

SYMPOSIUM COMMENTARY

CHARTING THE COURSE: AN EMPIRICALLY BASED THEORY OF THE DEVELOPMENT OF CRITICAL THINKING IN LAW STUDENTS[^]

*Brett A. Brosseit**

ABSTRACT

Recent large-scale research studies indicate that many college students graduate with critical thinking skills no greater than those they possessed upon matriculation.¹ These findings have sent shockwaves through the academy, calling into question the value and efficacy of higher education, particularly when it comes to equipping graduates with the advanced reasoning and

[^] Presented at Oxford Education Research Symposium on December 8, 2015.

* Brett A. Brosseit, J.D., Ph.D., Director and Assistant Professor of Advanced Critical Thinking, Ave Maria School of Law, 1025 Commons Circle, Naples, Florida 34119 (USA), babrosseit@avemarialaw.edu.

¹ See RICHARD ARUM & JOSIPA ROKSA, *ACADEMICALLY ADRIFT: LIMITED LEARNING ON COLLEGE CAMPUSES* 36 (2011) (describing a study of over 2,300 students that resulted in no significant improvement in basic skills after progressing through college); see generally Charles Blaich & Kathleen Wise, *From Gathering to Using Assessment Results: Lessons From the Wabash National Study*, NAT'L INST. FOR LEARNING OUTCOMES ASSESSMENT 3 (Jan. 2011), http://www.learningoutcomeassessment.org/documents/Wabash_001.pdf (describing the research findings of a study conducted on institutions to identify whether they properly use data collected on student learning to improve student learning).

problem-solving skills most in demand in the 21st Century. Many of these underprepared graduates pursue advanced education, including the study of law that traditionally has groomed citizens to assume positions of high leadership and solve society's most complex problems using advanced reasoning and communication skills.² As these students enter law school, the legal academy faces intense scrutiny for failure to adopt valid empirically based teaching approaches and demonstrate adequate educational results, prompting the American Bar Association to exercise its regulatory authority to mandate that law schools must now demonstrate learning outcomes.³

Traditional law school academic support programs cannot address the fundamental deficits in critical thinking among incoming students, and a scarcity of research in legal education has left the legal academy calling for empirical guidance to inform cohesive approaches to the systemic challenges it faces.⁴ To address the daunting challenges facing the legal academy, I conducted a qualitative grounded theory study to formulate a comprehensive conceptual model of the development of critical thinking skills in law students that may assist legal educators in establishing best practices for the advancement of higher order thinking skills in law students. The resulting Critical Thinking in Law Students model provides the legal academy with empirical guidance to formulate new strategies to improve learning outcomes and comply with regulatory mandates, while also offering the broader academy insight into the intricate

² See ARUM & ROKSA, *supra* note 1, at 75 (noting that 81% of students observed intended on pursuing graduate degrees).

³ See generally AM. BAR ASS'N, ABA STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS 2014–2015 vii (2014), <http://www.americanbar.org/legaled> (setting forth standards of legal education to determine whether education requirements are proper); ROY STUCKEY & OTHERS, BEST PRACTICES FOR LEGAL EDUCATION: A VISION AND A ROAD MAP 1 (2007) (describing modern issues in legal education and a potential solution for reconsidering legal education); WILLIAM M. SULLIVAN ET AL., EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW 1– 4 (2007) (discussing the various methods of teaching used to instruct law students, with a focus on the first-year experience); Cara Cunningham Warren, *Achieving the American Bar Association's Pedagogy Mandate: Empowerment in the Midst of a "Perfect Storm,"* 14 CONN. PUB. INT. L.J. 67, 68 (2014) (providing a historical discussion of the pedagogy mandate as well as arguments in favor of law school adoption of the mandate).

⁴ See Rebecca Flanagan, *The Kids Aren't Alright: Rethinking the Law Student Skills Deficit*, 15 BYU EDUC. & L. J. 135, 175, 176 (2015) ("Because student preparedness has slipped slowly, almost imperceptively, over fifty years, it is difficult for law schools to measure if students are learning.").

combination of factors that affect the ability of higher education institutions to provide their students with effective education for the development of higher order thinking skills.

I.	INTRODUCTION	145
II.	THE PROBLEM.....	147
III.	THE STUDY.....	151
IV.	THE FINDINGS	153
V.	THE APPROACH.....	154
	A. Student Learning Needs.....	156
	B. Student Learning Challenges.....	158
	C. Legal Education System Challenges.....	159
	D. Factors to Optimize Student Performance	162
	1. Faculty-driven factors.....	162
	a. Factor 1: student-success focus.	163
	b. Factor 2: adequate academic standards and expectations.....	163
	c. Factor 3: individual student support.	164
	d. Factor 4: faculty participation in initiatives....	164
	2. Pedagogical factors	165
	e. Factor 5: active learning.....	165
	f. Factor 6: thought process training.....	166
	g. Factor 7: applied practice.....	166
	h. Factor 8: essay writing.....	167
	i. Factor 9: formative assessment and feedback.....	167
	3. Leadership-driven factors.....	168
	j. Factor 10: top-down leadership approach.....	168
	k. Factor 11: institutional outcomes assessment.....	169
	l. Factor 12: communication and integration of effective educational approaches.....	169
VI.	CONCLUSION.....	170

I. INTRODUCTION

Recent research indicates that many U.S. college students graduate with underdeveloped critical thinking skills.⁵ In 2011,

⁵ See ARUM & ROKSA, *supra* note 1, at 36–37 (generally discussing underdeveloped critical thinking skills as a result from poor undergraduate

sociologists Arum and Roksa released their book, *Academically Adrift: Limited Learning on College Campuses*, documenting the results of a large-scale study sponsored by the non-profit Social Science Research Council which found striking widespread deficits in critical thinking skills among U.S. college and university students.⁶ The longitudinal study conducted by Arum and Roksa tracked 2,322 students from 2005 to 2007 in 24 four-year colleges and universities throughout the U.S. utilizing data from the Collegiate Learning Assessment (CLA).⁷ Arum and Roksa found that 45% of the students in the study experienced no significant gains in critical thinking, complex reasoning, and writing skills during their first two years of higher education, the period when students should experience the greatest gains.⁸ After four years, 36% of the students still experienced no significant gains.⁹ Arum and Roksa specifically noted deficiencies in critical thinking, complex reasoning, writing, and academic motivation.¹⁰ Nonetheless, 81% of the students surveyed in the study indicated that they planned to attain a graduate degree, with 39% anticipating earning a doctorate or professional degree.¹¹

Results from the ongoing Wabash National Study corroborate Arum and Roksa's findings of limited gains in critical thinking among U.S. college students.¹² The Wabash National Study, sponsored by The National Institute for Learning Outcomes Assessment, has tracked the learning outcomes of over 17,000 students from 49 U.S. colleges and universities since 2005.¹³ Results from this study indicate only modest gains in critical

habits); Blaich & Wise, *supra* note 1, at 3.

⁶ ARUM & ROKSA, *supra* note 1, at 36.

⁷ *See id.* (describing a study of over 2,300 students that resulted in no significant improvement in basic skills after progressing through college).

