TEAM-BASED LEARNING IN LAW

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Introduction

It is mid-semester, and over 80 law students sit in their fixed-table tiered classroom. The professor poses a hypothetical to the class, asking students to spend a few minutes discussing the problem in their groups and arriving at a single group answer, identifying the most significant fact they need to solve the problem. The room erupts with noise as all students huddle in groups of five to seven, debating the best answer. When the professor signals that time is up, all groups simultaneously hold up a sheet of paper identifying the most significant fact they would need to know to resolve the problem. The professor calls on different groups to justify their answer or argue against another group's response. The students are focused, engaged, and illustrate their points with the readings and previous class discussions. They focus on the person speaking, whether professor or classmate. After the professor provides brief feedback and a micro-lecture reinforcing important principles, the professor repeats the group discussion cycle. This class represents what students do throughout the semester: work strategically and effectively in small groups for 80 percent of the class time.

Even though students spend the majority of class time working in groups, students study and apply more legal concepts than when the professor taught using a more traditional teaching approach, a combination of Socratic case dialogue, short lectures, and active learning assignments. By the end of the semester, all students have repeatedly engaged in doing what lawyers do in practice: working together to solve significant problems. In doing so, the students learn how to interact professionally with others, build upon their group members' understanding of important doctrine, and learn from others' skills in communicating, solving problems creatively, studying, managing time, and resolving conflict. This is not a law school fantasy: this is Team-Based Learning in law school.

In this Article, we argue that Team-Based Learning is an effective and transformative teaching strategy for law school courses, providing a sustainable, effective, and efficient way to teach important legal knowledge, skills, and values. We recommend that law professors try this approach if they seek to engage students in active and collaborative learning experiences, to have their students' learning be the center of attention in the classroom, and to help their students' learning improve.

Part I provides a brief overview of Team-Based Learning. Part II, referring to the research from other disciplines, shows how Team-Based Learning improves students' learning. It also addresses many of the limits of traditional teaching in law school, particularly those concerns raised by the Carnegie Foundation's *Educating Lawyers*,[3] *Best Practices for Legal Education*,[4] and the ABA's proposed modifications to its Standards focusing on student learning outcomes.[5] In addition, Part II reviews long-standing criticisms of traditional legal

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[3] WILLIAM M. SULLIVAN ET AL., EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW (Jossey-Bass 2007) [hereinafter CARNEGIE REPORT].

[4] ROY STUCKEY ET AL., BEST PRACTICES FOR LEGAL EDUCATION: A VISION AND A ROADMAP (CLEA Publishing 2007).

[5] ABA STANDARDS REV. COMM. ON LEGAL EDUCATION AND ADMISSIONS TO THE BAR chpt. 3 (Proposed Draft), http://www.americanbar.org/content/dam/aba/migrated/2011_build/legal_education/committees/ standards _review_documents/nov2011/20111012_drafts_reporters_notes_november_src_meeting_materials. authcheckdam.pdf (last visited Jan. 15, 2012).

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education's weakness in preparing students for practice as described in the MacCrate Report.[6] Part III provides an overview[7] of how to apply Team-Based Learning principles to a doctrinal law school course.[8] Finally, Part IV addresses challenges to using Team-Based Learning in law school.[9]

I. Overview of Team-Based Learning

Team-Based Learning is a learner-centered teaching strategy[10] designed to promote students' true understanding of a subject.[11] Developed more than 30 years ago by Professor Larry Michaelsen,[12] Team-Based Learning builds on the principles of effective teaching and learning research by engaging students in active and collaborative learning experiences throughout a course.[13] As a teaching strategy, however, Team-Based Learning is more than a collection of different techniques. Those who have developed Team-Based Learning call it a "transformative" strategy[14] because its combination of course design, ongoing assessment

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[6] AM. BAR ASS'N SECTION OF LEGAL EDUC. AND ADMISSIONS TO THE BAR, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT—AN EDUCATIONAL CONTINUUM: REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSION: NARROWING THE GAP (1992) [hereinafter MACCRATE REPORT].

[7] Readers who seek to implement Team-Based Learning should consult TEAM-BASED LEARNING: A TRANSFORMATIVE USE OF SMALL GROUPS IN COLLEGE TEACHING 28 (Larry K. Michaelsen, Arletta Bauman Knight, & L. Dee Fink eds., Stylus Publishing 2004) [hereinafter TEAM-BASED LEARNING]; TEAM BASED LEARNING: SMALL-GROUP LEARNING'S NEXT BIG STEP (Larry K. Michaelsen, Michael Sweet & Dean X. Parmelee eds., Jossey-Bass 2008) [hereinafter TEAM-BASED LEARNING: NEXT BIG STEP]; TEAM-BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/ (last visited Jan. 15, 2012). These sources provide a wealth of information, forms, videos and materials about this teaching strategy. Those who become members of the Team-Based Learning Collaborative can also access case banks – Team-Based Learning teaching materials . While most of these focus on medicine and the health sciences, there are teaching materials on ---- and law. For additional resources on Team-Based Learning, see INSTITUTE FOR TEACHING AND LEARNING, http://lawteaching.org/ (last visited Jan. 15, 2012).

[8] The authors have used Team-Based Learning in courses focusing on a range of doctrines and skills, including Legal Skills I & II, Remedies, Torts, and Writing for Practice. Colleagues at other law schools have used Team-Based Learning in Civil Procedure, Contracts, Academic Success Programs, and Professional Responsibility. While we firmly believe that Team-Based Learning applies to any course, this Article focuses primarily on applying it to a doctrinal course.

