogical choices deliberately designed to facilitate the students' range of preferences for creating contextual hooks to that material? Teaching multi-modally so as to recognize the varying learning preferences of our adult students also increases the intrinsic motivation of the students.

Intrinsic motivation is the experience of wanting to engage in an activity for its own sake because the activity is interesting and enjoyable . . . [and] learners are intrinsically motivated to learn when they perceive they have a high degree of autonomy and engage in an activity willingly, rather than because they are being externally controlled.¹⁸⁴

Choice is related to control, and it is therefore unsurprising that giving students a choice in the learning environment also increases motivation and interest.¹⁸⁵

It is important to note that it is the "perceived" control a learner has over the learning and not actual control that increases motivation. What greater perceived control and choice can you give an adult learner than by walking into a classroom and saying the following:

I will handout an exercise which you need to complete. I will break you into groups for this exercise. This way those of you who prefer to learn this material collaboratively will be discussing the material with your peers, those who prefer to learn it by problem solving will be figuring it out without my help, and those of you who prefer to learn visually will be able to read along, following instructions and going step by step.

What was just described is an active learning exercise that improves motivation by creating the perception of choice and control, and it does so by deliberately catering to the different learning preferences in your classroom.

Herbert A. Simon stated, "[l]earning results from what the student does and thinks. The teacher can advance learning only by influencing what the

¹⁸³ HANDBOOK ON EDUCATIONAL COMMUNICATIONS, *supra* note 179, at 109.

¹⁸⁴ *Id.* at 115.

¹⁸⁵ *Id.* at 114.

student does.”¹⁸⁶ We should be motivating our students to feel competent and capable of learning, because the classroom presentation empowers and motivates them to engage with the material outside of class in a multitude of ways, regardless of their preferred method for engaging initially, at that moment, in that specific classroom with that specific material.

Improving learning by catering to learning preferences is well established outside of the notoriously inertial realm of legal pedagogy. For example, in the medical field, research supports catering to learning preferences when educating patients about the requirements of wound care.¹⁸⁷ Ascertaining and acknowledging the learning preference of the individual patient increases the patient’s motivation to engage in wound care and learn what wound care entails.¹⁸⁸

Similar relationships between learning preferences and efficacy of learning have been established in the education of hospitality industry students.¹⁸⁹ The research is careful to distinguish learning preferences from learning styles by acknowledging that we should also be encouraging students to expand their learning preferences, as they are not fixed modalities but subjective preferences that students have, and they will be expected to learn in a variety of ways.¹⁹⁰ Most importantly, though, the study reinforced the relevance of learning preferences to student comfort, choice, and perceived control, which as discussed previously, are essential to student motivation and learning.¹⁹¹

¹⁸⁶ AMBROSE, *supra* note 104, at 1.

¹⁸⁷ See generally Ranjita Misra et al., *Learning Preference and Motivation to Learn by Age and Gender in Patients with Chronic Wound*, 2 J. COMMUNITY MED. & HEALTH EDUC. 1 (2012) [hereinafter Misra].

¹⁸⁸ See generally *id.* (explaining that “[f]or patient education to be effective, a number of factors must be taken into account. Among them are patient’s motivation to learn and learning preferences that are part of the learning assessment completed by clinics and hospitals.”).

¹⁸⁹ Cynthia S. Deale, *Learning Preferences Instead of Learning Styles: A Case Study of Hospitality Management Students’ Perceptions of How They Learn Best and Implications for Teaching and Learning*, 13 INT’L J. FOR THE SCHOLARSHIP OF TEACHING & LEARNING 1, 5 (2019) (explaining “[t]here is merit to understanding how students wish to learn so that an instructor can expand his or her teaching methods to be more inclusive, to aid student learning, and to make teaching more rewarding.”).

¹⁹⁰ See *id.*

Additionally there is wisdom in helping students to increase their ability to learn in a variety of ways. Students entering careers in the hospitality industry will, in all likelihood, need to be able to demonstrate a variety of skills that have been identified as desirable by that industry, such as the capacities to build connections, multitask, pay attention to detail, use technology and language effectively, and exhibit flexibility.

Susan Kuo at the University of South Carolina incorporates this into her teaching by deliberately asking students to complete tasks which require the students to complete in a learning modality which is different than their stated learning preference for the task.

¹⁹¹ See *supra* notes 176–185 and accompanying text.

The simple gesture of an instructor asking a student, “How would you like me to teach you?” may lead to a meaningful discussion of new ways to create a deeper level of learning.