⁸ *See id.* (describing how at least 45% of students failed to make significant gains in various academic skills).

⁹ *See* Richard Arum et al., *Improving Undergraduate Learning: Findings and Policy Recommendations from the SSRC-CLA Longitudinal Project*, SOC. SCI. RES. COUNCIL 4 (2011), <http://files.eric.ed.gov/fulltext/ED514983.pdf> (noting an outcome of the study was that 36% of students did not improve in learning ability).

¹⁰ *See* ARUM & ROKSA, *supra* note 1, at 36 (describing no measureable gain in general skills of students).

¹¹ *See id.* at 75 (noting that many of the students in the study plan to pursue graduate or higher level degrees).

¹² *See generally* Blaich & Wise, *supra* note 1, at 8–10 (displaying and discussing the results of the Wabash study).

¹³ *See id.* at 7–8 (describing the Wabash National Study, a massive observation of students over the course of many years).

thinking among college students overall, with many students experiencing a lack of growth or a decline in critical thinking.¹⁴

The types of deficiencies in critical thinking identified as widespread among today's college students represent the primary skills required for the study and practice of law, and many students enter law school without the foundational critical thinking skills required to succeed.¹⁵ Yet society now, more than ever before, depends upon lawyers to resolve its most challenging issues using advanced reasoning, informed thinking, and sophisticated communication skills.¹⁶ Lawyers play a critical role in maintaining social justice around the globe, and a strong legal education system helps protect the rule of law for future generations.¹⁷ The capacity of today's law school graduates to address the problems of an increasingly complex and rapidly evolving world serves as a bellwether for the future health and prosperity of democratic society. Researchers, administrators, and educators at all levels of the academy should take heed of the perfect storm facing legal education and move quickly to chart a new course toward improved learning outcomes in students' critical thinking.

II. THE PROBLEM

Underdeveloped critical thinking¹⁸ presents substantial

¹⁴ See *id.* at 8–9 (displaying and discussing the results of the Wabash study).

¹⁵ See generally Flanagan, *supra* note 4, at 136–38 (examining research on undergraduate educating in an effort to predict and discuss learning issues faced by law school students); Nancy B. Rapoport, *Changing the Modal Law School: Rethinking U.S. Legal Education in (Most) Schools*, 116 PENN ST. L. REV. 1119, 1119 (2012) (discussing how a fundamental misconception in educational reform considerations may be addressed, e.g. by classifying law schools into “clusters” based on need for reform); Jane Yakowitz, *Marooned: An Empirical Investigation of Law School Graduates Who Fail the Bar Exam*, 60 J. LEGAL EDUC., (Aug. 2010) (discussing students who fail the bar exam).

¹⁶ Symposium, *No Law Student Left Behind*, 24 STAN. L. & POL'Y REV. 353, 373 (2013).

¹⁷ *Id.*

¹⁸ The author defines “critical thinking” in this paper in accordance with *The Delphi Report* definition, which provides that critical thinking consists of six skills: interpretation, analysis, evaluation, inference, explanation, and self-regulation. Because the terms “critical thinking” and “higher order thinking” both reflect the cognitive functions represented in the higher levels of Bloom's Taxonomy, the author uses the terms synonymously in this paper. Brett A. Brosseit, *Law School Academic Support Professionals' Perceptions About Development of Student's Critical Thinking* 22–23 (2015) (unpublished Ph.D. dissertation, Barry University) (on file with author).

barriers to success for many students entering law school, who may struggle under the academic demands of legal education, and may graduate without the necessary skills to effectively practice law.¹⁹ Lee recently commented that many of today's law students enter law school with a lower degree of critical thinking skill than most first-year law professors normally expect, while Stuart and Vance stated that fewer of today's students possess the basic higher order cognitive processes that the legal academy has considered the threshold for success in law school.²⁰ Flanagan likewise noted that many of today's college graduates lack the fundamental thinking and reasoning skills to master the law school curriculum and learn to think like a lawyer.²¹ These academic deficiencies, which may prove particularly prevalent at less selective institutions, often arise from the lack of an adequate foundation in conceptual thinking and prior exposure to academic rigor.²²

Deficits in foundational critical thinking skills increasingly

¹⁹ See generally Flanagan, *supra* note 4, at 136–37 (“Legal education has not dealt with changes that leave students less prepared for the type of disciplined thinking, close reading, and analytical rigor required to succeed in law school.”); see Susan Stuart & Ruth Vance, *Bringing a Knife to the Gunfight: The Academically Underprepared Law Student & Legal Education Reform*, 48 VAL. U. L. REV. 41, 4 (2013) (broadly discussing how today's law students enter law school lacking necessary skills); see generally Rapoport, *supra* note 15, at 1119 (discussing how a fundamental misconception in educational reform considerations may be addressed).

²⁰ See Courtney G. Lee, *Changing Gears to Meet the “New Normal” in Legal Education*, 53 DUQ. L. REV. 39, 42 (2015) (writing that law professors observed new students having deficiencies in basic learning skills, and a lack of preparedness); see Stuart & Vance, *supra* note 19, at 4 (noting that students entering law school lack even basic problem solving skills, lower than they are assumed by educators to possess).

²¹ See Flanagan, *supra* note 4, at 135–36 (noting that there is a lack of fundamental thinking and reasoning skills among college graduates).

²² See *id.* at 147, 150–51 (discussing the decline in Liberal Arts majors in recent years); Lee, *supra* note 20, at 53, 64 (discussing decline in elementary school emphasis on critical thinking, and college student study habits and enrollment in more work-heavy classes); Stuart & Vance, *supra* note 19, at 22 (noting a decline in academic rigor through less time spent on academic activities, including studying). While a thorough exploration of the reasons for students' underdeveloped critical thinking falls outside of the scope of this paper, academics often cite an over-emphasis on standardized testing and curricula at the grade school level and the over-reliance on computer technology as a contributing factors. See Lee, *supra* note 20, at 41 (noting that students who learned under federal education policies enter law school with weaker learning skills); Stuart & Vance, *supra* note 19, at 27–8, 29 (describing a correlation between Millennials' computer use and a decline in cognitive and social skills).

extend even to incoming law students with high LSAT scores and undergraduate GPAs, and sharp declines in the number of well-qualified applicants present additional challenges for law schools.²³ Academics have characterized the phenomenon as a crisis in legal education, and have dubbed the challenges arising from the changing needs of today's law students the "new normal" to which law schools must adjust for their students to succeed.²⁴ Traditional law school academic support programs cannot address the widespread fundamental deficits in critical thinking among incoming students, and law schools require comprehensive systemic strategies to address students' learning needs.²⁵

Criticisms that the legal academy has failed to adequately prepare students for the competent practice of law compound the issues surrounding students' lack of preparation for legal studies. Concerns regarding the efficacy and outcomes of legal education have generated a great deal of attention from those in legal academia, as reflected in prominent publications calling for reform in legal education, including the *MacCrate Report*,²⁶ the *Carnegie Report*,²⁷ and *Best Practices*.²⁸ Legal educators, according to Stuckey et al., generally ignore foundational educational principles, such as identifying learning objectives, selecting the appropriate educational approaches to attain learning objectives, and designing methods for evaluating the

²³ See Flanagan, *supra* note 4, at 150–51 (describing how liberal arts majors perform the best on LSAT scores, yet the number of liberal arts majors applying to law schools is declining); see Lee, *supra* note 20, at 43–46 (discussing extremely high student debts and the role of the media in causing other issues for law schools); see generally Natalie Kitroeff, *Are Lawyers Getting Dumber?* BLOOMBERGBUSINESS (Aug. 20, 2015), <http://www.bloomberg.com/news/features/2015-08-20/are-lawyers-getting-dumber-> (describing decreasing bar passage rates across the country); see Stuart & Vance, *supra* note 19 (describing how high LSAT scores and GPA's no longer correlate to high learning skills).

