Fixing Students' Fixed Mindsets: Paving The Way For Meaningful Assessment

Carrie Sperling, Arizona State University

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Carrie Sperling and Susan Shapcott

Abstract

Soon every law school in the country will be turning its attention to the important topic of assessment. Responding to a new ABA guideline, schools will be tackling the difficult task of defining, refining, and creating more assessment opportunities for their students. The guideline’s purpose is to improve student learning through more assessment, but nothing in the ABA proposal changes the fact that many of our students fail to react adaptively to feedback. Instead, many students will become hostile, defensive, or despondent, and will therefore not further develop their competencies.

With the American Bar Association putting emphasis on formative assessment and outcomes, legal educators must attempt to understand what causes students' varied responses to critical feedback: students' beliefs about intelligence. Students who believe that intelligence can grow through strategic effort respond to feedback by increasing their
efforts or changing their strategies. But students who see intelligence as a fixed trait do not. This paper demonstrates that no matter how thoughtful the feedback, or how frequent the assessments, those with a fixed mindset will respond in maladaptive ways. The ABA’s proposed guideline might be putting the proverbial cart before the horse. Students’ mindsets should be the starting point for legal scholars and educators who advocate different approaches to feedback. Current recommendations regarding assessments in law school get ahead of themselves and miss the starting point. That is, developing an incremental mindset in law students so that feedback has its intended effect of improving performance and outcomes.
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I. Introduction

Those interested in legal education have become increasingly focused on student assessment. They wonder whether law schools are providing students meaningful

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assessment of their work. They worry that students are not getting enough feedback to help them gain the knowledge and skills to effectively practice law. They also express concern that law schools do not provide students with feedback early enough so that students can use the feedback to improve. And they recognize that law school assessment practices are not pedagogically sound.

At the same time that legal educators are exposing these basic concerns, many in legal education are already providing students frequent and thoughtful feedback. But they remain perplexed by their students’ responses to assessment. Why do some students

3 Curcio, supra note 2, at 899, 902; Friedland, supra note 2, at 152 (“Law schools and instructors have undervalued assessment as a teaching tool.”); Wegner, supra note 2, at 886.

4 Curcio, supra note 2, at 899; James D. Gordon III, How Not to Succeed in Law School, 100 YALE L.J. 1679, 1692 (1991) (“Studies have shown that the best way to learn is to have frequent exams on small amounts of material and to receive lots of feedback from the teacher. Consequently, law school does none of this.”); Aizen, supra note 2, at 777-78.

5 Aizen, supra note 2, at 780.

6 Curcio, supra note 2, at 903 (urging empirical research studies of assessment); Friedland, supra note 2, at 150 (“Like a monument in a town square that has long since lost its meaning, the evaluation process has become more highly valued for its perpetuation of rank and hierarchy than for its accuracy of measurement or its pedagogical attributes.”); Schwartz, supra note 2, at 349; Aizen, supra note 2, at 780-84.


8 See Aida M. Alaka, Phenomenology of Error in Legal Writing, 28 QUINNIPIAC L. REV. 1, 3 (2009-2010). A recent posting on legal writing listserv demonstrates this bafflement about how some students respond to feedback. The professor had given students extensive comments on a final brief. One student emailed the professor immediately after receiving the comments (probably before the student even had time to read them) to argue that the comments did not equate to a grade of B-. The student felt, based on the comments, that the
thrive on feedback, accept it without argument, display gratitude, increase their efforts, improve their work, and continue to seek more feedback while other students become hostile, defensive, or dismissive? Why do the very students who really need more help seem to disappear, never asking for needed assistance? And why do so many students start out with such enthusiasm but soon become dejected and defeated?

The American Bar Association, addressing concerns raised in the Carnegie and MacCrate Reports, have rightly identified one problem in the typical law school curriculum, most law schools focus too heavily on summative assessments – a final exam and grade – and fail to provide enough formative assessments – assignments throughout the semester that give students an opportunity to identify whether the classroom goals have been mastered. Unfortunately for legal educators, despite a shift in focus to formative assessments, simply providing students with more feedback will simply generate more of the same perplexing responses from their students. That’s because another problem precedes any assessment tool that educators chose to develop. That problem is mindset.

brief was not a B- brief. A second student, who made an even lower grade, thanked the professor for the extensive comments. The student appreciated the time the professor spent to point out mistakes in the brief and would heed her advice in the future. Over a dozen professors responded to this email thread with similar experiences and thoughtful suggestions.

9 ABA REPORT OF OUTCOME MEASURES COMMITTEE, supra note 2.

10 See infra notes 213-277 and accompanying text.

11 See infra notes 63-188 and accompanying text.
The way students view feedback depends on the implicit beliefs they hold about intelligence. We all have an implicit view of intelligence. Some believe that intelligence is a fixed trait, that it doesn’t change much over the course of one’s lifetime. Others believe that intelligence is malleable, that people can significantly increase their intelligence during their lives. Those with a fixed mindset, who view intelligence as stable, are concerned with validating their intelligence, to themselves and others. On the other hand, those with an incremental mindset, who view intelligence as something that increases with effort, are concerned with becoming more intelligent.

In law school, these mindsets lead students in different directions. Students’ mindsets precede everything from the type of goals they pursue, their motivation, their ability to bounce back from failure, their ability to remain persistent through difficulty, and

12 Sandra Graham, Implicit Theories as Conceptualized by an Attribution Researcher, 6 PSYCHOL. INQUIRY 294, 294 (1995).

13 Kyunghee Lee, A Study of Teacher Responses Based on Their Conceptions of Intelligence, 31 J. OF CLASSROOM INTERACTION 1, 1 (1996) (citing Dua Fry, Teachers’ Conceptions of Students’ Intelligence and Intelligent Functioning: A Cross Sectional Study of Elementary, Secondary and Tertiary Level Instructors, 19 INTL. J. OF PSYCHOL. 457-474 (1984)).


15 Id. at 259.

16 Id.

17 Id.

18 See infra notes 63-188 and accompanying text.
even their ability to maintain self-efficacy.\textsuperscript{19} Both types of students exhibit high motivation and high levels of confidence when they are succeeding.\textsuperscript{20} But the different mindsets become apparent, and critical, when students confront difficulty.\textsuperscript{21} When students with a fixed mindset struggle, they view the struggle as a sign that they lack the ability or intelligence necessary to accomplish the task.\textsuperscript{22} They see failures, even at the outset, as a judgment on their intelligence – a trait that doesn’t change much. On the other hand, those with an incremental mindset see setbacks as a reason to increase their efforts or change their strategies.\textsuperscript{24} They are not deterred by failure at the outset because they believe that they can learn from their mistakes and eventually become smarter.\textsuperscript{25}

Because a significant portion of law students hold a fixed mindset,\textsuperscript{26} studies show that they will not react well to feedback. Many will see effort as a lack of intelligence\textsuperscript{27} and

\begin{thebibliography}{99}
\bibitem{19} Dweck & Leggett, \textit{supra} note 14, at 260-62.
\bibitem{20} Carol Dweck, \textit{Self-Theories: Their Role in Motivation, Personality, and Development} 29 (1999) [hereinafter \textit{Self-Theories}].
\bibitem{21} \textit{Id.}
\bibitem{22} \textit{Id.} at 30.
\bibitem{23} \textit{Id.}
\bibitem{24} \textit{Id.}
\bibitem{26} Carrie Sperling and Susan Shapcott, Implicit Theories of Law Students Data (2010) (unpublished data on file with authors).
\bibitem{27} See \textit{Self-Theories}, \textit{supra} note 20, at 40-41.
\end{thebibliography}
will fail to increase their efforts.\textsuperscript{28} They will react defensively,\textsuperscript{29} they may become despondent, and they will almost certainly display helpless behavior.\textsuperscript{30} To avoid these maladaptive responses to feedback, we must first address students’ mindsets. How do we change students’ mindsets so that they respond to feedback by adapting their behavior in ways that will improve their knowledge and skills?

This Article first explains mindset and the implicit theories of intelligence people hold. Section III discusses the extensive research from social psychology that offers support for how mindset affects students’ reactions to feedback. Section IV argues that the current advice on assessment fails to consider mindset and will, therefore, only help some students. In Section V, the Authors discuss the results of a pilot study measuring incoming law students’ mindsets and relate the findings to students’ reactions to feedback documented by other authors. Section VI questions whether the law school environment has traditionally been part of the problem rather than part of the solution for adaptive assessment. Section VII offers hope to legal educators; it explains that mindset is malleable. Although many law students will enter law school with a maladaptive fixed mindset, professors can change students’ mindsets with fairly simple techniques. Because students’ mindset precedes their educational goals, changing their mindsets will better equip them

\textsuperscript{28} Id.


to accept feedback in the way it was intended – as a pathway to competency and life-long learning goals.

II. Implicit theories of intelligence form students’ mindsets.

Three decades ago, Carol Dweck, a Stanford social psychologist, became interested in understanding how students respond to failure.\(^{31}\) In her early work she discovered that some students, as expected, became despondent when they confronted failure, but, surprisingly, others thrived despite it.\(^{32}\) In fact, some students didn’t even view their inabilities to solve difficult problems as failure.\(^{33}\) Dweck found that students’ reactions to and perceptions of failure could be explained by the beliefs students held about intelligence.\(^{34}\) Dweck calls these beliefs implicit theories of intelligence.\(^{35}\)


\(^{32}\) Id. at 8.

\(^{33}\) Id.

\(^{34}\) Id. at 10.

\(^{35}\) Dweck & Leggett, supra note 14, at 256.
Dweck suggests that each of us holds an implicit belief about intelligence and those beliefs form a certain mindset and goal orientation. These beliefs are implicit; most of us are unaware that we hold a certain belief about intelligence, and we probably aren’t aware that other people hold beliefs about intelligence that are different from our own.

Some people believe intelligence is a fixed trait, while others believe that our intelligence is malleable. Students have what Dweck calls a fixed mindset if they believe that people have a certain amount of intelligence, and it doesn’t change much over the course of a lifetime – regardless of what they do. People are born brilliant or talented; they don’t become brilliant or talented. Students with a fixed mindset worry about their intelligence – how smart they actually are and how smart other people think they are. They have high levels of confidence when they perform tasks that they can master, and

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36 *Id.* at 256.