* * *

Perhaps . . . it is useful for instructors and students in all different kinds of learning environments and courses to have open, frank conversations about how the students prefer to learn and how they think they learn best. Asking students how they prefer to learn and even using simple activities as a short list of questions about how they like to learn, including items such as how they learn best and what assignments they prefer could help to create better learning environments for students and their instructors.¹⁹²

Fundamentally, the essential question is, “If students do prefer to learn in certain ways, what’s wrong with [teaching in a way] that match[es] their preferences?”¹⁹³ In answering its own question, the article asking this question concluded, “Nothing is wrong with it, but the U.S. education system promotes conformity instead [of] individuality.”¹⁹⁴ We might suggest that one can replace “individuality” in the previous sentence with the phrase “diversity of student populations not even conceivable when Langdell decided that his methods were the way to go,” and the meaning of the sentence would remain intact.

Again, we must question the ease with which white male teachers so forcefully dismiss the importance of learning preferences in the face of so much information that they are critical to increasing diversity and success of diverse students in legal education.¹⁹⁵ The answer is, quite likely because of implicit bias and the marginalization of information that threatens the status quo.¹⁹⁶

¹⁹² Deale, *supra* note 189, at 5.

¹⁹³ Sutherland, *supra* note 95, at 2.

¹⁹⁴ *Id.*

¹⁹⁵ See *supra* note 141 and accompanying text.

¹⁹⁶ See *supra* section IV.b.ii; see also Bahadur, *supra* note 59, at n.136 (citing B. Keith Payne & C. Daryl Cameron, *Divided Minds, Divided Morals: How Implicit Social Cognition Underpins and Undermines our Sense of Social Justice*, <http://bkpayne.web.unc.edu/files/2015/02/PayneCameron2010.pdf>). See also Darren L. Hutchinson, *Continually Reminded of Their Inferior Position: Social Dominance, Implicit Bias, Criminality, and Race*, 46 WASH U. J. L. & POL’Y 23, 27–28 (2014); Batson et al., *Moral Hypocrisy: Appearing Moral to Oneself Without Being So*, 77 J. PERSONALITY & SOC. PSYCHOL. 525, 525–26 (1999); Rubenstein, *supra* note 68, at 147 (explaining “When presented with conflicting information, people tend to foreground information that comports with their preexisting beliefs. Thus, owing to confirmation bias, people who already think that migrants

Metacognitively, students' satisfaction with teaching and subsequent motivation to learn is related to their immediate judgments about whether they perceive the classroom as an effective learning environment.¹⁹⁷ In a phenomenon known as a judgment of learning (JOL), a person makes a meta-cognitive judgment about how well they think they have learned certain information.¹⁹⁸ An immediate JOL is the learner's view, immediately after learning material, of their ability to recall the information in the future.¹⁹⁹ Delayed JOLs are judgments of learning made a short time after receiving the information.²⁰⁰

Immediate JOLs are directly linked to learning preferences.²⁰¹ In other words, people who had a visual preference for learning had higher immediate JOLs when the material was presented visually, and people who had verbal learning preferences had higher immediate JOLs when the material was presented verbally.²⁰² Immediate JOLs are subjective and relate to the learner's perceived ease or encoding fluencies of receiving the information. Learning preferences therefore are definitively related to the subjective aspects of learning²⁰³ and I have shown in section VI that to ignore these subjective aspects of learning is dysconscious racism and ignores the needs of a diverse student body.²⁰⁴

This is perhaps where educators who throw out the learning preference baby with the learning styles bathwater fail to make careful distinctions. It is absolutely correct that immediate JOLs which are directly related to learning preferences are fairly inaccurate at objectively determining what a student learned.²⁰⁵ In other words, a learner who felt they could learn the material because it was presented in a way they preferred would have a high immediate JOL. This might look like the student leaving the law school classroom and speaking about their professor to another student, saying, "I learned so much. I love the way she teaches." That sentiment and high immediate JOL are inaccurate at determining how much was actually learned and are subjective assessments of the learning that occurred while in the

steal American jobs are more likely to internalize cohering reports and reject nonconforming information.").

¹⁹⁷ Lisa K. Son & Janet Metcalfe, *Judgments of Learning: Evidence for a Two-Stage Process*, 33 MEMORY AND COGNITION 1116, 1116 (2005).

¹⁹⁸ *Id.*

¹⁹⁹ Abby R. Knoll et al., *Learning Style, Judgments of Learning, and Learning Verbal and Visual Information*, 108 BRITISH J. OF PSYCHOL. 544, 546 (2016) [hereinafter Knoll].

²⁰⁰ *Id.* at 547.

²⁰¹ *Id.* at 557.

²⁰² *Id.* at 557, 560.

²⁰³ *Id.* at 560.

²⁰⁴ See section IV.B.VI.iii, *supra* notes 174–179 and accompanying text.

²⁰⁵ Knoll, *supra* note 199, at 12.

classroom.²⁰⁶

In law school, given that most of the learning happens outside of class,²⁰⁷ and the subjective aspects of learning such as feelings of competence, like JOLs, are directly related to motivation,²⁰⁸ it is critical that we make sure our diverse students leave our law classes feeling competent, motivated, and capable of learning. These subjective feelings are related to learning preferences, and even though they do not accurately predict how much a student learned in the class, they relate to the motivation and effort students will expend outside of class where most of the learning in law school happens.