²⁴ Lee, *supra* note 20, at 42; Stuart & Vance, *supra* note 19, at 17.

²⁵ Flanagan, *supra* note 4, at 170, 174–75, 176–77; Stuart & Vance, *supra* note 19, at 6–7.

²⁶ See Jonathan Rose, *The MacCrate Report's Restatement of Legal Education: The Need for Reflection and Horse Sense*, 44 J. OF LEGAL EDUC. 548, 549, 550 (1994) (illustrating how the MacCrate Report describes how law students have a lack of professional practice skills when they graduate).

²⁷ See Sullivan et al., *supra* note 3, at 91 (describing what the Carnegie Foundation Report establishes as current issues with in the legal education field).

²⁸ See generally STUCKEY & OTHERS, *supra* note 3, at 198 (describing potential issues if there is not a reform in legal education).

effectiveness of instruction.²⁹ Despite such criticisms, law school curricula and teaching approaches have proven strongly resistant to change because legal educators remain constrained by long standing tradition, a rule-bound mentality, and psychological resistance to self-assessment and change.³⁰

To address fundamental pedagogical weaknesses in legal education, in 2014 the American Bar Association (“ABA”) adopted landmark changes to the standards governing law schools.³¹ The new ABA standards, which have become known as the “pedagogy mandate,”³² require law schools to establish and assess learning outcomes, and to comply with a variety of other measures designed to encourage innovation and the implementation of more effective learning approaches.³³ The ABA pedagogy mandate signifies a quantum shift in legal education, changing the focus of legal education and moving learning science from an ancillary to a central role.³⁴ Little research exists regarding the development of critical thinking in law students, however, and legal educators now seek more cohesive, systemic, and empirically based guidance to address deficits in students’

²⁹ See *id.* at 2–3 (illustrating different ideals for legal curriculum that have been ignored).

³⁰ See Daisy Hurst Floyd, *Faculty Essay on Curricular Reform and Instructional Innovation: Pedagogy and Purposes: Teaching for Practical Wisdom*, 63 MERCER L. REV. 943, 943–44 (2012) (describing issues that legal educators face when trying to re-evaluate and alter legal educational programs); Warren, *supra* note 3, at 68, 68–69.

³¹ See Warren, *supra* note 3, at 71–72, 73–74. (describing the changes that the council made for legal education and the programs started to assist students beginning in August 2014.).

³² See *id.* at 69–70 (describing the goals and purpose of the Section of Legal Education and Admissions to the Bar).

³³ ABA Standard 302. LEARNING OUTCOMES provides that:

“A law school shall establish learning outcomes that shall, at a minimum, include competency in the following:

- (a) Knowledge and understanding of substantive and procedural law;
- (b) Legal analysis and reasoning, legal research, problem-solving, and written and oral communication in the legal context;
- (c) Exercise of proper professional and ethical responsibilities to clients and the legal system; and
- (d) Other professional skills needed for competent and ethical participation as a member of the legal profession.”

AM. BAR ASS’N, *supra* note 3, at 15.

³⁴ See Warren, *supra* note 3, at 71–72 (providing a more descriptive ideal of what the focuses of the legal education should be and how these changes should be done).

higher order thinking skills and produce acceptable learning outcomes.³⁵

III. THE STUDY

In response to the legal academy's call for empirical guidance, I conducted a grounded theory study to formulate a comprehensive theory of the development of critical thinking in law students that may help educators design more holistic approaches for strengthening students' thinking skills. Social scientists employ grounded theory, a rigorous form of qualitative research that focuses on the systematic development of concepts from in-depth interview data, to generate sound theory firmly grounded in empirical data.³⁶ Grounded theory research methodology proves particularly effective for studying broad-based phenomenon in education, such as the development of critical thinking skills.³⁷

Because grounded theory researchers seek to gain deep understanding of phenomena based on the perceptions of those with direct experience and insight into the matter under investigation, the participants for this study consisted of 14 law school academic support professionals in third and fourth-tier law schools in the U.S. with at least three years of experience who volunteered for the study.³⁸ Each participant worked at a different law school, and the schools represented diverse regions throughout the U.S. Collectively, the participants worked with thousands of law students nationwide, allowing me to gather rich data to the point of saturation where the introduction of additional data no longer resulted in the generation of new theoretical concepts.³⁹

³⁵ See Flanagan, *supra* note 4, at 174, 175, 176–77 (describing how the focuses on the re-evaluation of legal education and programs is mostly on the individuals who are at risk, not on the entire legal student body); Stuart & Vance, *supra* note 19, at 6–7, 8.

³⁶ See BARNEY G. GLASER, *THEORETICAL SENSITIVITY: ADVANCES IN THE METHODOLOGY OF GROUNDED THEORY* 2–3 (1978) (describing the approach taken when analyzing grounded theory, and describing the theory).

³⁷ See Robert Thornberg & Kathy Charmaz, *Grounded Theory*, in *QUALITATIVE RESEARCH: AN INTRODUCTION TO METHODS AND DESIGNS* 41, 64 (Stephen D. Lapan, MaryLynn T. Quartaroli, & Frances J. Riemer eds., 2012) (describing the grounded theory and its goals).

³⁸ See KATHY CHARMAZ, *CONSTRUCTING GROUNDED THEORY: A PRACTICAL GUIDE THROUGH QUALITATIVE ANALYSIS* 25 (2012) (describing how research and analysis should be conducted regarding grounded theory).

³⁹ See *id.* at 113, 114 (explaining that “categories are ‘saturated’ when gathering fresh data no longer sparks new theoretical insights, nor reveals new

Law school academic support professionals, who typically have joint knowledge and experience in law and education, often maintain responsibility for developing the content, curriculum, and structure of their school's academic support program.⁴⁰ Some legal educators believe that law school academic support professionals, with their experience and expertise, may hold the key to providing answers to some of the most complex issues facing legal education.⁴¹ For this study, I chose to recruit participants from third and fourth-tier law schools because students at those institutions tend to have a similar, often more intensive, educational need for the development of critical thinking skills than students in more selective law schools.⁴²

The overarching research question guiding the study asked: What are the perceptions of law school academic support professionals regarding the development of critical thinking skills in law students? To more specifically articulate aspects of the overarching question, I posed the following questions to each of the study participants:

1. What factors affect the development of strong critical thinking skills in law students?
2. What teaching and learning approaches show the greatest promise for improving critical thinking skills among law students?
3. What are the most important things that legal educators and law school administrators can do to help students optimize their critical thinking skills?
4. How can legal educators and law school administrators best monitor and assess the development of students' critical thinking skills?
5. What additional training, support, and/or resources do legal educators need to help optimize students' critical thinking skills?