37 *See* MINDSET, supra note 31, at 23.

38 *Id.* at ix.

39 *Id.*

40 Dweck & Leggett, supra note 14, at 259. Dweck also calls the fixed mindset an entity mindset because people who have this mindset believe that intelligence is an entity that resides within us. Molden & Dweck supra note 29, at 193.

41 *See* Caroline Dupeyrat & Claudette Marine, Implicit Theories of Intelligence, Goal Orientation, Cognitive Engagement, and Achievement: A Test of Dweck’s Model with Returning to School Adults, 30 CONTEMPORARY EDUC. PSYCHOL. 43, 44 (2005) (In Implicit theories literature fixed and entity mindset is used inter-changeably.).

42 *See* SELF-THEORIES, supra note 20, at 15.

43 Carol S. Dweck & Daniel C. Molden, Self-Theories: Their Impact on Competence, Motivation and Acquisition, in HANDBOOK OF COMPETENCE AND MOTIVATION 122, 128 (Andrew Elliott &
their classroom goals are to demonstrate their intelligence and avoid looking dumb, even at the cost of learning something new. These students will not ask questions unless the questions promote their intelligence in some way, nor will they seek help from their professors for fear of appearing unintelligent.

By contrast, an individual with an incremental mindset considers intelligence to be fluid – it can increase significantly over time and with effort. Students with an incremental mindset believe they have some control over their level of intelligence because intelligence is not a stable trait. They approach academic challenges with the goal of increasing their skills and intelligence. Their goal in the classroom is to learn. If they cannot immediately master new material, they try new strategies, muster more effort, or seek help.


44 See SELF-THEORIES, supra note 20, at 15-16.


46 See Ying-Yi Hong et al., supra note 25 at 593.

47 Graham, supra note 12, at 295.

48 Id.

49 Clark & Tollefson, supra note 45, at 119.

50 Id.

51 Id.
Dweck says that this fundamental difference in mindset is at the root of how individuals interpret critical feedback and failure.\(^5\) A student holding a fixed mindset will be resistant to feedback, no matter how it is phrased or how often it is given.\(^5\) A student with an incremental mindset will accept feedback in the spirit it was intended – to nurture improvement.\(^5\)

To determine students' mindsets, researchers seek students' responses to eight relatively simple statements.\(^5\) For example, students are asked to agree or disagree that “No matter who you are, you can significantly change your intelligence level,” and “No matter how much intelligence you have, you can always change it quite a bit.”\(^5\) They are also asked whether they agree or disagree that “You have a certain amount of intelligence, and you can’t really do much to change it,” and “You can learn new things, but you can’t really change your basic intelligence.”\(^5\) Dweck’s scale has been used extensively by


\(^{55}\) *Id.* at 178. The Theories of Intelligence Scale is an eight item scale. Four items are representative of a fixed mindset and four items are representative of an incremental mindset. Participants respond to each statement on a six-point Likert scale (1=strongly agree and 6=strongly disagree).

\(^{56}\) *Id.*

\(^{57}\) *Id.*
researchers interested in how implicit theories drive students’ responses,\textsuperscript{58} and the scale has shown itself to be a reliable predictor of individuals’ mindsets.\textsuperscript{59}

Finally, students can and often do hold different mindsets depending on the domain.\textsuperscript{60} For instance, a student may believe that she can really increase her reading skills if she puts forth effort, while, at the same time, she may see the ability to excel in math as something beyond her reach no matter how much effort she devotes to it.\textsuperscript{61} Therefore, based on her mindset, she would likely take on more challenging reading courses and assignments, but she would avoid math classes that would expose her weaknesses and simply waste her time.\textsuperscript{62}

\textsuperscript{58} See, e.g., Ted Thompson & Sarah Musket, Does Priming for Mastery Goals Improve the Performance of Students with an Entity View of Ability? \textit{75 British J. of Educ. Psychol.} 391, 397 (2005); Andrew J. Howell & Karen Buro, \textit{supra} note 30, at 152; David Da Fonseca et al., \textit{When Depression Mediates the Relationship between Entity Beliefs and Performance}, \textit{40 Child Psych. Hum. Dev.} 214, 216 (2009); Hong et al., \textit{supra} note 25, at 590; Mangels et al., \textit{Why Do Beliefs about Intelligence Influence Learning Success? A Social Cognitive Neuroscience Model}, \textit{1 SCAN} 75, 77 (2006); Butler, \textit{supra} note 53, at 968.

\textsuperscript{59} Howell & Buro, \textit{supra} note 30, at 152. Cronbach’s alpha coefficients $\alpha = .82$ for entity items and $\alpha = .85$ for incremental items.


\textsuperscript{61} Dweck & Molden, \textit{supra} note 43, at 123.

\textsuperscript{62} Id. at 124
III. At the heart of students’ reactions is mindset.

A. Students with different mindsets have different views of what being smart means.

Although most law students, if asked, would probably consider themselves smart, smart doesn’t mean the same thing to all law students.63 What does being smart actually mean? Students with different mindsets provide different answers to this question.64

Dweck asked undergraduate students what being smart meant to them.65 Students with a fixed mindset said that doing well on an exam, outperforming their classmates or finding tasks easy indicated they were smart.66 By contrast, students with an incremental mindset said they felt smart when they worked on challenging assignments or were able to explain concepts to others.67 For example, when asked “When do you feel smart?” students with a fixed mindset said, “When I don’t make any mistakes,” “When I finish something fast and it’s perfect.”68 On the other hand, a student with an incremental mindset said he felt smart, “When I work on something a long time and I start to figure it out.”69

63 SELF THEORIES, supra note 20, at 15.
64 Id.
65 Id. at 42.
66 Id.
67 Id.
68 Id.
69 Id.
A student’s definition of what smart means influences the student’s goals and self-efficacy. For instance, a student who believes he is smart when he finishes quickly and the work product is perfect will probably avoid assignments that take significant effort and that will inevitably lead to mistakes. And when he gets feedback that points out his mistakes, it may challenge his self-efficacy because mistakes, to him, mean he’s not all that smart. On the other hand, a student who feels smart when working hard to figure out a difficult problem will seek more challenging work and will not be deterred by mistakes if the mistakes help him eventually figure out the problem.

**B. Students with different mindsets tend to pursue different goals.**

Students who view intelligence as a fixed trait tend to have a performance goal-orientation, and students who view intelligence as malleable tend to have mastery goals. Performance goal-orientation is characterized by wanting to outperform one’s peers and wanting to appear intelligent. Because it is important for performance goal-orientated students to appear intelligent, they will use strategies to promote and preserve that

70 Id.
71 Id.
73 Id.
74 DWECK & MOLDEN, supra note 43, at 124.
75 Id.
These strategies may include avoiding difficult tasks, cheating on assignments, and making external excuses for poor performances. Performance goal-orientated students typically do not take remedial actions to improve unsatisfactory performances because the point of the performance goal is to outperform others on a particular assignment or test. If they fail at that goal and have a fixed mindset towards intelligence, remedial actions won’t help because intelligence cannot be increased and the performance is over.

By contrast, mastery goal-orientated students are more concerned about learning than outperforming their peers or impressing their instructors. Consequently, challenging assignments do not intimidate them. They see challenges as opportunities to learn new things. Poor performances only represent one snapshot in time; the

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76 Dupeyrat & Marine, supra note 41, at 54.
77 Howell & Buro, supra note 30, at 153.
78 See Mindset, supra note 31, at 194.
81 Id. at 600.
82 Dweck & Leggett, supra note 14, at 256.
83 Id.; see Christiansen, supra note 2, at 75-76 (reporting the results of a study that compared students goal orientation and grades in law school and found that those with a mastery goal outperformed students with a performance goal).
84 Id.
performance doesn’t define them. Poor performances are opportunities to learn new strategies or a wake-up call that they need to increase their effort.

C. Students’ mindsets determine their beliefs about effort.

Students’ mindsets affect their view of effort and what it symbolizes. Students with a fixed mindset believe that effort symbolizes lack of intelligence – regardless of how difficult the task. Undergraduate students with a fixed mindset tended to agree with these statements: “If you are really good at something, you shouldn't have to work very hard to do well in that area,” and “I sometimes feel that the more effort you have to put into your school assignments, the less intelligent you probably are.” When asked in their own words to describe the relationship between effort and intelligence, students with a fixed mindset said, “You know you’re good at something when it comes easily to you,” and “If you have to work hard, you must not be very good.”

On the other hand, those with an incremental mindset describe the relationship between effort and intelligence by statements like “Even geniuses have to work hard for

85 See Butler, supra note 53, at 975.


87 Self Theories, supra note 20, at 40.

88 Id.

89 Id.
their discoveries,” and “When something comes easily to you, you don’t know how good you are at it.”

One doesn’t have to stand around a law school long before hearing law students espousing the fixed mindset view of effort. You’re likely to hear, “You know Greg. He’s so smart. He didn’t study at all for finals and got three A’s,” or “Meagan is so smart. She wrote the motion the night before and still got the top grade in the class.” Of course, the problem with the fixed mindset view of effort is that the students who hold that view will not put forth sufficient effort precisely when they most need it – when facing a challenging assignment.

**D. Although students with either mindset react similarly when succeeding, their reactions are surprisingly different when they encounter difficulties, confusion, or perceived failure.**

Regardless of mindset, students maintain high motivation and high levels of confidence when they are succeeding at a task. The different mindsets become apparent, and critical, when they begin having difficulty with a task.

After experiencing failure or critical feedback, students with an entity mindset display helpless behavior. Students displaying helpless behavior focus on failure, blame their lack of ability for the failure, decrease their efforts, reduce their use of learning

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90 *Id.*

strategies, and believe that uncontrollable factors caused the failure. Helpless behavior is not only demonstrated in students with an entity mindset after a perceived failure, but is also present when students are confused by new tasks. Barbara Licht and Carol Dweck demonstrated learned helplessness in an experiment with children of similar academic abilities. The children were evaluated for fixed and incremental orientations and were then presented with ability-appropriate books with five sections and a set of seven questions at the end of the book to test their reading comprehension. Sections one, four and five were the same for all children. However, sections two and three differed. Half of the students with a fixed mindset received books with confusing sentences embedded in sections two and three, and the remaining fixed mindset students received a regular book. The same was true for incrementally-orientated students. Regardless of mindset, students given the regular books, the ones without the confusing sentences, scored indistinguishably on the seven-question test at the end of the book. However, the students who received books with confusing sections carded significantly different test scores

92 Barbara G. Licht & Carol S. Dweck, Determinants of Academic Behavior, 20 Dev. Psychol. 628, 628-29 (1984) (uncontrollable factors may include the professor, the test, the class, the grading, or the curve).
93 Id. at 629.
94 Id. at 630.
95 Id. at 631.
96 Id.
97 Id.
98 Id.
depending on their mindset. Students with an incremental mindset had a mean score of seventy-one percent on the comprehension test, and students with an entity mindset had a mean score of thirty-four percent.