No one in higher education, or legal pedagogy for that matter, has ever suggested that a student should leave the law school classroom and learn only visually, learn only collaboratively, or learn only by creating flowcharts. Yet, *Something Borrowed* approaches the topic from this perspective. In fact, that article sounds the alarm that “Learning Styles [are the] Most Concerning Neuromyth in Higher Education.”²⁰⁹ I would disagree and say that the most compelling neuromyth in legal education is the suggestion that there exists a one-size-fits-all approach to legal education, whether it is called Socratic, QFT, interleaving, spaced repetition or any other trendy term with which a supporting author has only superficial familiarity, that disregards the cultural relevance of learning preferences and the diversity of our student body.²¹⁰

V. NOT MISSING THE NEUROSCIENCE FOREST FOR THE NEUROMYTH TREES: USING ACTUAL SCIENCE TO GUIDE PEDAGOGY

Rather than providing an overview of techniques to be borrowed, *Something Borrowed* encourages the borrowing of educational techniques by “de-bunking” some popular, incorrect theories that are not to be used: neuromyths. As defined by the authors, neuromyths are “commonly held

²⁰⁶ Knoll, *supra* note 199, at 12.

²⁰⁷ *See supra* section IV.a.

²⁰⁸ *See supra* section IV.b.iii.

²⁰⁹ *Something Borrowed*, *supra* note 1.

²¹⁰ *See Vélez*, *supra* note 29, at 610:

Using diverse methods of teaching allows for different student voices to be heard. There is a wide array of teaching methods that can be used to diversify teaching beyond the case method. Examples include the problem solving method, simulation and role-play, co-teaching with practitioners, and dividing the group into law firms. Students can be tasked with presenting themes in class as well as proponents of class materials and subjects to be discussed, and professors can integrate video and interactive teaching tools that will allow students to anonymously vote and comment in real time.

beliefs about the way the human brain affects learning that are patently wrong.”²¹¹ Or, according to the Organisation for Economic Co-operation and Development (“OECD”), who coined the term “neuromyth” in its report *Understanding the Brain: Towards a New Learning Science* (2002), neuromyths are often misinterpretations and oversimplifications of original neuroscientific research.²¹² Some neuromyths include “ten percent brain” and “left/right brain,” both disputed as “misguided applications” of neuroscience in *Something Borrowed*:

Left and right hemispheres of the brain work together for all cognitive tasks, even if there are functional asymmetries. . . . The ubiquity of the ten percent myth probably comes from journalistic treatments of scientific papers by early researchers of brain function. . . . The neuromyths of the “ten percent brain” and “left/right brain” theories illustrate the kinds of misguided applications of an early field by a public hungry for more. By the 1970s, educators began interpreting neuroscience findings broadly for the classroom, as did policymakers, the media, and companies selling education products. In the years since, neuroscientists and theorists alike have written on the failure of nonscientists to *properly* translate their findings, representing these as largely inaccessible, incomprehensible, and irrelevant to educators.²¹³

Despite the fact that neuromyths are not neuroscience, *Something Borrowed* gives a thorough description of neuromyths as pseudoscientific claims with rampant prevalence in education and comes to the awkward conclusion that “neuroscience cannot guide educational practice.”²¹⁴ This erroneous leap in reasoning ignores the multitude of ways neuroscience informs educational practice. *Neuromyths* cannot guide educational practice, but *neuroscience* can and should, especially cognitive neuroscience.²¹⁵ As a sub-field within neuroscience,²¹⁶ cognitive neuroscience combines

²¹¹ *Something Borrowed*, *supra* note 1, at 359.

²¹² See ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, UNDERSTANDING THE BRAIN: TOWARDS A NEW LEARNING SCIENCE 111 (OECD Publishing 2002) [hereinafter OECD].

²¹³ *Something Borrowed*, *supra* note 1, at 360–61.

²¹⁴ *Id.* at 366.

²¹⁵ E.g., Usha Goswami, *Principles of Learning, Implications for Teaching: A Cognitive Neuroscience Perspective*, 42 J. PHIL. EDUC. 381 (2008) [hereinafter Goswami]; see also OECD, *supra* note 212.