After conducting in-depth recorded telephone interviews with each of the 14 study participants under the condition of

properties of your core theoretical categories.”).

⁴⁰ See Louis N. Schulze, *Alternative Justifications for Academic Support II: How “Academic Support Across the Curriculum” Helps Meet the Goals of the Carnegie Report and Best Practices*, 40 CAP. U. L. REV. 1, 1–3 (describing the different roles that individuals can play in the learning theory for law students)

⁴¹ See *id.* at 33 (identifying the complex issue of how traditional law school teaching requires students to “intuit not only the law but also *how* they will be tested on the law,” which requires students to teach themselves to an extent.).

⁴² See Rapoport, *supra* note 15, at 1125–26 (analogizing the average student at a low-ranked law schools to an athlete with great potential who has received little to no training in her sport).

anonymity so that participants could freely express their views with candor, I had the interview recordings transcribed. Next, I carefully reviewed the interview transcripts and assigned labeling codes to the interview data to identify conceptual similarities and differences between participants' statements, a process grounded theory researchers refer to as initial coding.⁴³ After completion of the initial coding process, I closely examined the transcript data in each code category, employing an inductive process to search for broader unifying themes to gain a more conceptual understanding of the phenomenon, a process known as focused coding.⁴⁴ As the final step in the data analysis process, I integrated all of the categorical components that arose from the data by refining and connecting the concepts to form a comprehensive theory of the development of critical thinking in law students.

IV. THE FINDINGS

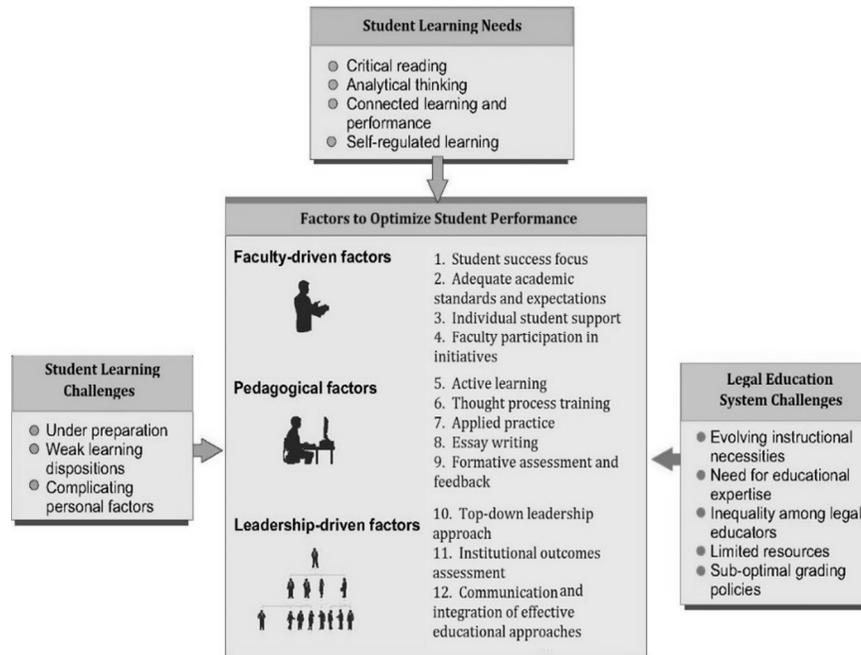
The Critical Thinking in Law Students ("CTLS") model, depicted in Figure 1, reflects the conceptual components that emerged from the data in the grounded theory study and illustrates the relationships between the components.⁴⁵ The three primary categories that impede the development of critical thinking skills in law students—student learning needs, student learning challenges, and legal education system challenges, provide the basis for the central category—the factors necessary to optimize student performance. The factors to optimize performance, which encompass faculty-driven factors, pedagogical factors, and leadership-driven factors, arose in consideration of the impeding components, and reflect the most promising solutions to address these impediments as expressed by the study participants. The model thus offers a comprehensive conceptual understanding of the primary impediments to the development of critical thinking in law students and provides guidance on potential ways of overcoming these impediments by addressing the key variables associated with the optimization of students' performance.

⁴³ See Charmaz, *supra* note 38, at 47–48, 49–50 (describing the initial coding).

⁴⁴ See *id.* at 57, 59, 60 (explaining focused coding and describing the second phase in analyzing data and how to ensure that the data collect reveals reliable results).

⁴⁵ See *infra* Figure 1 (demonstrating the CTLS model).

Figure 1: The Critical Thinking in Law Students (“CTLS”) Model



V. THE APPROACH

“I don’t think your average undergrad student who walks into law school has the necessary thinking skills to be successful.”⁴⁶

Educators may use the Critical Thinking in Law Students (hereinafter “CTLS”) model to chart a new course toward improved learning outcomes in legal education. The prevailing theme that permeated throughout the grounded theory study supporting the CTLS model reflects the primary nature of the underlying challenge facing the legal academy - incoming students with underdeveloped critical thinking skills that render them unprepared to effectively participate in the traditional model of legal education. Virtually all of the participants in the study reported that many of today’s students lack the necessary critical thinking skills to succeed and excel in the study and practice of law.⁴⁷ As one participant observed, declining critical

⁴⁶ Brosseit, *supra* note 18, at 92 (study participant comment).

⁴⁷ See generally *id.* (“One of the strongest themes arising under the category of student learning challenges was that of a lack of adequate preparation to

thinking skills affect U.S. students at all levels of education, resulting in a national-level problem.⁴⁸ Participants also emphasized, however, that a lack of critical thinking skill does not indicate a lack of intelligence or potential.⁴⁹ The acknowledgement that students can learn new skills and overcome prior educational deficits offers hope in the form of opportunities to reclaim untapped human potential and harness valuable intellectual resources for the betterment of individuals and society.⁵⁰ This task will not prove easy for students or educators, however, and the legal academy will need to approach the challenge in an informed, yet expeditious manner.

Because the CTLS model provides a holistic picture of the challenges the legal academy faces, as well as a potential path to success, the model offers an exceptional vantage point from which the academy may begin to formulate a set of best practices for the development of critical thinking in law students. Examining the key variables associated with the development of students' critical thinking at an integrated level and gaining insight into the nature of the relationships between the variables may help law schools improve the odds of reaching their destination safely, while increasing their speed of arrival. To better understand how educators can use the CTLS model to

participate in the type of critical thinking inherent in legal studies.”).