This experiment captures the helpless behavior exhibited by students with a fixed mindset when confronted with difficulty – and in the experiment the difficulty was merely some initial confusion. Despite having similar academic capabilities, the confusing sections in the book were enough to make those with a fixed mindset exert less effort, lose their focus, or use fewer strategies to complete test questions. They essentially gave up when faced with some confusion. The students with an incremental mindset, though, remained relatively unfazed.

E. Students’ mindsets, peer judgments and social comparisons

Studies have supported the notion that fixed-mindset students are motivated to appear intelligent and protect their image. This behavior extends to interactions with other students and peers. In a study by David Nussbaum and Carol Dweck,

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99 Id. at 633.

100 Id.

101 Id.


103 Butler, supra note 53, at 976.
undergraduate students were given critical feedback after a speed reading test.\textsuperscript{104} Students were informed that the test was indicative of general intelligence.\textsuperscript{105} All students, regardless of their actual performance were told they had scored in the thirty-seventh percentile of the student body.\textsuperscript{106} The researchers wanted the result to threaten students’ self-esteem and position them for both upward and downward comparison.\textsuperscript{107} Students were then presented with results of other fictitious participants who had previously participated in the speed reading exercise.\textsuperscript{108} The results included the fictitious participants’ percentile scores and their strategies.\textsuperscript{109} Students in the study could use the fictitious results to look at the speed reading strategies of others who had performed better or worse than the thirty-seventh percentile.\textsuperscript{110} Students with a fixed mindset compared themselves to participants scoring worse than the thirty-seventh percentile, and students with an incremental mindset compared themselves to higher achieving participants.\textsuperscript{111} In order to maintain an image of intelligence, students with a fixed mindset abandoned any hope of learning to improve their skills by studying the strategies of those who

\begin{itemize}
  \item \textsuperscript{104} Nussbaum & Dweck, supra note 80, at 601.
  \item \textsuperscript{105} Id.
  \item \textsuperscript{106} Id.
  \item \textsuperscript{107} Id.
  \item \textsuperscript{108} Id. at 602.
  \item \textsuperscript{109} Id.
  \item \textsuperscript{110} Id.
  \item \textsuperscript{111} Id. at 603.
\end{itemize}
outperformed them. They were more concerned with protecting their egos by comparing themselves with lower-performing students.\textsuperscript{112}

Students also project their mindsets about intelligence onto others.\textsuperscript{113} In a study by Ying-Yi Hong, students with a fixed mindset were more likely to explain performances of others as the result of their fixed traits.\textsuperscript{114} For example, students with a fixed mindset would attribute a good exam result of a classmate by saying her performance was good because she is intelligent.\textsuperscript{115} As predicted by Hong, students with an incremental mindset explained the performance of others with process attributes – if the performance was bad they might explain the outcome by suggesting the student did not feel well.\textsuperscript{116}

\textbf{F. Students with a fixed mindset are not accurate in assessing their own abilities.}

Even when receiving feedback over multiple attempts at tasks, students holding a fixed mindset interpreted their first evaluation as a reflection of their intelligence.\textsuperscript{117} Ruth Butler studied students’ assessment of their own abilities by giving them feedback for

\textsuperscript{112} \textit{Id.}


\textsuperscript{115} See \textit{id.} at 18.

\textsuperscript{116} \textit{Id.} at 19.

\textsuperscript{117} Butler, \textit{supra} note 53, at 975.
multiple attempts, over two time periods, for a test measuring reasoning abilities.\textsuperscript{118} The students received pre-determined feedback that took the form of individual performance or performance relative to their peers.\textsuperscript{119} Subsequent evaluations (that may have been better or worse than the initial evaluation) did not change the students’ belief about their intelligence.\textsuperscript{120} They believed the initial evaluation represented their intelligence and any variation was due to non-ability causes, such as luck, harshness of grading, or difficulty of the assignment.\textsuperscript{121} By contrast, students holding an incremental mindset interpreted their most recent evaluation as an indication of their intelligence.\textsuperscript{122} When feedback improved, most students with fixed and incremental mindsets attributed improved performance to effort, but only the incremental mindset students interpreted an improved performance to an increase in intelligence.\textsuperscript{123} The entity mindset students did not make this interpretation, and their perceived intelligence remained consistent with the very first assessment.\textsuperscript{124}

\textsuperscript{118} Id. at 972.

\textsuperscript{119} Id.

\textsuperscript{120} Id. at 973.

\textsuperscript{121} See id. at 975.

\textsuperscript{122} Id.

\textsuperscript{123} Id. at 974.

\textsuperscript{124} Id.
Surprisingly, students with a fixed mindset view simple knowledge-based tests as indicative of intelligence at the time of the test and forevermore. In one study, researchers pointed to a box and told students that the box contained a test intended to measure an important ability in school. Without ever showing the students the test, the researchers then asked the students to tell them what the test measured. All students answered that the test measured an important school ability. But the students with a fixed mindset also said that the test measured how smart you are and how smart you'll be when you grow up. The students with an incremental mindset did not agree with the latter two answers.

Students with fixed mindsets probably don’t adjust their views of their own abilities very well because they don’t see intelligence or ability as fluid. They don’t have good internal explanations for why their test scores improve or decline. They must, instead, turn to external explanations, such as claiming the test was unfair or the professor wasn’t

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126 *Id.*

127 *Id.*

128 *Id.*

129 *Id.*

130 *Id.*

clear.\textsuperscript{132} Accuracy is not necessary for a student with a fixed mindset who would rather look smart than learn something new.\textsuperscript{133} But students with incremental mindsets depend on accurate assessments of their progress to improve.\textsuperscript{134} They take feedback in the way it was intended – as a measure of their current abilities and as a guide to increase their abilities in the future.

\textbf{G. While praise for ability is often seen as a motivator, praise for ability promotes a fixed mindset.}

Praising students' intelligence or ability for a good answer or paper is tempting for instructors.\textsuperscript{135} It's a way of making the students feel good about themselves and gives the students a boost of short-term self-confidence in their ability.\textsuperscript{136} However, the short-term benefits of praise for ability are over-shadowed by the long-term detrimental effects.\textsuperscript{137} Students praised for ability can develop a performance goal-orientation \textsuperscript{138} and a fixed mindset.\textsuperscript{139}

\textsuperscript{132} See Yngavar Ommundsen et al., \textit{Academic Self Concept, Implicit Theories of Ability and Self-Regulation Strategies}, 49 SCANDINAVIAN J. OF EDUC. RESEARCH 461, 468 (2005)

\textsuperscript{133} Dweck et al., supra note 131, at 646.

\textsuperscript{134} Id. at 646-47.

\textsuperscript{135} See Mueller & Dweck, supra note 72, at 33.

\textsuperscript{136} Id.

\textsuperscript{137} Id. at 33-34.

\textsuperscript{138} Id. at 33.

\textsuperscript{139} Id. at 49.
Praising students for ability or intelligence has been shown to be problematic on several levels. Findings by Claudia M. Mueller and Carol Dweck illuminated some of the problems caused by praising students.140 Under experimental conditions, students were given praise for either ability or effort after a perceived successful math performance (all students were told they answered eighty percent of the problems correctly).141 Praising students for a good performance has the effect of inducing a fixed mindset, and praising students for effort had the effect of inducing an incremental mindset.142 When praising students for their ability the teachers said, “You must be smart at these problems,” and when praising students for effort the students were told, “You must have worked hard at these problems.”143 Students given ability praise attributed their performance to their ability and indicated a performance goal-orientation.144 By contrast, students given effort praise attributed their performance to effort and indicated mastery-goal orientation.145 Furthermore, when the same students experienced an unsuccessful performance, those initially praised with effort explained their unsuccessful performance by lack of effort – in contrast to the students previously praised with intelligence who explained the

140 Id. at 34.
141 Id. at 36.
142 See id. at 37.
143 Id.
144 Id.
145 Id.
unsuccessful performance by lack of ability. The students who explained an unsuccessful performance with a perceived lack of ability displayed less subsequent persistence than unsuccessful students who had made effort attributions.

The significance of these findings is that if students are praised for intelligence, this praise can induce a fixed mindset, and students will start reacting like students with a fixed mindset. So despite praise of ability giving an initial boost of confidence after success, it induces a mindset that leads to doubts about ability, apathy, and displeasure on subsequent tasks.

**H. Students with a fixed mindset do not seek help for their deficiencies.**

One characteristic of students with a fixed mindset is that they do not seek available help, especially when they really need it. Students with a fixed mindset believe that seeking help shows weakness or ignorance; therefore, seeking help to cure deficiencies threatens the self-image of a student with a fixed mindset. Researchers exposed this phenomenon in a study conducted at the University of Hong Kong, where all classes are taught in English. The students in the study completed Dweck's Implicit Theory Scale,

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146 *Id.* at 37.

147 *Id.*

148 *Id.* at 49.

149 Ying-Yi Hong et al., *supra* note 25, at 593-94.

150 *See id.* at 593.

151 *Id.*
and researchers identified students’ proficiency in English from their standardized entry examination. Students with a score below a B were classified as low performing in English. All students in the study were asked if they would sign up for a free, optional remedial English class. The researchers found surprising results. For those who scored in the A and B range, there was no significant difference between students with a fixed mindset and those with an incremental mindset who said they would take the remedial class. However, for students making below a B, the low-performing students, the difference was somewhat surprising. Low-performing students with an incremental mindset said they would take the course to improve their English. On the other hand, a significant portion of the low performing students with a fixed mindset chose not to take the course. Those students preferred to remain deficient in a needed skill rather than to expose their weaknesses.