²¹⁶ Goswami, *supra* note 215, at 382.

neuroscience and cognitive psychology with advanced brain imaging technologies.²¹⁷ “Cognitive neuroscience takes psychological theories about the mind (e.g. that short-term and long-term memory are distinct systems) or symbolic descriptions of mental processes (e.g. that we can think using images versus ‘inner speech’) and explores them by measuring electro-chemical activity in the brain.”²¹⁸

According to Goswami’s article *Principles of Learning, Implications for Teaching: A Cognitive Neuroscience Perspective*, there are several principles of learning supported by cognitive neuroscience that should be applied in education. First, *learning is experience based*.²¹⁹ Although this might seem like a common sense proposition to learners and educators, the fact that our brain adapts and forms neural connections in response to experience is vital to education.²²⁰ This principle conveys the significance of creating safe and interactive learning environments in schools and the enormous impact that educators can have on students’ learning.²²¹

Second, *learning is incremental*.²²² Neuroimaging studies demonstrate that the brain forms simple, incremental connections through time to develop complex cognitive structures like language, math, and logic.²²³ This principle provides neuroscientific evidence highlighting the cumulative benefits of time, practice, and effort in learning.²²⁴ To motivate students, educators can explain to students that the more they practice, the more efficient their brains become at processing newly learned knowledge and skills.²²⁵ This is actually consistent with *Something Borrowed*’s emphasis on the importance of a growth mindset in learning, teaching, and the practice of law.²²⁶

²¹⁷ Goswami, *supra* note 215, at 382.

²¹⁸ *Id.*

²¹⁹ *Id.* at 387.

²²⁰ *Id.*

²²¹ *Id.* at 388.

²²² *Id.* at 387.

²²³ *Id.* at 384.

²²⁴ *See generally id.*

²²⁵ *See generally* CHERYL CISERO DURWIN & MARLA REESE-WEBER, *EDPSYCH MODULES* (4th ed. 2021).

²²⁶ *Something Borrowed*, *supra* note 1, at 390.

Professors also might consider the vital role “mindset” plays in terms of effort and learning. Since the publication of Carol Dweck’s book *Mindset* in 2006, many scholars in the academy have discussed and promoted adopting a growth mindset in legal education. Dweck writes that “the view you adopt for yourself profoundly affects the way you lead your life.” Dweck defines the fixed mindset as the belief that your inherent qualities are carved in stone, that you “have only a certain amount of intelligence, a certain personality, and a certain moral character.” By contrast, the growth mindset is based on the belief that you can cultivate your basic qualities through your efforts, and that you can change and

For example, middle school students who attended an eight-session workshop about the growth mindset—about how the brain is a muscle and grows with effort, how learning changes the brain by forming new connections, and that students are in charge of this process—showed an increase in mathematic achievement compared to students in the control group, who had lessons on memory and engaged in discussions of academic issues of personal interest to them.²²⁷

Third, *learning is multi-sensory*.²²⁸ Environmental experiences are multi-sensory, and when the brain catalogues these experiences, it forms neural connections across all modalities.²²⁹ This principle implies it is important to teach new information utilizing a variety of students' senses within different contexts to strengthen learning.²³⁰ For example, when early childhood teachers point to the words of the story as they read them aloud, they give students the opportunities to build auditory and visual connections at the same time, resulting in stronger learning across varying neural structures: a theory supported by neuroimaging research.²³¹ Understanding the brain's global involvement in multi-modal learning can also prevent educators from incorporating the idea that students have rigid learning styles into their teaching.²³²

grow through application and experience. If we operate with a fixed mindset, Dweck opines, every new situation we encounter challenges our ability to succeed. A fixed mindset therefore can create an inaccurate self-perception and cause us to give up or settle unhappily into a situation or circumstance that is not productive.

²²⁷ Lisa S. Blackwell et al., *Implicit Theories of Intelligence Predict Achievement Across on Adolescent Transition: A Longitudinal Study and an Intervention*, 78 CHILD DEVELOPMENT 246, 254 (2007).

²²⁸ Goswami, *supra* note 215, at 389.

²²⁹ *See id.* at 389–90.

²³⁰ *Id.* at 389.

²³¹ Geake, *supra* note 85, at 130.

²³² *See generally* DURWIN, *supra* note 225. *Something Borrowed*, *supra* note 1, at 361–62, acknowledges that rigid learning styles are a neuromyth.

The neuromyth most closely held by faculty is the one widely associated with the classroom, the theory of learning styles. Learning styles theory was first postulated in the 1970s. The premise of learning styles is this: Students learn best by their expressed preference for a learning mode, whether visual, auditory, or kinesthetic. The theory is based on the *meshing hypothesis*, that an alignment between learning styles and classroom instruction produces optimal learning. The extrapolation for education (a student could improve if taught according to learning styles) was based on one valid finding in neuroscience: that visual, auditory, and kinesthetic information is processed in different parts of the brain. However, even these separate structures are highly networked.

However, it is the article's failure to employ the necessary parsing of the research that results in its erroneous conflation of learning preferences and styles. *See supra* section III.b.