⁴⁸ See *id.* at 105 (study participant's story “suggest[ed] that a general decline in students' critical thinking and reading skills has been occurring. . . . This historical perspective highlights the downward trend in critical thinking skills generally observed by participants, and suggests that the phenomenon is widespread in the U.S.”). The National Assessment of Adult Literacy supports the proposition that Americans' proficiency in basic problem-solving skills has declined over the past thirty years. See Stuart & Vance, *supra* note 19, at 80–81 (describing the Carnegie Report and its conclusion that students now enter law school without basic tools upon which to build advanced problem-solving skills required of practicing lawyers). As one study participant commented, “My dad was also a high school teacher. . . . He said by the time he stopped teaching there, he couldn't even assign. . . . [sic] that book. People couldn't read it, couldn't get any information out of it that was useful.” Brosseit, *supra* note 18, at 105.

⁴⁹ See Brosseit, *supra* note 18, at 111 (“Since those who become professors often naturally excelled in legal studies, they may have a tendency to attribute students' lack of understanding to a general lack of intelligence, when often students just need more instruction in the thought process behind legal reasoning.”).

⁵⁰ See Stuart & Vance, *supra* note 19, at 80 (“For under-prepared law students and their professors, this is good news. It means that, if they are sufficiently motivated, it is possible for underprepared law students to make up for the deficits they brought to law school.”).

chart a new course toward improved learning outcomes, one must first understand the components of the model and the relationships between the various aspects of the model.

A. *Student Learning Needs*

The first primary category in the CTLS model, student learning needs, provides a logical starting point for examining the dynamics underlying the changing educational needs of students.⁵¹ Since the student learning needs category depicts the areas where the widest gap exists between students' current skills and those necessary to optimize performance in the study and practice of law, the variables associated with student learning needs should drive the establishment and measurement of new learning outcomes for improved critical thinking and intellectual performance.

Critical reading appears as the first theme under the category of student learning needs because many study participants emphasized that, while students often lack proficiency in this area, a foundation in critical reading serves as a prerequisite to exercising and developing the other types of skills involved in legal learning and problem solving.⁵² Participants noted that the level of proficiency that may have worked for students in less demanding educational environments often does not suffice in law school, and students often arrive without the ability to read for conceptual accuracy and deep-level understanding.⁵³ Legal educators and students must thus address deficiencies in critical reading as a threshold matter for improved intellectual performance.

While the second theme, analytical thinking, has long remained a focus of legal education, study participants noted that today's students often lack experience in logical reasoning, preferring instead to employ personal opinion and surface-level thought to solve problems.⁵⁴ This absence of skilled reasoning limits students' performance because effective legal analysis requires objectivity, mental acuity, and the ability to strategically employ multiple analytical approaches.

⁵¹ See Brosseit, *supra* note 18, at 68 ("In describing their experiences with the development of critical thinking skills in law students, the participants discussed the specific types of skills that students tend to lack.").

⁵² *Id.* at 69.

⁵³ *Id.*

⁵⁴ *Id.* at 72.

The third theme under the category of student learning needs, connecting reasoning and performance, encompasses students' ability to synthesize intellectual concepts.⁵⁵ Participants, however, often alluded to connection-making in a broader sense, one that could help students better understand the relationship between past and present experiences, between different coursework and subjects, and between academic and professional experiences.⁵⁶ The ability to make such connections, participants noted, helps students think critically and derive meaning from what may otherwise appear to be disjointed, unrelated information, circumstances, and concepts.⁵⁷

The final theme participants identified under the category of student learning needs and self-regulated learning concerns students' ability to monitor and assess their academic progress and intellectual development, to make effective decisions about how to allocate their resources as learners, and to effectively direct their own learning efforts.⁵⁸ Since legal education requires students to comprehend more complex and abstract concepts than those of the typical undergraduate education, and also usually in a less-structured learning environment, law students often arrive unprepared to effectively manage their learning.⁵⁹ The participants emphasized the importance of helping students learn to self-regulate their own learning so they can exercise independent control over their study efforts and assume full responsibility for their intellectual development.⁶⁰ By explicitly establishing the primary student learning needs—critical reading; analytical thinking; connecting learning and performance; and self-regulated learning as objectives, designing appropriate learning strategies to accelerate the development of these skills, and assessing outcomes in these areas, law schools can help ensure that they target and address the learning needs most closely associated with the development of strong critical thinking.

⁵⁵ *Id.* at 78.

⁵⁶ *Id.* at 78–79.

⁵⁷ Brosseit, *supra* note 18, at 79.

⁵⁸ *Id.* at 84.

⁵⁹ *Id.* at 85.

⁶⁰ *Id.* at 91; Warren, *supra* note 3, at 86 (discussing the Adult Learning Theory: “[t]he adult learner also seeks to be in control of his learning process.”).

B. Student Learning Challenges

While the student learning needs category in the CTLS model defines the skill areas where the widest gap exists between the students' abilities and the level of proficiency required to optimize the development of critical thinking in the legal education context, the second primary category, student learning challenges, enumerates the most significant barriers or impediments that law students face in closing the proficiency gap and optimizing their critical thinking skills.⁶¹ To improve educational outcomes, law schools should put measures in place to help students overcome these challenges.

The first and strongest of the themes that arose under the category of student learning challenges concerns a lack of adequate preparation to participate in the type of critical thinking inherent in legal studies. Study participants consistently observed that students matriculate to law school grossly unprepared for the type of higher order critical thinking required for legal studies.⁶² This lack of preparation, respondents noted, impedes student success because, without the requisite minimum level of preparation and experience in critical thinking, students arrive unable to comprehend the concepts necessary to effectively participate in the legal learning environment without extensive remediation in their critical thinking and analytical reasoning skills.⁶³

The second key theme concerns students' learning dispositions. Respondents noted that many students have not developed the work ethic, intellectual stamina, or grit needed to effectively engage in the type of rigorous academic training inherent in legal education.⁶⁴ This phenomenon presents serious challenges to the advancement of strong critical thinking skills, since the development of critical thinking requires substantial concentration, effort, and persistence on the part of the learner. Respondents noted that students frequently compromised their learning efforts with low maturity levels, false confidence, and closed-mindedness.⁶⁵ These types of dispositional weaknesses, as some noted, can exacerbate learning challenges for students who may also have underdeveloped skills that require sustained focus

⁶¹ Brosseit, *supra* note 18, at 91–92.

⁶² *Id.* at 92.

⁶³ *Id.*

⁶⁴ *Id.* at 96.

⁶⁵ *Id.*

and a mature perspective to overcome.⁶⁶

The third and final key theme that emerged under the category of student learning challenges related to the personal challenges that students face during law school. These types of challenges may take the form of individual learning issues and/or personal problems that students experience. Complicating personal factors can result in mental and emotional distractions for students, diverting time and attention from their studies. These types of distractions, respondents noted, often cause students to lose focus and detract from their intellectual development.⁶⁷ To improve educational outcomes, law schools should thus address students' primary learning challenges—under preparation; weak learning dispositions; and complicating personal factors.

C. Legal Education System Challenges

After student learning needs and student learning challenges, the third primary conceptual category that arose consisted of challenges faced by the legal education system that may hinder legal educators in helping students develop strong critical thinking.⁶⁸ This category helps us better understand how the institutional learning environment in legal education interacts with student learning needs and challenges to influence learning outcomes. To optimize the potential for improved learning outcomes, law schools must also address the key variables in this category.