Despite knowing that help is available to overcome deficiencies, those with a fixed mindset overwhelmingly choose to avoid it, even when they are told that the skills are essential for future success. This phenomenon was again displayed in a study by

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152 Id.
153 Id.
154 Id.
155 Id. at 593-94.
156 Id.
157 Id.
158 Id. at 597.
Nussbaum and Dweck with a sample of engineering students.\textsuperscript{159} The students were randomly assigned to one of two groups; in one group the researchers induced a fixed mindset and in the other group researchers induced an incremental mindset.\textsuperscript{160} The students were told to complete four assignments, and they were told that these assignments evaluated the skills in areas crucial to becoming an engineer.\textsuperscript{161} Regardless of how the students actually scored on the assignments, all students were told they received full credit on three of the four assignments (a score of five out of five) and only scored a two out of five on the fourth assignment.\textsuperscript{162} The engineering students were then given an option to pick one of the four assignments, watch a tutorial on that test section, and then retake that section.\textsuperscript{163} All students opted to watch a tutorial.\textsuperscript{164} But the students’ choice of which tutorial to watch and which assignment to retake differed significantly. Students with an incremental mindset chose to watch a tutorial for the section on which they had scored lowest.\textsuperscript{165} The students with a fixed mindset chose to watch the tutorial and retake the test for the assignment on which they had already scored a perfect five out of five.\textsuperscript{166}

\textsuperscript{159} Nussbaum & Dweck, supra note 80, at 604.

\textsuperscript{160} Id.

\textsuperscript{161} Id.

\textsuperscript{162} Id.

\textsuperscript{163} Id. at 605.

\textsuperscript{164} Id.

\textsuperscript{165} Id.

\textsuperscript{166} Id.
The students with a fixed mindset ignored their deficiencies and took the test that assured them success. They were motivated only to defend their image, and that led them to actually avoid learning something crucial to their chosen field.\footnote{167}

**I. Electrical brain potentials show that students with a fixed mindset process feedback differently than students with an incremental mindset.**

Differences in behavioral responses to feedback are well documented for fixed and incremental learners.\footnote{168} Additionally, research now shows that after receiving negative feedback, a difference in brain electrical activity appears for learners with different mindsets.\footnote{169} One study divided four hundred and sixty-four undergraduate students into groups having either strong entity or incremental orientations.\footnote{170} The students participated in a three hour, or 476 general knowledge question test.\footnote{171} During the test brain electrical activity (EEG) was recorded.\footnote{172} All questions had a one word answer.\footnote{173} After each question the students gave their best answer and then rated their confidence in

\footnote{167 Id.}

\footnote{168 Mangels et al., supra note 58, at 82.}

\footnote{169 Id. at 77.}

\footnote{170 Id. at 77 (Dweck’s 1999 Implicit Theories Scale was used to measure mindsets. Students scoring 3 or less on the entity items and students scoring four or more on the incremental items were considered suitable participants).}

\footnote{171 Id.}

\footnote{172 Id. at 78.}

\footnote{173 Id. at 77.}
their answer on a 1–7 scale. The feedback to students came as a red asterisk for a wrong answer and a green asterisk for a correct answer. If the student got the answer wrong, the correct answer then flashed up on the screen. After completing the test the students were given a short break and then tested again on the questions they initially got wrong. The students were unaware that they would be retested.

As in other studies, students with an incremental mindset improved their scores significantly more than students with an entity mindset. More importantly for this experiment, brain activity varied dramatically between the groups. Students with a fixed mindset, relative to those with incremental mindset, displayed larger brain activity at frontal electrodes around 300 milliseconds following negative feedback. The larger frontal brain response suggests hyper-responding to negative feedback in students with fixed mindsets. Moreover, the enlarged frontal response was correlated with self-report measures of threat to self-perception.

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174 *Id.* at 78.
175 *Id.*
176 *Id.*
177 *Id.*
178 *Id.*
179 *Id.* at 79.
180 *Id.* at 82-3 (regardless of whether the students indicated low or high confidence in their answer the negative feedback triggered the same brain activity).
181 *Id.* at 83.
When presented with the correct answers, students with a fixed mindset displayed less brain activity related to semantic processing than students with an incremental mindset. Semantic processing is considered necessary for future memory retrieval.\textsuperscript{182} Unlike the students with an incremental mindset, the students with a fixed mindset were not processing the correct answers as deeply when they appeared on the screen.\textsuperscript{183} Essentially, the students with a fixed mindset processed the fact that they got the answer wrong, but stopped processing after that. Therefore, they had poorer recall later when asked to answer the questions again.

This and other studies on how students’ mindsets drive their reactions to feedback surely have serious implications for legal education.\textsuperscript{184} Law schools train students for a career that will regularly challenge them.\textsuperscript{185} Law professors know that they cannot give students all of the skills they will need in the course of their careers.\textsuperscript{186} The law changes, technology changes, and clients present novel questions that haven’t yet been explored. What we hope for in a legal education is to show students how to learn from their experiences and mistakes and where to look when they need more help.\textsuperscript{187} Students will need to enter their careers knowing that they do not yet have all of the skills they need but

\textsuperscript{182} \textit{Id.} at 82.

\textsuperscript{183} \textit{Id.} at 84.

\textsuperscript{184} \textit{See infra} notes 213-277, and accompanying text.

\textsuperscript{185} \textit{SULLIVAN ET AL., supra} note 2, at 12-45.

\textsuperscript{186} \textit{Id.} at 45.

\textsuperscript{187} \textit{See id.} at 33-43.
confident that they can acquire them as they develop as lawyers. These studies tend to cast doubt on our hopes for many students. If we do nothing to change students’ fixed mindsets, how can we expect them to become life-long learners?

Table 1. The Variance between a Fixed and Incremental Mindset

<table>
<thead>
<tr>
<th></th>
<th>Incremental Mindset</th>
<th>Fixed Mindset</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal orientation</strong></td>
<td>Mastery orientated</td>
<td>Performance orientated</td>
</tr>
<tr>
<td><strong>Intelligence</strong></td>
<td>Intelligence is malleable</td>
<td>Intelligence is fixed</td>
</tr>
<tr>
<td><strong>Critical feedback</strong></td>
<td>Uses information to improve</td>
<td>Comment on intelligence</td>
</tr>
<tr>
<td></td>
<td>Changes strategies</td>
<td>Displays helpless behavior</td>
</tr>
<tr>
<td><strong>Formative assessment</strong></td>
<td>Indicator of present intelligence</td>
<td>Indicator of fixed intelligence</td>
</tr>
<tr>
<td><strong>Being smart</strong></td>
<td>Figuring out a difficult task</td>
<td>Acing a simple task</td>
</tr>
<tr>
<td><strong>Effort</strong></td>
<td>Intelligence requires effort</td>
<td>Effort sign of weakness</td>
</tr>
<tr>
<td><strong>Praise for intelligence</strong></td>
<td>Can nurture a fixed mindset</td>
<td>Devastated by subsequent failures</td>
</tr>
<tr>
<td><strong>Help</strong></td>
<td>Willingly seeks help for deficiencies</td>
<td>Does not seek help for deficiencies</td>
</tr>
</tbody>
</table>

\[188 \text{Id. at 45.}\]
IV. Current advice on improving feedback fails to take mindset into account.

While many in legal education have suggested ways to improve feedback, the results have not been promising. Professors who teach skills classes have been providing students with formative assessments for decades. They have also been engaging in dialogue about feedback in conferences, on listservs, and in academic articles. Although they do not always agree on the method of assessment, most skills professors see

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191 Enquist, supra note 7, at 1120 (noting that “legal writing faculty have been convening for over fifteen years now at the Legal Writing Institute national conferences to discuss all aspects of their teaching responsibilities, including critiquing and evaluating law students’ writing”).

192 See, e.g., Davis, supra note 189; Goode, supra note 2, at 225; Shalleck, supra note 190, at 110.
feedback as critical to students’ learning.\textsuperscript{193} In fact, legal writing experts ranked providing students with individual feedback as “one of the most important, if not the most important, teaching moment legal writing professors have.”\textsuperscript{194}

Victor Goode argued that feedback has received such little attention in legal education because legal educators believe feedback is a very simple process.\textsuperscript{195} Goode was perhaps one of the first legal educators to point out that feedback does not always improve performance; it can also impede performance.\textsuperscript{196} Goode recognized that the purpose of clinical education is to help students in the process of becoming life-long learners,\textsuperscript{197} and he suggested that feedback should be timely, specific, focused on the goals of the task, non-judgmental, and it should include praise that focuses on the task rather than the person.\textsuperscript{198}

Feedback may have received little attention when Goode wrote of it a decade ago. But now, a chorus of professors have echoed the importance of feedback to law students’

\textsuperscript{193} Enquist, supra note 7, at 1126, 1156-63; Gerald F. Hess, Listening to Our Students: Obstructing and Enhancing Learning in Law School, 31 U.S.F. L. REV. 941, 944 (1997) (“Frequent evaluation and feedback allow the students and teacher to monitor progress and make appropriate adjustments during the course.”); Sergienko, supra note 2, at 465 (arguing that faster assessments frequent assessments possible, and frequent assessments “provides students with the information they need to improve, promoting student learning”).

\textsuperscript{194} Enquist, supra note 7, at 1129.

\textsuperscript{195} Goode, supra note 2, at 225.

\textsuperscript{196} Id. at 238.

\textsuperscript{197} Id. at 245.

\textsuperscript{198} Id. at 258-63 (noting that praise focusing on task rather person would sound like this: “Your motion papers were very good. You modified the motion from the form book and ordered the facts in a way that really underscored our legal argument.”)
learning and have attempted to address the problem identified by Goode – that even when some students receive frequent feedback, their skills show no improvement.199

Despite professors’ carefully crafted feedback, their efforts haven’t paid off. Legal writing is one area where professors have been providing frequent and thoughtful feedback.200 For decades, legal writing professors have been experimenting with different kinds of assessments to meet their pedagogical goals.201 They have incorporated formative assessment into their curriculum.202 However, students are still seen as poor writers when they graduate from law school.203 Scholars have offered different reasons for this disconnect between the amount of feedback and the seeming lack of progress. Some have suggested that students don’t know how to effectively use feedback to improve their writing.204 Others suggest that professors need to improve the way they give feedback.205 And some argue that professors just can’t do much about students’ bad writing in the first year of law school.206

199 Alaka, supra note 8, at 2 (noting that her “study reveals that many writing education practices, though well grounded in theory, fail to achieve desired results”).