Fourth, *learning is social*.²³³ Neuroscientific studies demonstrate that the brain evolved and developed to function within complex social environments.²³⁴ The social nature of the brain reaffirms the importance of collaboration in learning, and the crucial nature of language and communication in this interactive process.²³⁵ This learning principle provides critical evidence of Russian psychologist Vygotsky's classic 1978 social constructivist theory of cognitive development. Vygotsky suggested the importance and necessity of social interactions through cultural tools, primarily language, for cognitive development.²³⁶ More knowledgeable or advanced learners, such as teachers, need to provide the social and cultural scaffolding within learners' zone of proximal development (ZPD) to strategically guide learning and stimulate development.²³⁷

Fifth, *learning is life-long, plastic, and continuous*.²³⁸ Neural connections continue to form and change with experience throughout adulthood. Parts of the brain, such as the prefrontal cortex, are still developing into the mid-twenties.²³⁹ This principle of learning can be used to motivate adult learners by reaffirming, from neuroscientific perspective, that it is never too late to learn.²⁴⁰ This empirically-supported learning principle is particularly relevant to legal education, where most students are adult learners. Recognizing the plastic and continuous nature of the brain is an integral part of a growth mindset that law professors can leverage to motivate their own lifelong learning, thereby modeling learning for their students through their own hard work and effort.

Clearly, neuroscience can, and should, guide education and should be used to inform and improve educational practices. This viewpoint is shared by several studies cited in *Something Borrowed*,²⁴¹ yet the article concludes

²³³ Goswami, *supra* note 215, at 391.

²³⁴ *Id.*

²³⁵ *Id.* at 392.

²³⁶ *Id.*

²³⁷ *Id.* *Something Borrowed*, *supra* note 1, at 385, is in accord:

Like Peirce, Lev Vygotsky realized the necessity for collaborative thinking in education. A proponent of social constructivism, Vygotsky posited that "scaffolding"-- through interaction with both members of the wider community and classroom peers--enhanced children's individual achievements, and that this "conceptual and reasoning space [is one that] children can operate with help from a group, but are not capable of operating in on their own." Vygotsky coined the term "community of learners" to describe how different members of the wider community can contribute to student learning.

²³⁸ Goswami, *supra* note 215, at 394.

²³⁹ *Id.*

²⁴⁰ *Id.*

²⁴¹ E.g., Geake, *supra* note 85; Goswami, *supra* note 215; Paul A. Howard-Jones, *Neuroscience and Education: Myths and Messages*, 15 NATURE REV.: NEUROSCIENCE 817

neuroscience *should not* guide educational practices, despite the potential for interdisciplinary improvement of pedagogy.

Because neuroscience is a lab-based discipline, there is an interpretive gap between neuroscientific findings and educational practices, fueled by lack of a mutually comprehensible language through which neuroscientists and educators can communicate.²⁴² Instead of concluding that neuroscience cannot guide education and should be rejected because neuromyths exist, we need to develop “translators” who can bridge the gap, interpreting neuroscience for educators, and facilitating the exchange of research questions about learning between educators and neuroscientists.²⁴³

Paul Howard-Jones has also proposed the establishment of a new discipline dedicated to bridging the gap between neuroscience and education, improving communication, and promoting collaboration.²⁴⁴ In fact, this field has recently emerged, founded in the twenty-first century as Mind, Brain and Education (MBE) science.²⁴⁵ MBE links the fields of neuroscience, psychology, and education to inform new brain-based teaching and learning.²⁴⁶ MBE is currently offered in some postgraduate programs, such as the Master’s program at the Harvard Graduate School of Education.²⁴⁷

Similar to other evolutionary processes, MBE science drew from the dominant “genes” of its parents to produce a better-adapted being. That is, rather than including anything and everything that falls under the labels of education, neuroscience, and psychology as a whole, MBE science is a careful selection of only the best information that can inform the new science of teaching and learning. The development

(Dec. 2014) [hereinafter Howard-Jones]; TRACEY TOKUHAMA-ESPINOSA, *MIND, BRAIN, AND EDUCATION SCIENCE: A COMPREHENSIVE GUIDE TO NEW BRAIN BASED TEACHING* (2010) [hereinafter TOKUHAMA-ESPINOSA]. As indicated in *Something Borrowed*, *supra* note 1, at n.7: “Tracey Tokuhamas-Espinosa writes, “Educational neuropsychology was an improvement over simple developmental psychology because neuroscientific studies were given more prominence. The lack of neuroscientific support for some of the studies in developmental psychology meant that many studies were about the ‘mind’ rather than the ‘brain,’ which some argued detracted from their applicability in teaching.”” However, I couldn’t locate this citation in Tracey Tokuhamas-Espinosa’s paper “A Brief History of Science of Learning: Part 1,” *NEW HORIZONS IN EDUC.* (2011), as provided in footnote 6. The citation was actually included in Dr. Tracey Tokuhamas-Espinosa’s book: *MIND, BRAIN, AND EDUCATION SCIENCE: A COMPREHENSIVE GUIDE TO NEW BRAIN BASED TEACHING*, *supra* note 241.

²⁴² Geake, *supra* note 85, at 124–25.