The first theme under the category of legal education system challenges reflects the participants' perception that the educational needs of law students have recently changed in significant respects, such that the traditional approach to legal education no longer proves effective. Participants often reported a strong downward trend in critical thinking skills among incoming law students, and discussed the challenges they observed as law schools attempted to adjust to meet the instructional needs of today's students.⁶⁹ Study participants generally perceived that the transition will entail substantial

⁶⁶ *Id.*

⁶⁷ Brosseit, *supra* note 18, at 99.

⁶⁸ *Id.* at 104.

⁶⁹ *Id.* at 107; *see also* ARUM & ROKSA, *supra* note 1, at 36–37 (“[S]tudents are likely to learn no more in the last two years than they did in the first two, leaving higher education just slightly more proficient in critical thinking, complex reasoning, and writing than when they entered.”).

difficulty since current legal education methods have developed over thousands of years, and since many legal educators remain skeptical about new educational approaches and therefore reluctant to accommodate the learning needs of today's students.⁷⁰

The second theme that arose under the category of legal education system challenges concerned the need for greater educational expertise in law schools. Participants noted that legal educators, unlike professors in other disciplines, often have little formal training and experience in education. The study participants emphasized the need for law schools to include professionals with expertise in education on their faculties, and to provide training and support to assist faculty in devising the most effective teaching strategies for the development of students' critical thinking skills.⁷¹ In light of students' rapidly evolving educational needs, this lack of educational training and knowledge presents serious challenges for the legal education system.⁷²

The third theme that arose under the category of legal education system challenges entails an inequality among legal educators that many participants believed negatively affects the ability of law schools to deliver the best possible education for critical thinking to students.⁷³ In legal education, participants explained, a perceived division exists between doctrinal faculty who teach traditional law school subjects and legal educators who specialize in teaching skills to students, including the type of critical thinking and analytical skills identified by researchers as widely deficient.⁷⁴ Participants explained that many law school faculty members believe that legal educators who specialize in teaching skills to students possess less intellectual capacity and

⁷⁰ Brosseit, *supra* note 18, at 107.

⁷¹ *See id.* at 109 ("Participants frequently mentioned the need for law schools to include professionals with expertise in education on their faculties, and to provide training and support to assist faculty in devising the most effective teaching strategies and approaches for the development of students' critical thinking skills.")

⁷² *See id.* ("[T]he second theme under the category of legal education system challenges explores the need for greater educational expertise among legal educators.")

⁷³ *See* STUCKEY & OTHERS, *supra* note 3, at 3–4 (discussing the need to reform legal educators' approach to teaching, noting the importance of "cognitive, practical, and ethical-social" learning); Brosseit, *supra* note 18, at 113.

⁷⁴ Brosseit, *supra* note 18 at 113–14.

expertise than doctrinal professors.⁷⁵

As participants noted, this dynamic remains quite pervasive in legal education, where law schools commonly exclude those in skills-based disciplines, such as academic support and legal writing, from faculty meetings and committees, deny them voting rights and tenure track opportunities, and subject them to substantially lower rates of compensation for longer work hours.⁷⁶ As a result, in many instances the rest of the faculty ostracizes those professionals who tend to have more formal training and expertise in teaching and education.⁷⁷ In light of the pressing need for educational expertise in legal education, dynamics that alienate those educators with the strongest academic training and specialization in the learning sciences may prove particularly pernicious to law schools' efforts to improve learning outcomes.

The fourth theme that emerged under the category of legal education system challenges concerned the scarcity of resources that many law schools currently experience. Tight budgets affect the learning environment, often resulting in large class sizes and small academic support staffs. These conditions make it difficult for legal educators to administer and grade formative assessments and dedicate personal time and attention to students, exacerbating the challenges involved in meeting students' increasing need for remedial assistance, feedback, and individual support.⁷⁸

The fifth and final theme that arose under the category of legal education system challenges focused on sub-optimal grading policies.⁷⁹ Participants expressed that the application of a grading curve, the traditional method of law school grading often interferes with learning because it makes it difficult for students to gain an accurate understanding of their performance and may prevent students from receiving the support they need to develop strong critical thinking skills.⁸⁰ Participants also cited grade inflation as a deterrent to the development of strong critical thinking skills for the same reasons.⁸¹

⁷⁵ *Id.* at 114.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.* at 118–19.

⁷⁹ Brosseit, *supra* note 18, at 124.

⁸⁰ *Id.*

⁸¹ *Id.*

For law schools to improve learning outcomes, they must accordingly address the primary challenges facing the legal education system – evolving instructional necessities; the need for educational expertise; inequality among legal educators; limited resources; and sub-optimal grading policies.⁸²

D. Factors to Optimize Student Performance

In addition to identifying the three primary issues that law schools should address to attain improved learning outcomes: student learning needs, student learning challenges, and legal education system challenges, and enumerating the key variables associated with each category, the CTLS model provides guidance regarding the factors that contribute to optimized student performance.⁸³ The factors to optimize performance provide both a checklist of key steps that law schools can take to increase their odds of success, as well as valuable insight into how these steps interrelate and interact with one-another to produce favorable outcomes. Based on the study data, the specific factors associated with the optimization of student performance fall under three general themes: faculty-driven factors; pedagogical factors; and leadership-driven factors.⁸⁴

1. Faculty-driven factors

The first general theme under the category of factors to optimize student performance, faculty driven factors, includes variables inherent in the instructional environment of a particular law school that do not relate to specific teaching and learning strategies or techniques. These types of factors involve aspects of legal education driven largely by the individual and collective values and philosophies of the faculty at a particular institution, perhaps because they arise primarily at the classroom level and may implicate academic freedom issues. Four factors arose under this theme: student success focus; adequate academic standards and expectations; individual student support; and faculty participation in initiatives. By addressing these faculty-driven aspects of legal education, educators can help students overcome barriers to learning and advance the

⁸² See generally *id.* at 104–27 (discussing the specific areas of the legal educational system in need of reform).

⁸³ *Id.* at 128.

⁸⁴ Brosseit, *supra* note 18, at 128.

development of their critical thinking skills.⁸⁵

a. Factor 1: student-success focus.

The need for a student-success focus in legal education arose as the first factor under the theme of faculty-driven factors. As participants discussed, this entails creating a supportive environment that focuses on student learning needs and places the student-professor relationship at the center of the educational experience.⁸⁶ Participants generally expressed through their comments that a student-focused environment, where professors and students work closely together in a partnership with shared responsibility, can strongly contribute to student success.⁸⁷ The need for an environment where faculty encourage students to accept responsibility for their own learning and closely support them in their efforts to do so may prove particularly pressing in circumstances where students arrive with underdeveloped intellectual skills and/or learning dispositions.⁸⁸

b. Factor 2: adequate academic standards and expectations.

While participants emphasized the educational benefits of moving toward a more student success focused culture in legal education, they also stressed the need for law schools to establish appropriate academic standards and maintain high expectations to ensure adequate academic rigor.⁸⁹ Participants expressed concern that law schools often fail to hold students to sufficiently high standards, causing the learning environment to suffer and leaving many students ill-prepared for the bar exam and the practice of law.⁹⁰ Participants generally advocated for a student-centered educational culture with rigorous academic standards to best help law students develop their critical thinking skills.⁹¹ In a weak and unchallenging academic environment, participants conveyed, students will not undertake the challenging

⁸⁵ Brosseit, *supra* note 18, at 128.