200 See generally Enquist, supra note 7.

201 Sullivan et al., supra note 2, at 104-11; Enquist, supra note 7, at 1151-56.

202 See Enquist, supra note 7, at 1125-42.

203 Alaka, supra note 8, at 2-3.

204 Id. at 3-4.

205 Rodriguez, supra note 2, at 210-11.

Recent suggestions about improving feedback are wide-ranging and have no unifying theory. The least controversial suggestions are probably those urging professors to give clear and fair critiques. Some authors suggest changing students’ goal-orientation – from performance to mastery. One author suggests giving students more autonomy in the writing process is key to overcoming defensive, disengaged, and unprepared students. Other authors suggest using self-assessments to create better student responses to feedback. Some advocate including positive feedback to help increase students’ self-efficacy. Other recommendations include peer-review, collaboration, and journaling.

V. Many law students have a fixed mindset and will not respond well to feedback.

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207 Ruth Ann McKinney, Depression and Anxiety in Law Students: Are We Part of the Problem and Can We Be Part of the Solution?, 8 LEGAL WRITING: J. LEGAL WRITING INST. 229, 248, 252.

208 Christiansen, supra note 2, at 91.


211 See, e.g., McKinney, supra note 207, at 248.

While authors continue to propose solutions to the assessment problem, a different problem precedes it – students with a fixed mindset respond to feedback in maladaptive ways.\textsuperscript{213} Therefore, unless we confront the mindset problem, our efforts at designing better assessments will fall short of their intended mark.

Assessments should be fair and accurate.\textsuperscript{214} But fair and accurate assessments do not spur learning in the fixed mindset. Like the students wearing the EEG caps, students with a fixed mindset are interested only in where they stand.\textsuperscript{215} Did they get it right or wrong? They tend to disengage from the feedback after they get their answer.\textsuperscript{216} And no matter how fair the assessment, students with a fixed mindset will not see it that way if their score doesn’t reflect their fixed perception of their ability.

While performance goals stifle learning and mastery goals increase it,\textsuperscript{217} researches have shown that a students’ mindset significantly predicts a student’s goal choice.\textsuperscript{218} Students with a fixed mindset divert their goals away from learning because they seek to validate their intelligence – a fixed trait.\textsuperscript{219} The study with engineering students demonstrates the way fixed mindset students avoid a learning goal even when they are

\begin{itemize}
  \item \textsuperscript{213} See supra notes 63-188 and accompanying text.
  \item \textsuperscript{214} Munro, supra note 2, at 105-10.
  \item \textsuperscript{215} Mangels et al., supra note 58, at 83.
  \item \textsuperscript{216} Id. at 84.
  \item \textsuperscript{217} Dweck & Leggett supra note 14, at 259.
  \item \textsuperscript{218} Id.
  \item \textsuperscript{219} Id.
\end{itemize}
urged to accept it.\textsuperscript{220} In that study, it didn’t matter that the students were told that the knowledge being tested was essential for their future jobs as engineers.\textsuperscript{221} The students with a fixed mindset chose to prove their competence by taking a test they had already mastered.\textsuperscript{222} For students with an incremental mindset, choosing a learning goal was easy. Because they believed that their intelligence and competency could increase, they opted to learn something new.\textsuperscript{223}

Giving students with an incremental mindset autonomy in the learning process would probably prove successful. Students with an incremental belief take on challenging work.\textsuperscript{224} They venture into areas where they might struggle but where they believe they will learn. On the other hand, students with a fixed mindset prefer challenge only up to a point.\textsuperscript{225} They like challenges that they are pretty sure they can meet without too much effort.\textsuperscript{226} But they avoid challenges that seem out of their reach.\textsuperscript{227} Simply giving students more autonomy probably will not change whether they use the autonomy to push themselves or use it to prove themselves.

\begin{flushright}
\textsuperscript{220} Nussbaum & Dweck \textit{supra} note 80, at 605. \\
\textsuperscript{221} \textit{Id.} at 604. \\
\textsuperscript{222} \textit{Id.} at 605. \\
\textsuperscript{223} \textit{Id.} \\
\textsuperscript{224} \textit{SELF-THEORIES} \textit{supra} note 20, at 18. \\
\textsuperscript{225} \textit{Id.} at 15. \\
\textsuperscript{226} \textit{Id.} \\
\textsuperscript{227} \textit{Id.} \\
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Students with an incremental mindset would probably welcome more self-assessments. They are fairly accurate about their current abilities,228 and they seek to find ways to improve them.229 Probing their own strategies would probably help them learn which strategies worked and which didn’t. On the other hand, students with a fixed mindset do not hold an accurate view of their abilities.230 Furthermore, because they believe that abilities don’t really change, they aren’t interested in trying new strategies to improve.231

Self-efficacy, motivation, and mindset are a tangled web. Some researchers argue what seems intuitively true – that high self-efficacy motivates students to take on academic challenges.232 These researchers advocate helping students set achievable goals because every time students experience success, their self-efficacy will increase as will their motivation to engage in that task in the future.233 Dweck and other researchers have shown, however, that encountering failure or difficulties quickly shatters some students’ self-confidence.234 So while students’ confidence in their abilities keeps them motivated as

228 DWECK & MOLDEN, supra note 43, at 127.

229 Id. at 124.

230 Sergienko, supra note 2, at 482 (noting that self-assessment tends to be biased and that “many students want to defend their work instead of learning from its limitations”).

231 DWECK & MOLDEN, supra note 43, at 125.

232 McKinney, supra note 207, at 236.

233 Id.

234 IMPLICIT THEORIES, supra note 20, at 51-52.
they are succeeding, failure delivers a blow to these students whose confidence has been trained with achievable successes.235

The practice of law is not designed to deliver a series of achievable successes as one progresses as a lawyer. Law students need to be trained to handle difficulty and failure, not to brim with confidence when they succeed. To withstand the difficulties of practice, law students need an incremental mindset because even students expressing low confidence in their abilities were better able to deal with failure if they also had an incremental outlook.236 And when faced with difficulty, these students with incremental mindsets outperformed students with high-confidence and a fixed mindset.237 While the high-confidence students merely gained confidence that they had a certain level of intelligence, once they began failing, they could only explain their failures by assuming they were lacking intelligence. The students with an incremental mindset did not develop confidence in their intelligence; they developed confidence that they could increase their intelligence through additional effort or different strategies. This kind of confidence can withstand the difficulties and failures that accompany the practice of law.

Although peer review and collaboration arguably give students a better feel for the kind of feedback they will receive once they graduate, it provides no promise in shifting


236 Id.

237 Id. at 125. This disconnect between what students with an incremental mindset say about their abilities and how they perform might explain the “surprising” result Leah Christiansen found in her study on students goals and their success in law school. Christiansen found that higher class rank correlated with lower self-efficacy. Christiansen, supra note 2, at 77.
students’ mindsets. Students with a fixed mindset consistently show no interest in learning from their peers.\textsuperscript{238} When given the opportunity to compare themselves with others, they consistently choose to focus on those whose performance was worse than their own.\textsuperscript{239} Because their goals are to prove their competence rather than gain competence,\textsuperscript{240} it’s doubtful they will learn much from the exercise.

Finally, journaling holds promise for changing students’ reactions to feedback, especially when targeted to change students’ mindsets. Professors can design journaling exercises to promote an incremental mindset with questions like, “Every assignment makes you smarter. How did this assignment make you smarter?” Professors could focus students’ attention on their strategies and effort by asking, “Successful writers start early and write several drafts. Did you employ this strategy? How many drafts did you complete? What did you learn from each draft?” Journaling can be an effective way to reinforce an incremental mindset and to engage students in discussions about the efforts and strategies that will make them successful. But without a focus on mindset, journaling will also continue to ignore the crucial roadblock students erect to transformative feedback.

\textsuperscript{238} Nussbaum & Dweck, supra note 80, at 603.

\textsuperscript{239} Sergienko, supra note 2, at 483 (noting that some students grade harshly when assessing their peers to increase their own sense of ability).

\textsuperscript{240} Dweck & Leggett, supra note 14, at 259.
A. Pilot study shows that a significant portion of students enter law school with a fixed mindset.

This paper is based on the Authors’ hypothesis that a significant proportion of law students hold a fixed mindset towards intelligence, and their fixed mindsets are at the heart of why law students react badly to critical feedback. To test one part of this theory, we used Dweck’s Implicit Theories of Intelligence Scale to measure the mindsets of an incoming first-year law school class at a state-funded law school in the southwest.\textsuperscript{241} During orientation week, the new law students were asked to complete the Implicit Theory of Intelligence Inventory.\textsuperscript{242} When the students completed the inventory, they had not yet taken any classes and had not been exposed to the law school environment for more than a few days. One hundred students completed the assessment.\textsuperscript{243} Thirty-one students displayed a fixed mindset.\textsuperscript{244} Sixty-five students displayed an incremental mindset, and four students scored equally for both incremental and fixed mindset.\textsuperscript{245} Although this sample is too small to infer to the population of first-year law students nationwide, it does serve as an indicator of what we might expect with an incoming class of law students because these numbers also fall in line with other student populations whose mindsets

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{241} Carrie Sperling & Susan Shapcott, \textit{Do Law Schools Induce Fixed Mindsets in Students?} (2011) (unpublished manuscript on file with Authors).
\item \textsuperscript{242} University IRB approval was received prior to collecting data (on file with Authors).
\item \textsuperscript{243} Sperling & Shapcott, \emph{supra} note 241.
\item \textsuperscript{244} \textit{Id.}
\item \textsuperscript{245} \textit{Id.}
\end{enumerate}
\end{footnotesize}
have been measured over the years. Generally, most populations are about evenly split, with forty percent of the students holding a fixed mindset, forty percent holding an incremental mindset, and twenty percent falling somewhere in the middle. Although more testing should be done to develop a better idea of how many entering law students tend to have a fixed mindset and whether the percentages change depending on the law school, we think it is reasonable to assume the mindsets captured in our study are a fairly good representation of the first-year law students’ mindsets prior to entering the law school experience. Thus, based on our pilot study results, almost one third of our students will display maladaptive reactions to critical feedback – no matter how thoughtful, hopeful or positive the assessment.