²⁴³ Goswami, *supra* note 215, at 386.

²⁴⁴ Howard-Jones, *supra* note 241, at 6.

²⁴⁵ TOKUHAMA-ESPINOSA, *supra* note 241.

²⁴⁶ *Id.*

²⁴⁷ Harvard Graduate School of Education, Master’s Degree Program: Mind, Brain, and Education, available at <https://www.gse.harvard.edu/masters/mbe> (last visited Mar. 21, 2021).

of MBE science results in a new and innovative way to consider old problems in education and offers evidence-based solutions for the classroom.²⁴⁸

Disappointingly, none of these exciting developments were acknowledged in *Something Borrowed*. The article purports to encourage strategy borrowing from other disciplines, yet those disciplines are given a short shrift. Legal educators cannot truly engage in interdisciplinary borrowing without a thorough understanding of the other disciplines. *Something Borrowed*, like other warped and superficial commentaries about the contributions of neuroscience, prevents law professors from fully enriching their pedagogical efficacy with tools extracted from other disciplines.

Rather than relying on recent research, *Something Borrowed* turns to Dr. John Bruer's decades old article, *Education and the Brain: A Bridge Too Far* (1997), to support the irrelevance of neuroscience in improving pedagogy.²⁴⁹

Perhaps because of confirmation bias, the article fails to mention Bruer's statement that, "Looking to the future, we should attempt to develop an interactive, recursive relationship among research programs in education, cognitive psychology, and systems neuroscience. Such interaction would allow us to extend and apply our understanding of how mind and brain support learning."²⁵⁰ It has been more than twenty years since Bruer's paper. Any responsible article would mention today's progress, such as the development and existence of MBE science, when attempting to encourage interdisciplinary strategies and borrowing.

As discussed in Section II, a typical example of confirmation bias is the tendency to present a biased selection of information according to one's own beliefs, a concept *Something Borrowed* brandished to explain the inclination to "find a way to know what they have decided to believe."²⁵¹

Confirmation bias is also reflected in *Something Borrowed*'s reference to Dr. Tracey Tokuhama-Espinosa's writing concerning educational

²⁴⁸ TOKUHAMA-ESPINOSA, *supra* note 241, at 4.

²⁴⁹ See *Something Borrowed*, *supra* note 1, at 361:

The philosopher John Bruer, in a seminal 1997 position paper, admonished the education community: "The neuroscience and education argument attempts to bridge this chasm by drawing educationally relevant conclusions from correlations between gross, unanalyzed behaviors--learning to read, learning math, learning languages--and poorly understood changes in brain structure at the synaptic level. This is the bridge too far.

²⁵⁰ John T. Bruer, *Education and the Brain: A Bridge Too Far*, 26 EDUC. RES. 4, 15 (1997).

²⁵¹ *Something Borrowed*, *supra* note 1, at 365 (emphasis in original).

neuropsychology's failure to serve teaching needs in the 1970s.

Tracey Tokuhama-Espinosa writes, "Educational neuropsychology was an improvement over simple developmental psychology because neuroscientific studies were given more prominence. The lack of neuroscientific support for some of the studies in developmental psychology meant [that] many studies were about the 'mind' rather than the 'brain,' which some argued detracted from their applicability in teaching."²⁵²

As a professor of education and neuropsychology, Dr. Tracey Tokuhama-Espinosa included the quote above in her book *Mind, Brain, and Education Science: A Comprehensive Guide to the New Brain-based Teaching* (2010), describing the field of educational neuropsychology between 1973 and 1979, and educational neuropsychology's role as a forerunner for the development of MBE.²⁵³ Unsurprisingly, *Something Borrowed's* implicit confirmation bias prevented discussions on the context in which the statement was made or the fact that Dr. Tracey Tokuhama-Espinosa devoted her entire book to proving that neuroscience *can* inform educational practice.²⁵⁴

A. Educational Psychology: An Evidence-Based Resource for Legal Educators

We wholeheartedly recommend the use of educational psychology as an evidence-based resource for improving teaching and learning. Founded in the year of 1892, the field of educational psychology as a learning science has served educators for more than 100 years.²⁵⁵ *Something Borrowed* lamented that "teaching methods should be empirically confirmed, but which of us has time to do this?"²⁵⁶ Educational psychology does exactly that. It examines educational issues through scientific research methods and strives to guide learning and teaching with empirical research.

²⁵² *Something Borrowed*, *supra* note 1, at 365, at n.7.

²⁵³ TOKUHAMA-ESPINOSA, *supra* note 241, at 51–59, 4–9.