⁸⁶ *Id.* at 129.

⁸⁷ *See id.* at 129–30 (discussing participants positive experiences with a more collaborative approach to the student-professor relationship).

⁸⁸ *Id.* at 132.

⁸⁹ *Id.*

⁹⁰ Brosseit, *supra* note 18, at 132.

⁹¹ *Id.*

intellectual tasks required to strengthen their thinking skills.⁹² When viewed together, the faculty-driven factors of student success focus and adequate academic standards and expectations compliment and support one-another by providing a challenging, yet supportive intellectual experience for students.⁹³

c. Factor 3: individual student support.

The need for more individual student support arose as the next faculty-driven factor to optimize student performance. In addition to maintaining a student success focus and adequate academic standards participants expressed the necessity of providing guidance to address the personal learning needs of each student.⁹⁴ Participants expressed that individual attention helps students clarify expectations and facilitate student engagement and learning.⁹⁵ By providing students with personalized individual support, participants explained, legal educators can help students avoid the tendency to overlook weaknesses in their work product, which often reflect weaknesses in their skills and/or knowledge. Working closely with students can also facilitate relationships built on trust where students will more likely seek the advice and support of their professors.⁹⁶

d. Factor 4: faculty participation in initiatives.

Participants stressed the need for faculty to support and fully participate in initiatives that promote the development of strong critical thinking skills in law students.⁹⁷ Many participants expressed encountering a range of attitudes among faculty with regard to accepting and employing new teaching approaches.⁹⁸ The participants' emphasis on faculty participation appears logical in light of the participants' observation that students have great difficulty seeing the connection between learning and performance.⁹⁹ Through faculty involvement in skills-based teaching, students may more readily understand how their

⁹² *Id.* at 135.

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ Brosseit, *supra* note 18, at 135.

⁹⁶ *Id.* at 137–38.

⁹⁷ *Id.* at 138.

⁹⁸ *Id.*

⁹⁹ *Id.* at 141.

thinking skills directly relate to their performance in the context of their various courses.¹⁰⁰

Together the four key factors: student success focus; adequate academic standards and expectations; individual student support; and faculty participation in initiatives establish the key faculty-driven variables necessary to optimize student performance.

2. Pedagogical factors

The second general theme under the category of factors to optimize student performance focused on law school teaching and learning practices. In this respect, participants suggested a number of specific educational strategies and approaches to improve the development of critical thinking in law students. The strategies and approaches that emerged from the data included: active learning; thought process training; applied practice; essay writing; and formative assessment and feedback.¹⁰¹

e. Factor 5: active learning.

In discussing the most effective educational approaches for the development of critical thinking skills in law students, participants emphasized the need for law schools to employ more active learning experiences.¹⁰² Participants noted that the Socratic Method, the law school signature pedagogy, seldom engages all of the students in the classroom.¹⁰³ To address this issue, participants stressed the value of collaborative learning in engaging students in large classroom settings, and some shared the approaches they have found most effective in their teaching.¹⁰⁴ They also encouraged the use of more problem-based learning exercises that require students to actively apply knowledge, noting that the standard case study method alone may prove too passive to facilitate the type of deep-level thinking required for the development of critical thinking skills.¹⁰⁵

¹⁰⁰ Brosseit, *supra* note 18, at 141.

¹⁰¹ *Id.*

¹⁰² *Id.* at 141.

¹⁰³ *Id.*

¹⁰⁴ *Id.* at 141–42.

¹⁰⁵ Brosseit, *supra* note 18, at 142..

f. Factor 6: thought process training.

In addition to active learning, participants discussed the need for law professors to explicitly communicate their thought process to students and to teach students systematic ways of working through the mental steps involved in solving legal problems. This type of thought process training, participants noted, helps students develop mental road maps for analyzing legal issues.¹⁰⁶

Participants acknowledged that this method of teaching often proves very challenging for legal educators, who must break down complex thought processes and explain them explicitly to students.¹⁰⁷ Since academic support professionals frequently work with students on breaking down and mapping these types of abstract mental processes, academic support professionals may prove valuable in helping faculty develop proficiency in this teaching approach.¹⁰⁸

g. Factor 7: applied practice.

Participants also stressed the need for law students to continuously engage in the application of their mental skills as they learn new material and ways of thinking like a lawyer.¹⁰⁹ Narrower in focus than active learning, applied practice reflects participants' perceptions that the higher order thought processes inherent in legal education require structured application and individual practice to internalize.¹¹⁰ In the absence of adequate opportunity to practice and receive feedback in a deliberate, structured manner, participants explained, law students often struggle to master critical thinking and legal analysis skills.¹¹¹ Further, without applied learning exercises, students and professors will not have the information necessary to determine whether students successfully internalize the new ways of thinking necessary to solve novel legal problems.¹¹²

¹⁰⁶ *Id.* at 147 (participant explanation of road mapping legal analysis for students).

¹⁰⁷ *Id.*

¹⁰⁸ *See generally* Schulze, *supra* note 40, at 39–40 (discussing the unique skills possessed by law professors and academic support professionals, when combined, provide for a strong base of academic support for students).

¹⁰⁹ Brosseit, *supra* note 18, at 151.

¹¹⁰ *See id.* at 152 (participants discuss opportunities for professors to create ways students can actively apply what they learn in the classroom).

¹¹¹ *Id.* at 154.

¹¹² *Id.* at 151–52.

h. Factor 8: essay writing.

Participants often stressed the need for law students to engage in essay writing to exercise and refine their critical thinking skills.¹¹³ In this respect, some noted a disturbing trend toward using more multiple choice test questions in law school, perhaps due to the large class sizes or the impression that multiple choice practice helps students prepare for the bar exam. Participants generally believed that over-reliance on multiple choice testing, particularly in the first year of law school, discourages students from fully exercising their analytical skills.¹¹⁴

Essay writing also allows both students and professors to view the steps in the student's thought process, which may prove invaluable in providing students with the skilled support and guidance necessary to optimize their critical thinking.¹¹⁵

i. Factor 9: formative assessment and feedback.

Participants emphasized the importance of formative assessment and feedback in helping students develop strong critical thinking skills.¹¹⁶ Many pointed out that the traditional law school method of testing via a single exam at the end of the semester fails to provide students with the guidance they need to develop their thinking skills.¹¹⁷

Participants' comments regarding the need for formative assessment and feedback illustrate that, in order to accept responsibility for their learning and intellectual performance, students require ample opportunity to apply their skills, gauge their progress, and receive timely guidance.¹¹⁸ In the absence of this information, students cannot identify potential areas for improvement and make the necessary adjustments to optimize their performance going forward.¹¹⁹ Collectively, the five pedagogical factors: active learning; thought process training;

¹¹³ *Id.* at 152. The participants' feedback on what law schools should focus on closely mirrors the learning outcomes set forth in the ABA STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHOOLS 2014–2015, particularly, “[l]egal analysis and reasoning, legal research, problem-solving, and written and oral communication in the legal context.” *supra* note 33 and accompanying text.