**B. Students’ mindsets are evident in their responses to feedback in law school.**

Students entering law school are typically high achievers who have experienced academic success in high school and college. They enter law school with a higher perception of themselves and a higher sense of well being than other recent college

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246 Dweck & Molden, supra note 43, 123.

247 Id.

248 Hess, supra note 2, at 941 (noting that most students beginning law school “are bright adults who have succeeded academically in college”).

249 See Lawrence S. Kreiger, Institutional Denial about the Dark Side of Law School, and Fresh Empirical Guidance for Constructively Breaking the Silence, 52 J. LEGAL EDUC. 112, 114 (2002); Martin & Rand, supra note 2, at 206.
graduates.\textsuperscript{250} For many, law school will be the first arena where they will struggle with the material, where they most likely won’t rank at the top of the class, and where they will get extensive feedback on their writing\textsuperscript{251} and, perhaps, other professional skills. Law school, for students with a fixed mindset, can deliver a devastating blow to self-esteem and motivation.

Student’s reactions to feedback in legal writing classes provide a good example of how their different mindsets play out in the law school setting. Legal writing professors have long acknowledged the importance of formative assessment\textsuperscript{252} – giving feedback throughout the semester aimed at improving students’ skills. These professors report spending more time on assessment and critique than on their other job responsibilities.\textsuperscript{253} And students in legal writing classes say they receive far more critical feedback from their legal writing professors than they received from their professors in college.\textsuperscript{254}

\textsuperscript{250} Lawrence S. Krieger, \textit{The Inseparability of Professionalism and Personal Satisfaction: Perspectives on Values, Integrity and Happiness}, 11 CLINICAL L. REV. 425, 433 (2005) (reporting incoming law students were happier, better adjusted and more idealistic than a comparison undergraduate sample).

\textsuperscript{251} Alaka, \textit{supra} note 8, at 26-29; Jennifer Jolly-Ryan, \textit{Promoting Mental Health in Law Schools: What Law Schools Can Do for Law Students to Help them Become Happy, Mentally Healthy Lawyers}, 48 U. LOUISVILLE L. REV. 95, 111 (2009) (observing “some law students have the very real problem of adjusting to the new demands of law school, particularly when they do not perform as well academically. The result is that the majority of law students feel frustrated, devalued, disengaged, and shut out from the highest rewards and prizes law schools have to offer.”).

\textsuperscript{252} See Enquist, \textit{supra} note 7.

\textsuperscript{253} Alaka, \textit{supra} note 8, at 5, 49-50.

\textsuperscript{254} \textit{Id.} at 20-21, 25.
describe the sheer amount of professor's ink on their papers as unexpected.\textsuperscript{255} When something unexpected happens, humans search for a cause or a meaning.\textsuperscript{256} The meaning they derive from feedback arises from their underlying theories of intelligence and drives their responses.\textsuperscript{257}

Students with a fixed mindset don’t have much with which to explain their perceived failings. They can explain the failings by having to admit that they aren’t really all that intelligent, or they may explain the failings by discounting them, i.e., the professor was unclear or doesn’t know what good writing is. On the other hand, those with an incremental mindset have different explanations for the abundant markings. They can explain the markings by concluding that they failed to put enough effort into the paper or that they just haven’t had enough time to master the material.\textsuperscript{258} They welcome the marks as opportunities to learn.\textsuperscript{259} The markings are not a comment on their intelligence.\textsuperscript{260}

\textsuperscript{255} \textit{Id.} at 27-28.

\textsuperscript{256} BERNHARD WEINER, AN ATTRIBUTIONAL THEORY OF MOTIVATION AND EMOTION (1986).

\textsuperscript{257} Dweck & Molden, supra note 43, at 122.

\textsuperscript{258} Dweck recounts the statements children with incremental mindsets make when they encountered problems they couldn’t solve. They said, “The harder it gets, the harder I need to try,” and “I should slow down and try to figure this out.” SE\textsc{lf} THE\textsc{ories}, supra note 20, at 9.

\textsuperscript{259} Dweck describes students with an incremental mindset reacting to difficult problems with statements like, “I was \textit{hoping} this would be informative,” or “I \textit{love} a challenge.” \textit{Id.} at 10.

\textsuperscript{260} An incremental-minded student who failed to solve difficult problems in one of Dweck’s studies proclaimed, “Mistakes are our friend.” \textit{Id.}
Instead, they provide an opportunity to become smarter. That’s why the first year legal writing course offers the perfect opportunity to study mindset in action.

How does a student with a fixed mindset react to early feedback in law school? Fortunately, professors interested in feedback have documented different students’ reactions.261 Sheila Rodriguez describes two different first-year students reacting to feedback in their writing classes.262 One student said: “I viewed legal writing as a new challenge that I needed to work on to get better. I never viewed myself as having control. I still do not feel I have control over legal writing. I have the tools to write well, but it is still a challenge.”263 Another student commented on an email from her writing professor, who thought she was not grasping the CRAC organizational paradigm.264 That student said, “The email was tactfully worded and showed [the professor’s] concern and desire to help me, but for me . . . it was cutting. I burst into tears immediately and contemplated rash thoughts like dropping out of law school. Certainly this email meant that I could never have a successful career as a lawyer.”265

The two students Rodriguez identified demonstrate the two different mindsets. The first student showed a discomfort with the new skill that she was learning, but she viewed legal writing as a challenge, something she needed to work on to get better. The second

261 See, e.g., Anne M. Enquist, Unlocking the Secrets of Highly Successful Legal Writing Students, 82 St. John’s L. Rev. 609 (2008); Rodriguez, supra note 2.

262 Rodriguez, supra note 2, at 209.

263 Id.

264 Id.

265 Id.
student saw a helpful comment, pointing out a deficiency in her paper, as an indication not of her legal writing skills at this early stage in law school, but as a comment that she would “never have a successful career as a lawyer.” Like the children in Dweck’s study who said the test in the box was a measure of how smart they were and would ever be, this student saw feedback on an early legal writing assignment as an indication of what kind of lawyer she would ever be.

Anne Enquist published a valuable study attempting to unlock strategies of successful legal writing students while exposing the unsuccessful students’ strategies. Her article provides a good example of how different students respond to feedback:

Looking at the three students who were disappointed with their pre-trial brief grades—Marie, Andy, and Teresa—one cannot help but notice that the degree to which they blamed someone other than themselves for their lack of success correlated almost exactly with how they eventually did in the course. Marie stayed stuck on blaming Professor Lee; as a result, she did little or nothing to address her problems and ended up with the lowest grade on the appellate brief and the lowest grade in the course. Andy never fully gave up on the idea that Professor Lee was somehow at fault for his lack of success, but he did acknowledge and address some of his shortcomings; as a result, his grades improved one full letter grade, ending the course with a B minus. Teresa, by contrast, never seemed to look for a scapegoat on which to blame her lack of success on the pre-trial brief. Instead, she shifted into

266 See supra note 125.

267 Enquist, supra note 261.
“problem-solving mode,” tackling each weakness and addressing each problem. As a result, she improved a full letter grade on the appellate brief, ending the course with a B plus.\textsuperscript{268}

The students in Enquist's study demonstrate that despite a professor's hard work in providing students with constructive feedback, some students refuse to recognize the value of the feedback and instead blame the professor for their failings. The students Enquist describes also have different mindsets, and their mindsets control how they view themselves and, consequently, how they will react to critical feedback.

Teresa displayed an incremental mindset. She took the comments as they were intended, as a way to improve her writing. She gave more effort and rose to the challenge of solving a new problem. Teresa behaved like the incremental-oriented children in Dweck's studies. When they faced unsolvable problems, one child rubbed his hands together and proclaimed, “I love a challenge.”\textsuperscript{269}

Marie displayed a fixed mindset. Like many of the fixed mindset students in earlier studies, she displayed helpless behavior. Instead of putting forth more effort to improve, she seemingly abandoned attempts to use the feedback she received to improve her writing. She reacted defensively, attributing her lack of success to an external cause, her professor.

Andy also displayed a fixed mindset, only he was able to accept the fact that to perform well in the class he had to make the changes the professor suggested. Students

\textsuperscript{268} \textit{Id.} at 667.

\textsuperscript{269} \textit{Implicit Theories}, \textit{supra} note 20, at 10.
with fixed mindsets tend to have performance goals. And those performance goals can help students do what is necessary to achieve an acceptable grade. But the cost of maintaining these performance goals can be devastating. They can lead students to become anxiety ridden and depressed. They can also take the excitement out of learning. Finally, failure to meet performance goals can deflate students’ self-esteem.

Although many students can make it through law school driven primarily by performance goals, the practice of law offers challenges unmatched in difficulty to the law school curriculum. Students who are motivated solely by performance goals are bound to be shaken when they finally take on a challenging practice.

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270 See supra notes 74-85 and accompanying text.

271 IMPLICIT THEORIES, supra note 20, at 15-16.

272 Id. at 47-49; Jolly-Ryan, supra note 251, at 102-03 (lamenting the majority of law students enter law school enthusiastic, optimistic, and happy, with positive attitudes and hopeful ambitions but research indicates that their enthusiasm, confidence, and mental stability quickly decline their first year in law school); Stephen M. Siptroth, Note, Forming the Human Person: Can the Seminary Model Save the Legal Profession? 2007 BYU EDUC & L.J. 181, 181-83 (2007) (blaming the format of legal education for increased incidence of depression, anxiety and substance abuse in law students and lawyers).

273 Id. at 29-32.

274 Id.

275 Id. at 47-50.

276 See id. at 15-16.

277 SULLIVAN ET AL., supra note 2, at 145.
VI. To reach all students with formative assessments, we must first change students’ mindsets.

Although the momentum in legal education is coalescing around assessment,\textsuperscript{278} the debate about feedback in law schools is nothing new.\textsuperscript{279} Law professors, especially those who teach legal skills courses, have been writing about the importance of feedback and how to improve it for decades.\textsuperscript{280}

Like others who have commented on the lack of meaningful assessment in law schools, the ABA has criticized the traditional law school learning environment for failing to provide students with feedback that will assist them in the learning process.\textsuperscript{281} Law schools have long relied mostly on summative assessments rather than formative assessments to track students’ comprehension of the material.\textsuperscript{282} However, summative assessments merely measure whether students have ultimately grasped the material.\textsuperscript{283}

\textsuperscript{278} See supra note 1.