²⁵⁴ *See generally id.*

²⁵⁵ David C. Berliner, *The 100-Year Journey of Educational Psychology: From Interest, to Disdain, to Respect for Practice*, in MASTER LECTURES IN PSYCH. 37 (TK Fagan & G.R. VandenBos eds. 1993) [hereinafter Berliner]. *See also* Patricia A. Alexander, Karen P. Murphy & Jeffrey A. Greene, *Projecting Educational Psychology's Future from Its Past and Present: A Trend Analysis*, in APA EDUCATIONAL PSYCHOLOGY HANDBOOK 5 (K.R. Harris et al. eds. 2012) [hereinafter *Projecting Educational Psychology*].

²⁵⁶ *Something Borrowed*, *supra* note 1, at 366.

Educational psychology is formally required in K-12 teacher preparation coursework and certification programs at many colleges and universities.²⁵⁷ It addresses educational issues such as learning, development, learner differences, motivation, assessment, classroom management, and teaching methods²⁵⁸—issues that are also relevant in legal education. Because “law professors on balance tend not to have a background in education theory or practice,”²⁵⁹ educational psychology is a good place for law professors looking to borrow informed pedagogical strategies.

Something Borrowed suggests “law andragogy can begin with the healthy literature on cognitive psychology.”²⁶⁰ But while cognitive psychology offers some valuable understanding of cognition and learning processes, educational psychology provides more direct guidance about helping people learn effectively in realistic educational settings.²⁶¹ For example, an important contribution from educational psychology is the teaching of cognitive strategies that a learner implements to improve learning and cognition.²⁶² Despite the fact *Something Borrowed* counsels against neuroscientifically informed teaching, several cognitive strategies recommended in the article for teaching law were actually lifted from established journals in the field of educational psychology (e.g., *Journal of Educational Psychology*, *Educational Psychologist*, *Educational Psychology Review*). Examples of these include the authors’ discussion of the impact of prior knowledge on learning,²⁶³ knowledge transfer,²⁶⁴ teaching students to

²⁵⁷ Linda M. Anderson et al., *Educational Psychology for Teachers: Reforming Our Courses, Rethinking Our Roles*, 30 J. EDUC. PSYCHOL. 143, 143 (1995).

²⁵⁸ Anita Woolfolk Hoy, *Educational Psychology in Teacher Education*, 35 J. EDUC. PSYCHOL. 257, 259 (2000).

²⁵⁹ *Something Borrowed*, *supra* note 1, at 357.

²⁶⁰ *Id.* at 367.

²⁶¹ Richard E. Mayer, *What Good is Educational Psychology? The Case of Cognition and Instruction*, 36 J. EDUC. PSYCHOL. 83, 84 (2001) [hereinafter Mayer].

²⁶² *Id.*

²⁶³ Paul Kirschner et al., *Why Minimal Guidance During Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-Based, Experiential, and Inquiry-Based Teaching*, 41 J. EDUC. PSYCHOL. 75, 86 (2006).

²⁶⁴ NATIONAL RESEARCH COUNCIL, *EDUCATION FOR LIFE AND WORK: DEVELOPING TRANSFERABLE KNOWLEDGE AND SKILLS IN THE 21ST CENTURY* (James Pellegrino and Margaret Hilton eds., 2012) as referenced by *Something Borrowed*, *supra* note 1, at n.69; see also Samuel B. Day & Robert L. Goldstone, *The Import of Knowledge Export: Connecting Findings and Theories of Transfer of Learning*, 47 EDUC. PSYCHOL. 153, 153 (2012).

ask questions,²⁶⁵ the role of testing²⁶⁶ and metacognition in learning.²⁶⁷

B. Bridging the Gap: Interdisciplinary Collaboration between Legal Education and Educational Psychology

Something Borrowed purported to focus on borrowing interdisciplinary strategies to improve legal education. However, it should be recognized that no discipline, including educational psychology and cognitive psychology, can readily provide all the answers needed to solve all the learning and teaching problems of legal education. Interdisciplinary borrowing should not be the destination. *Something Borrowed* suggests “teaching methods should be empirically confirmed.”²⁶⁸ A good way to empirically confirm the relevance of teaching methods to legal education is through collaboration between legal educators and educational psychologists.

Legal educators can provide practical problems in the law classroom; using scientific methods, educational psychologists can study these problems and provide empirically confirmed theories and practices for legal educators. As the educational psychology research on motivation, active learning, self-efficacy, mindsets, cultural responsive pedagogy, and more moves forward, it will be exciting to examine how these findings can be applied in legal education.²⁶⁹ Educational psychologists have been yearning for such interdisciplinary collaboration for decades.²⁷⁰ As educational psychologist Paul Pintrich stated:

Although we, as educational psychologists, may not have to be experts in the discipline we are studying, it may increase

²⁶⁵ Arthur C. Graesser & Brent A. Olde, *How Does One Know Whether a Person Understands a Device? The Quality of the Questions the Person Asks When the Device Breaks Down*, 95 J. OF EDUC. PSYCHOL. 524, 526 (2003) as referenced by *Something Borrowed*, *supra* note 1, at n.76.