¹¹⁴ Brosseit, *supra* note 18, at 154.

¹¹⁵ *Id.* at 156.

¹¹⁶ *Id.* at 157.

¹¹⁷ *Id.*

¹¹⁸ *Id.* at 160.

¹¹⁹ Brosseit, *supra* note 18, at 160.

applied practice; essay writing; and formative assessment and feedback, highlight the pedagogical variables identified by participants as pivotal in optimizing students' performance.¹²⁰

3. Leadership-driven factors

The third and final general theme under the category of factors to optimize student performance addresses the leadership-driven variables that affect legal education. These factors involve aspects of legal education that prove heavily subject to influence from the leadership of a particular law school. While leadership may influence all aspects of legal education at some level, participants perceived these particular factors as largely driven by institutional leadership, and participants' comments associated with this theme tended to emphasize the role that institutional leadership plays in establishing, maintaining, and/or facilitating these particular factors. Three factors arose under this theme—top-down leadership approach; institutional outcomes assessment; and communication and integration of effective educational approaches.¹²¹

j. Factor 10: top-down leadership approach.

Since the types of large-scale changes necessary to produce improved learning outcomes for students will not likely occur organically under weak leadership, participants stressed the need for coordinated change efforts driven from the school's top leaders.¹²² This strong leadership approach proves especially important, participants suggested, in light of complicating factors such as status, tenure, publishing requirements, and shared governance.¹²³ Participants emphasized the importance of a dean who maintains enthusiasm toward new educational approaches and exhibits a willingness to advocate for faculty support of new learning initiatives.¹²⁴ While some leaders may hesitate to exercise direct authority over faculty, participants noted that senior leaders can nonetheless exert strong influence in their institutions, and stressed that robust faculty participation in

¹²⁰ *Id.*

¹²¹ *Id.* at 161–62.

¹²² *See id.* at 160–61 (participants stressing the importance of dean-faculty channels of communication).

¹²³ *Id.* at 161.

¹²⁴ Brosseit, *supra* note 18, at 161.

student learning initiatives will not likely occur in the shared governance academic environment in the absence of strong direction from senior leadership.¹²⁵

k. Factor 11: institutional outcomes assessment.

The necessity of conducting assessments of learning outcomes at the institutional level emerged as a factor to optimize student performance. Separate and distinct from the individual student assessment discussed earlier as a pedagogical factor, institutional outcomes assessment focuses on measuring and evaluating learning outcomes on an aggregate basis and using that information to make appropriate adjustments to drive new educational initiatives and approaches at the institutional level. Professors typically conduct individual student assessments, by contrast, for the purpose of informing and advancing a particular student's learning efforts.¹²⁶ While participants understood that attaining certainty in the educational environment seldom proves possible, participants recognized the value of institutional level assessment efforts in informing organizational policies and educational practices.¹²⁷ Institutional assessment efforts can render objective information, and may also provide leadership with support for promising new initiatives.¹²⁸

l. Factor 12: communication and integration of effective educational approaches.

The final factor arising under the factors to optimize student performance concerned the need for improved communication among legal educators regarding educational research and effective teaching practices, as well as better ways of ensuring that faculty integrate effective educational approaches into the curriculum. Participants expressed that effective communication often involves instituting a more structured way of sharing information, a task that often goes overlooked in legal education.¹²⁹

Participants emphasized that faculty will not likely communicate promising new educational approaches and

¹²⁵ *Id.* at 161–62.

¹²⁶ *Id.* at 166.

¹²⁷ *Id.* at 165–66.

¹²⁸ *Id.* at 166.

¹²⁹ Brosseit, *supra* note 18 at 166.

integrate them into their teaching in the absence of an intentional, structured effort under the guidance of a senior leader.¹³⁰

Because the twelve factors to optimize student performance remain intrinsically related, law schools should view each factor in relation to the others for optimal results.¹³¹ Due to the dynamics between the factors, ignoring any of the twelve factors may have unintended consequences that could compromise student learning outcomes. By considering and addressing each of the faculty-driven, pedagogical, and leadership-driven factors, and by understanding the relationships between the factors, educators may advance the development of best practices for improved learning outcomes in legal education.

VI. CONCLUSION

Research indicates that many students enter graduate school with underdeveloped critical thinking skills.¹³² This lack of preparation proves particularly damaging for incoming law students, who may lack the foundational thinking skills to succeed in the study and practice of law.¹³³ Criticisms that the legal academy has failed to adopt valid educational practices has compounded the issues surrounding students' lack of preparation for legal studies, prompting the American Bar Association to mandate that law schools demonstrate learning outcomes.¹³⁴ Legal educators must make fundamental changes to address

¹³⁰ *Id.* at 168.

¹³¹ *See id.* at 170 (discussing how the factors together can create a comprehensive theory on law students' critical thinking development); *see also* Rapoport, *supra* note 15, at 1153 (describing the risks differently tiered law schools face when implementing new education initiatives).

¹³² *See* ARUM & ROKSA, *supra* note 1, at 1–2 (discussing critical thinking skill development in undergraduate institutions); Blaich & Wise, *supra* note 1, at 8–9 (discussing the Wabash National Study).

¹³³ *See generally* Flanagan, *supra* note 4, at 145–47 (discussing critical thinking skill development in undergraduate institutions); Rapoport, *supra* note 15, at 1153–54 (discussing educational models in law school and risks associated with taking on new learning models); Stuart & Vance, *supra* note 19, at 1 (briefly discussing how law students are unprepared for the study of law based on underdeveloped critical thinking skills).

¹³⁴ *See generally* AM. BAR ASS'N, *supra* note 3, at 15–16 (briefly outlining the objectives of legal education programs); SULLIVAN ET AL., *supra* note 3, at 12 (discussing the framework for legal education); STUCKEY & OTHERS, *supra* note 3, at 3–4 (discussing concerns regarding legal education and need for calibration and improvement).

widespread deficits in students' critical thinking, but scant research exists in the legal learning environment to provide guidance.¹³⁵

To address this gap in the research and help inform legal education strategies, I conducted a qualitative grounded theory study to formulate a comprehensive theory of the development of critical thinking skills in law students. The resulting CTLS model offers the legal academy empirical guidance to aid in the establishment of best practices for the development of critical thinking, produce improved learning outcomes, and equip today's students with the advanced learning and problem-solving skills required to succeed and excel in the study and practice of law. The model may also provide valuable insight to the broader academy regarding the way that critical thinking develops in students and the types of factors associated with the optimization of students' critical thinking skills. I maintain concerns regarding the relative dearth of research on the subject of critical thinking in legal education and invite research partners and institutions to implement and evaluate the CTLS model and to join me in future efforts to contribute to the body of knowledge and scholarship on this important topic.

¹³⁵ See e.g., Warren, *supra* note 3, at 91–97 (extensively discussing adapting the “Empowerment Teaching Framework for Legal Education” which rests on four principles: knowledge, learning, assessment, and community.).