\textsuperscript{279} See, e.g., Barnett, supra note 2; Martin & Rand, supra note 2; Rodriguez, supra note 2.

\textsuperscript{280} See supra note 189.

\textsuperscript{281} Erwin Chemerinsky, Radical Proposals to Reform Legal Pedagogy: Rethinking Legal Education, 43 HARV. C.L. L. REV. 595, 597 (2008) (explaining that large class sizes coupled with lack of teaching assistants results in a lack of student feedback at most law schools).

\textsuperscript{282} Martin & Rand, supra note 2 at 221, 226; Cleveland, supra note 2 at 7; ABA Report of Outcome Measures Committee supra note 2, at 9-10 (noting at most law schools, a law student’s grade in each course and success in law school is based entirely on one final examination at the end of the semester).

\textsuperscript{283} See ABA Report of Outcome Measures Committee supra note 2, at 9-10 (arguing that while law schools’ current reliance on summative examinations do have some value in
These assessments do not assist the students when they are actually trying to learn the material.\textsuperscript{284}

Assessment is a crucial part of the learning process.\textsuperscript{285} Students attempting to learn new skills and understand a new field of knowledge must have some way to gauge whether they are learning the skills a new lawyer must possess.\textsuperscript{286} Therefore, formative feedback is essential to improvement.\textsuperscript{287} We cannot improve if we do not know where our weaknesses assessing student’s competency and knowledge base, they do little to foster or evaluate professional skills, professionalism and community building, leave students without a sense of the relationship between their study habits and their performance and may in fact impede learning).

\textsuperscript{284} See Jolly-Ryan, \textit{supra} note 251, at 112 (suggesting that as a result of the lack of frequent, meaningful, and helpful feedback, the typical law student is left feeling inadequate, anxious, and depressed and ultimately perplexed about the material he or she is trying to learn); \textit{see also} ABA Report of Outcome Measures Committee \textit{supra} note 2, at 9 (noting that current grading practices are arguably less designed to assess students then to weed out the weakest ones).

\textsuperscript{285} SULLIVAN ET AL., \textit{supra} note 2, at 7 (Carnegie Foundation for the Advancement of Teaching 2007) (explaining that summative assessments in law school are also extremely high-stakes; the essay examinations at the end of the first two semesters in each doctrinal course will determine students’ relative ranking, opening academic options for the remainder of some students’ legal education and legal careers and closing off options for other students); Barnett, \textit{supra} note 2, at 652 (“Receiving feedback on their own ideas and using the feedback to refine their thinking during the first year provides the students with vital personal guidance at an important stage in their learning.”).

\textsuperscript{286} Barnett, \textit{supra} note 2.

\textsuperscript{287} \textit{Id.} Even the term “formative” assessment is meaningful only to the incremental mindset. A student with a fixed mindset would view every assessment as a summative rather than a formative assessment because intelligence is fixed, not something that is still being formed.
lie. However, simply satisfying a perceived need for more assessment will not ensure that our students learn more.

**A. Mindset can change and does change based on environment, and law school probably breeds a fixed mindset environment.**

Carol Dweck’s research, along with the wealth of studies that have followed, not only exposed the way mindsets drive students’ reactions to perceived failure, they have also demonstrated that mindset, like intelligence, is malleable. Researchers have successfully changed students’ mindsets through using simple exercises like reading assignments that teach students intelligence continues to develop over the course of a lifetime and by priming a certain mindset in students through references to either fixed or incremental beliefs. Evidence tends to suggest that a student’s environment has a significant impact on her mindset. A student in an environment full of incremental mindsets will probably maintain an incremental mindset herself. But a student in a fixed-mindset environment will probably resort to displaying fixed-mindset characteristics.

288 Dweck & Leggett, supra note 14, at 256.


290 Id. at 132.


292 Id.
Law students probably struggle to maintain an incremental mindset in law school because the law school environment probably breeds a fixed mindset. Students experience the fixed mindset pervasive in law school as soon as they decide to apply. The Law School Admissions Council (LSAC), the body that administers the Law School Admissions Test (LSAT), suggests that one’s performance on the LSAT is stable and taking an LSAT for a second time is unlikely to improve students’ scores unless illness or anxiety prevents students from performing to their potential during the first test.\textsuperscript{293} LSAC clothes its instructions in a fixed-mindset framework: “If your score is a fairly accurate indicator of your ability, it is unlikely that taking the test again will result in a substantially different score. You should also be aware that there is a chance your score will drop.”\textsuperscript{294} This statement on LSAC’s website indicates to students that their ability is a fixed entity and a single test score could capture that fixed ability.\textsuperscript{295} Furthermore, if students retake the

\textsuperscript{293} \textit{LSAT Repeater Data}, http://www.lsac.org/LSACResources/Data/PDFs/RepeaterData.pdf (last visited Feb. 23, 2011) (stating “[i]ndividuals need not take the LSAT more than once unless they believe some circumstance, such as illness or anxiety, prevented them from performing as well as they might have expected.”); see Gordon, \textit{supra} note 2, at 1682 (“The LSAT people say that LSAT preparation courses do not help, since the LSAT tests knowledge and skills that cannot be improved by last minute cramming. Regardless of what the LSAT people say, however, you will notice that there are several suspiciously solvent LSAT prep course companies who are happy to take your money.”).

\textsuperscript{294} \textit{About the LSAT}, http://www.lsac.org/jd/LSAT/about-the-LSAT.asp (last visited Feb. 23, 2011).

\textsuperscript{295} \textit{Score Cancelled by LSAC}, http://www.lsac.org/JD/LSAT/lsat-cancellation.asp#lsac-cancel (last visited Feb. 23, 2011) (informing test takers LSAC reserves the right to cancel or withhold test scores if LSAC has any reason to question a score’s validity in which case
LSAT and substantially improve their scores, LSAC essentially assumes the test-taker was cheating. LSAC’s policy is that if a subsequent score is substantially better than the first, it will review the test taker’s material to ensure that both tests were taken by the same person. LSAC will check the handwriting and thumb-prints for a match and will compare answers to test-takers on either side of the suspected applicant. Instead of rewarding students for improving an LSAT score, this system questions their integrity when they actually improve. Of course, an LSAT score will reflect one’s ability at the time of taking the test – but if one believes intelligence can change, so can the LSAT score.

The perception that the LSAT measures a fixed intelligence is magnified by the fact that a law schools’ ranking is highly correlated to the LSAT scores of its entering class. Not only are students judged by how they perform on a single standardized test, the quality of their law school depends on it as well. Even if one law school graduates students with better skills to practice law than another law school, it could be ranked far below the other law school if its entering class had lower LSAT scores. This focus on input measures (students’ entering scores) instead of output measures (students’ knowledge and performance when they graduate) has been questioned recently by practitioners and legal practitioners.

LSAC will notify the test taker of the reasons for questioning the score and provide options appropriate for the specific circumstances).


297 Id.

298 Id.

educators.\textsuperscript{300} The fact that law schools have been fairly slow to elevate output measures gives some support to the argument that law schools view students’ intelligence as fixed—if they admit the smartest students, they will graduate the smartest students.

Once accepted to law school, students will encounter another hostile environment for incremental and mastery mindsets. Grading at law school is commonly done on a curve.\textsuperscript{301} This means that the emphasis is on out-performing one’s peers, not mastering the material presented in class.\textsuperscript{302} It also means that most of the students will probably receive lower grades than they received as undergraduate students.\textsuperscript{303} A curve, by its nature, will rank the class, and the majority of the students, no matter how much effort they exert, will...

\textsuperscript{300} In a satirical piece on legal education, James D. Gordon III describes how law schools focus only on applicants GPA and LSAT scores in the admissions process. Gordon, \textit{supra} note 4, at 1684 (“Law schools have you fill out lengthy application forms which require you not only to provide your GPA and your LSAT score, but also to describe your unique abilities and experiences, and the ways in which you might add to the rich fabric of the law school class. It takes you about eighty hours to fill out each of these forms. It takes you even more time to write and polish and repolish the ‘personal statement.’ . . . When the law school receives your application, it banks your check, adds up your GPA and your LSAT, and throws the rest of the application away.”)

\textsuperscript{301} Sullivan \textit{et al.}, \textit{supra} note 2, at 165.

\textsuperscript{302} Susan Grover, \textit{Personal Integration and Outsider Status as Factors in Law Student Well-Being, 47 Washburn L.J.} 419, 426-427 (claiming that from the first day of law school it becomes clear to law students the rewards of “besting” their classmates); Jolly-Ryan, \textit{supra} note 251, at 109 (“[s]hort-term goals, like obtaining rank within the top 10% of the class, a summer associate position at a large law firm, a coveted judicial clerkship, or membership on the law review or moot court board, are the prizes of law school and take precedence over thoroughly learning class material, practicing lawyering skills, or collaborating and communicating with others”).

\textsuperscript{303} See Grover, \textit{supra} note 302 (“Law school asks the new student to discard any sense or capacity for collegiality that survived undergraduate work.”).
compare unfavorably to other students in the class. A graded curve is interpreted by
students with an entity mindset as a statement of how intelligent they are compared to
their classmates.\textsuperscript{304} To these students, they are simply less smart than other students in the
class.\textsuperscript{305}

Another aspect of law school that nurtures a fixed mindset is the traditional way
students are tested in most of their doctrinal classes. Traditionally, students’ abilities are
evaluated by a single performance on one exam at the end of the semester.\textsuperscript{306} This method
assumes that grades are simply meant as judgment about a student’s ability rather than a
tool to ensure that students are learning the material.\textsuperscript{307} This method does not allow

\textsuperscript{304} See Butler, supra note 53, at 975.

\textsuperscript{305} Gordon, supra note 4, at 1686 (“Class standing does irreparable psychic injury and scars
bright and creative people for the rest of their natural lives. Following law school
graduation, it often happens that a bright and creative person is about to do something
bright and creative, but then thinks, ‘No, I was only number 67 out of 150 in my class. I’m
probably not capable of any mental activity greater than picking slugs off zucchini plants.’
So she doesn’t do anything.”)