²⁶⁶ Pooja K. Agarwal et al., *The Value of Applied Research: Retrieval Practice Improves Classroom Learning and Recommendations from a Teacher, a Principal, and a Scientist*, 24 EDUC. PSYCHOL. REV. 438, 438 (2012) as referenced by *Something Borrowed*, *supra* note 1, at n.88.

²⁶⁷ Barry J. Zimmerman, *Self-Regulated Learning and Academic Achievement: An Overview*, 25 J. EDUC. PSYCHOL. 4, 14 (1990) as referenced by *Something Borrowed*, *supra* note 1, at n.103 (noting that students with strong metacognitive skills can “plan, set goals, organize, self-monitor, and self-evaluate at various points during the process of acquisition” and that doing so allows them to be “self-aware, knowledgeable, and decisive in their approach to learning”).

²⁶⁸ *Something Borrowed*, *supra* note 1, at 366.

²⁶⁹ *Projecting Educational Psychology*, *supra* note 255.

²⁷⁰ *Id.*; Berliner, *supra* note 255; Mayer, *supra* note 261; Paul R. Pintrich, *Continuities and Discontinuities: Future Directions for Research in Educational Psychology*, 29 EDUC. PSYCHOL. 137, 144 (1994) [hereinafter Pintrich].

the validity of our research to work collaboratively with our colleagues from the different curriculum areas, including disciplinary experts, curriculum specialists, and teachers. The hallmark of future educational research might just be this type of collaborative work in which multiple perspectives, not just psychological ones, are represented on the same research project.²⁷¹

In short, legal education and educational psychology might enjoy a reciprocal collaboration. The marriage between the two disciplines has the potential to significantly advance learning and teaching in legal education and develop the research in educational psychology regarding learning and teaching in realistic legal education settings.

VI. CONCLUSION

Something Borrowed implores legal educators to open their eyes to the lies neuromyths tell but misses the most harmful neuromyth there is: traditional legal education is still working. Gone are the days of the wizened sage lecturing in the town square. Gone are the days of assuming that the classroom is where the bulk of learning happens. We cannot keep pretending that our increasingly diverse student populations are not harmed by teacher-focused one-size-fits-all approaches.

This article has striven to prove that, although subjective, learning preferences matter and working in active learning techniques that engage these preferences leads to higher student engagement and better learning and retention. By recognizing the effects of various cultural experiences, we can increase the non-majoritarian population of our schools, giving students confidence in their belonging and self-efficacy. Respecting learning preferences through multi-modal teaching allows us to recognize students as adult learners and facilitate their contextual hooking while still encouraging learning through alternative methods. This article has also sounded a call for greater collaboration in the fields of education, neuroscience, and educational psychology. As humanity continues to discover new information about the brain and how it learns, it is important to develop legal pedagogy to take advantage of new empirical research.

Benjamin Franklin once said “Tell me and I forget. Teach me and I remember. Involve me and I learn.” Classroom teaching is only a springboard, from which we attempt to prepare our students to leave the classroom and dive headfirst into the deep end. This requires us to redevelop

²⁷¹ Pintrich, *supra* note 270, at 144.

law school curricula that are experience based, incremental, and multi-sensory. Even further, it requires us as teachers to assess our own dysconscious biases and be willing to learn how to better engage our students and leverage their cultural learning experiences to properly support their active learning. It can be humbling to shift the pedagogical narrative from what we are doing to what we must do for our students, but the rewards for training exceptionally capable lawyers and advocates are felt by the entire community.

To do that effectively we need to embrace collaboration with the fields of neuroscience, especially educational psychology. We need to become culturally competent teachers and acknowledge and understand that biases are part of being human.

Law professors, especially non-minority law professors, are incapable of understanding what our minority students and faculty members experience constantly. Once we can get beyond any useless defensiveness that truth generates, we can decide, in an informed way, whether the status quo is too comfortable to put in the massive effort required to implement the research-based pedagogical changes necessary to make an increasingly diverse student pool a reality rather than a talking point.

As a minority professor and researcher, both of us as authors close by warning against adopting absolutes in legal education. Those absolutes routinely manifest in statements that learning preferences don't matter or student learning can be drastically improved by metacognition, spaced repetition, or some other technique-driven pedagogy like interleaving or whatever the cool buzz word that requires us to do very little to achieve is. These absolutes cater to our inertia and laziness and also engage powerful implicit biases that almost compel us to accept them as true.

In order to achieve the goal of increasing law student diversity, the change in legal pedagogy will be uncomfortable. It must be disruptive and must take cognizance of the reality that powerful, unconscious information processing heuristics perpetuating the status quo are at play whenever we interpret or assign value to information. These processes imbue certain statements, whether supported or not, with a presumption of validity if they perpetuate a status quo of exclusion of non-majoritarian participants in legal education.²⁷² That discomfort you feel when acknowledging this is a start.

²⁷² See *List Serve*, *supra* note 141.