\textsuperscript{306} Friedland, supra note 2, at 150 (“Traditionally, student evaluation--meaning the
mechanisms, devices, or methodologies for judging a student’s performance or potential –
has been embodied in a single final examination at the conclusion of a course.”); Aizen,
supra note 2, at 765-66(noting that “no first-year law school practice perplexed me more
than the nearly exclusive use of a single end-of-course exam to measure student
performance”).

\textsuperscript{307} See Nancy B. Rapoport, Is Thinking Like a Lawyer Really What We Want to Teach? 1 J.
ASS’N LEGAL WRITING DIRECTORS 91, 97, 99 (2002) (explaining grades on law school exams
are supposed to reveal which students are good at “thinking like a lawyer” but exams are
not a particularly good way to measure that skill set).
students to assess their progress and change strategies mid-course. This assessment method simply assumes that students either get it or they don’t. Without any mid-term exams or papers throughout the semester, the students will have no chance to modify their learning strategies or seek additional help. And even if the professor does make comments on the students’ final papers, the class is over. The feedback will not help students learn in that class. As many professors know, students rarely collect these final papers.

Although understandable that some students do not perform well during the first year of law school, the environment is not forgiving. First-year grades become indicators of how well the student will continue to do in law school and beyond. Class rankings are used by firms hiring summer interns with clear instructions to potential applicants that they need not apply if they didn’t finish in the top portion of the class their first semester. The grades students receive in the first year of law school can also affect the

308 Jolly-Ryan, supra note 251, at 113 (noting that since there is only one exam in each course, law students have few opportunities to improve study and exam-writing skills and consequently very few opportunities to learn from their mistakes).

309 Gordon, supra note 4, at 1692 (“A few students go and look at their exams after they are graded, but this is a complete waste of time, unless they just want to see again what they wrote and have a combat veteran-type flashback of the whole horrific nightmare. The professors never write any comments on the exams. That might permit you to do better next time, which would upset the class ranking.”)

310 Lucile A. Jewel, Bourdieu and American Legal Education: How Law Schools Reproduce Social Stratification and Class Hierarchy, 56 BUFF. L. REV. 1155, 1186 (2008) (explaining that class rank serves as the selection process for membership on law review, law school honors and as a gate-keeping mechanism for legal employers; legal employers use class rank to determine who will be interviewed for positions and refuse to consider students who do not meet the cut-off point).

311 Id.; Jolly-Ryan, supra note 251, at 109-11 (pointing out that most large law firms and judges only interview students in the top 10% of the class so automatically the other 90%
internships they secure that subsequently affect their career prospects after graduation. Such a heavily weighted first-year performance can only be explained by a mindset that sees ability as something the students have or don’t have, not something that can be learned through effort and persistence.

An editorial position on the law schools’ law review is a coveted position offered to only a small portion of the students. Many law reviews blindly accept the students at the very top of the class, simply assuming they will be good writers and editors because of their first-year grades. They hold write-on competitions for those who didn’t land near the top of the class, but these competitions demand hours of work from students who have already been told (by their grades) that they aren’t all that smart after all.

of the law students are not competitive enough to be considered for these positions); Roger C. Cramton, The Current State of the Law School Curriculum, 32 J. LEGAL EDUC. 321, 329 (1982) (“First-year grades control the distribution of goodies: honors, law review, job placement, and, because of the importance placed on these matters by the law-school culture, even the student’s sense of personal worth.”).

See Jewel supra note 310 (declaring “even if a law firm elects to interview students from lower-tiered schools (and many will not), the class rank cut-off point for graduates at lower-tiered schools is significantly lower than where it is for graduates at more prestigious schools. Thus, similar to what occurs with the overall ranking of law schools, the economic value of a law degree will depend on the class rank of the student”).


Id.

Mueller & Dweck, supra note 72, at 62.
If law professors are to change their students’ fixed mindsets, they must do so in an environment that encourages performance goals and fixed theories of intelligence.

**B. Professors can arm their students with an incremental mindset.**

Knowing how students’ mindsets affect their reactions to feedback helps law professors understand the phenomenon many have identified – that some students respond well to feedback and others don’t. However, law professors also need to have the knowledge to remedy the problem. Unfortunately, law school assessment and how to improve it has suffered from a lack of empirical testing. Legal educators borrow approaches from other disciplines and mold them to fit the law school setting. However, for those trying to solve the feedback problem now, we believe, based on the extensive body of research by educational psychologists, that the following suggestions can help nurture an incremental mindset that will foster lifelong learning and growth.

Professors can induce a fixed or incremental mindset in their students. Students’ understanding of intelligence can be formed simply by information in their environments. For example, under experimental conditions students’ mindsets were induced by reading statements about intelligence. A fixed mindset was induced when students read a paragraph stating that intelligence is a genetically stable characteristic, and

\[\text{Id.}\]

\[\text{Thompson & Musket, supra note 58, at 396.}\]
an incremental mindset was induced after students read a statement that intelligence changes and is malleable.\textsuperscript{318}

Researchers demonstrated in previous research that students’ mindsets towards intelligence can be induced.\textsuperscript{319} They now know that induced mindsets have a long-lasting effect and can significantly change students’ performances.\textsuperscript{320} In one study, students’ mindsets were induced throughout a school semester.\textsuperscript{321} Good’s mindset intervention paired 138 students with mentors. During the course of a semester the mentors reinforced four types of mindset conditions\textsuperscript{322} – incremental, attribution,\textsuperscript{323} combined incremental and attribution and anti-drug (acting as a control condition). Mentors met with students twice throughout the semester and regularly induced the mindset via email to students.\textsuperscript{324}

Examples of information communicated by the mentors in the incremental condition

\textsuperscript{318} \textit{Id.}

\textsuperscript{319} Nussbaum & Dweck, supra, note 80, at 604, Aronson et al., supra note 80, at 117-18, Mueller & Dweck, supra note 72, at 45-46.

\textsuperscript{320} Catherine Good et al., \textit{Improving Adolescents’ Standardized Test Performance: An Intervention to Reduce the Effects of Stereotype Threat}, 24 APPLIED DEV. PSYCHOL. 646, 649 (2003).

\textsuperscript{321} \textit{Id.} at 652.

\textsuperscript{322} \textit{Id.} at 653.

\textsuperscript{323} \textit{Id.} at 649. Attribution theory examines the explanations individuals give for outcomes. In this study attributions were used to encourage students to think that poor performances can be explained by the task being new and the difficulty will only be temporary.

\textsuperscript{324} \textit{Id.} at 652.
included: “The mind is a muscle; the more you use it, the stronger it grows.” The attribution mentors were trained to explain they had experienced difficulty with new classes, but how they gradually overcame them by adjusting to new teachers or new material. The researchers found that continuously inducing and reinforcing an incremental mindset in students resulted in a significantly improved academic performance over the course of a semester.

Another study added additional support that long-term incremental mindsets can be induced and maintained – leading to a change of mindset and improved classroom performance. The study followed 109 Stanford undergraduate students. The students were assigned to one of three groups and were told they were participating in a pen-pal program mentoring young, at-risk students (but these students didn’t actually exist). The fictitious mentees wrote to their mentors expressing difficulties they were experiencing at school. Mentors in the control pen-pal condition responded to the students from a script

325 Id. at 654.
326 Id. at 654.
327 Id. at 658-59.
328 Joshua Aronson et. al., Reducing the Effects of Stereotype Threat on African American College Students by Shaping Theories of Intelligence, 38 J. OF EXPERIMENTAL SOC. PSYCHOL. 113, 123 (2002).
329 Id. at 117.
330 Id. at 116.
331 Id. at 117.
332 Id.
telling the students there are many different types of intelligence. Mentors in the malleable pen-pal group responded from this script:

Because intelligence is malleable, humans are capable of learning and mastering new things at any time in their lives. This message is especially important to get across to young, struggling students. If these students view intelligence as a fixed quantity, they may feel that they are incapable of learning if they encounter difficulty with their school work. If, however, students can be convinced that intelligence expands with hard work, they may be more likely to remain in school and put effort into learning.

During the intervention, the mentors were assessed for mindset and those in the malleable pen-pal condition reported a significantly higher belief than the other mentors that intelligence is malleable.

Nine weeks after completion of the intervention researchers compared the semester GPAs of the participants. Students in the malleable pen-pal condition increased their GPA significantly more than the other mentors. The researchers were especially interested in establishing whether induced mindsets hold over time, so almost one year after completion of the study, they again assessed the participants’ mindsets. The students in the malleable pen-pal condition still scored significantly more incremental on the mindset

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333 Id. at 118.
334 Id. at 117-18.
335 Id. at 118.
336 Id. at 121.
337 Id. at 119.
measure than the other participants, but the difference had increased.338 Simply explaining to others that intelligence is malleable significantly affected the mindsets of students participating in the study.

These studies suggest that law professors are in a position to induce a mindset in their students, and their acts could have lasting effects. By nurturing an incremental mindset in the classroom, professors will not only lay the groundwork for students to react adaptively to feedback, but will induce a mindset conducive to optimal performance.

VII. Conclusion

Legal educators have documented their bewilderment of how students respond to feedback. Some students take the feedback to improve their capabilities, but others respond defensively and disengage. Empirical evidence strongly suggests that students’ mindsets affect how students respond to feedback and assessment. This manuscript suggests that if legal educators are to fulfill the expectations laid out by the ABA, students’ mindsets must first be addressed. Unless students’ mindsets are considered, implementing more feedback and assessment in law school curricula may simply exacerbate the problematic responses to feedback professors presently report.

If law schools are to meet the lofty goals set forth by the ABA, legal educators should incorporate the empirically supported theories developed in educational psychology. We believe this process starts with identifying and changing students’ mindsets.

As the ABA acknowledged, teaching methods in law schools are not pedagogically

338 Id.
sound. An initial pilot study suggests that one third of law students start classes with a fixed mindset. If this percentage remains the status quo, one third of students will be immune from any assessment reform implemented in law schools. Furthermore, based on the teaching methods that exist in law schools, it is expected that as students move to graduation this percentage of students with fixed mindsets will increase.

The ABA has recognized that feedback and assessment in law schools is not working effectively. The time has come for legal educators to engage in research to establish sound teaching methodologies and teaching environments that nurtures growth in all students.