[9] Additional resources for applying Team-Based Learning in law school can be found at INSTITUTE FOR TEACHING AND LEARNING, http://lawteaching.org/index.php (last visited Jan. 15, 2012). These resources include Team-Based Learning forms modified for legal education, including peer evaluation forms, formative and summative, team attendance sheets, generic student answer sheets for multiple-choice quizzes, and other related documents.

[10] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 4.

[11] GRANT WIGGINS & JAY MCTIGHE, UNDERSTANDING BY DESIGN 84 (2d ed. Association for Supervision and Curriculum Development 2005). Wiggins and McTighe note that "[u]nderstanding is multidimensional and complicated. There are different types of understanding, different methods of understanding, and conceptual overlap with other intellectual targets." When students truly understand, they engage in six facets of understanding; they can explain, interpret, apply, empathize, have perspective and have self-knowledge. Wiggins and McTighe note further that "understandings are not facts." *Id.* at 103.

[12] *Preface*, *in* TEAM-BASED LEARNING, *supra* note **, at vii.

[13] *See generally* Clifford S. Zimmerman, "*Thinking Beyond My Own Interpretation": Reflections on Collaborative and Cooperative Learning Theory in the Law School Curriculum*, 31 ARIZ. ST. L. J. 957, 986-1002; Barbara Pinkerton Blumenfeld, *Can Havruta Style Learning Be a Best Practice in Law School?*, 18 WILLAMETTE J. INT'L L. & DISP. RESOL. 109, 119-29 (providing excellent overviews of the history and practice of collaborative learning).

[14] *E.g.*, L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 4, 7, 25.

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and feedback, active and collaborative learning techniques, and student accountability transform the learning experience in dynamic and positive ways. This teaching strategy requires students to actively engage at high levels of thinking[15] to solve complex problems and is adaptable to a range and size of courses. Recognizing its transformative effect, increasing numbers of educators have effectively applied the principles of Team-Based Learning. Students are enrolled in Team-Based Learning courses in 24 countries.[16] Team-Based Learning is used across a range of disciplines, including medicine, business, sciences, law, and the humanities,[17] and in classes of nine to more than 199.[18]

In Team-Based Learning, as in other teaching approaches, the professor's role is to plan the course, including student preparation assignments, assessments, and individual classes. During class, instead of taking center stage and having students focus primarily on the professor, professors guide and facilitate students working together to apply course material. Because the focus in a Team-Based Learning course is about what the students are learning — all students spend the vast majority of class time engaging in team discussions and solving problems in their groups — to an outside observer of a Team-Based Learning class, the professor may appear not to be really "teaching." This is deliberate; the focus of the class is not what the professor is saying but *what the students are doing*. The professor, however, has done significant work in advance to harness the power of student learning teams.

To facilitate student learning, professors use their knowledge and skills to design a course that applies the Team-Based Learning's essential principles: "1. groups must be properly formed and managed; 2. students must be made accountable for their individual and group work; 3. group assignments must promote both learning and team development; [and] 4. students must get frequent and timely performance feedback."[19] Each of these principles will be discussed in greater detail in Part III, but the following provides an overview of this strategy.

As with any effective course design, one of the first steps in designing a Team-Based Learning course is to identify important student learning goals and objectives.[20] Having done

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[15] This is based on Dr. Benjamin Bloom's taxonomy of learning, which identifies six levels of learning, from highest to lowest: evaluate, synthesize, analyze, apply, understand, and remember. MICHAEL HUNTER SCHWARTZ, SOPHIE SPARROW & GERALD HESS, TEACHING LAW BY DESIGN 68-70 (Carolina Academic Press 2009) (applying Bloom's taxonomy to legal education); David R. Krathwohl, *A Revision of Bloom's Taxonomy: An Overview*, Theory Into Practice, Vol. 41 Issue 4, 212 (Autumn 2002) (providing an overview of Bloom's taxonomy and a revised learning taxonomy).

[16] Larry Michaelsen & L. Dee Fink, *Preface*, in TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 4.

[17] Michaelsen & Fink, *Preface*, *in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 3-4; TEAM-BASED LEARNING IN THE SOCIAL SCIENCES AND HUMANITIES: GROUP WORK THAT WORKS TO GENERATE CRITICAL THINKING AND ENGAGEMENT (Michael Sweet & Larry K. Michaelsen eds., Stylus Publishing 2011); TEAM-BASED LEARNING FOR HEALTH PROFESSIONS EDUCATION: A GUIDE TO USING SMALL GROUPS FOR IMPROVING LEARNING (Larry K. Michaelsen, Dean K. Parmelee, Kathryn K. McMahon, & Ruth E. Levine eds., Stylus Publishing 2008).

[18] Clyde Freeman Herreid, *Using Case Studies in Science—And Still "Covering the Content"*, *in* TEAM-BASED LEARNING, *supra* note **, at 107.

[19] Larry K. Michaelsen, *Getting Started with Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 28.

[20] *See generally*, *e.g.*, PATRICIA L. SMITH & TILLMAN J. RAGAN, INSTRUCTIONAL DESIGN 75-101 (3rd ed. Wiley Publishers 2005) (providing detailed analysis of writing learning goals and objectives); L. DEE FINK, CREATING SIGNIFICANT LEARNING EXPERIENCES 33-35, 60-67 (Jossey-Bass 2003). A discussion of law school course

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so, Team-Based Learning professors design a course that engages students in a series of learning sequences that introduce and then build mastery of complex course material (see Figure 1, below). Each learning sequence, which generally repeats four to seven times a semester, focuses on one of the course's four to seven learning units.[21] During each learning sequence, students initially learn foundational course material on their own, out-of-class. Having learned the material independently, students then take a multiple-choice test assessing their understanding of the foundational material they have studied independently. In class, students take the test twice, first individually, and then immediately again in their team of five-to-seven classmates. In taking the test the second time as a team, students debate their team's answer, discussing the principles they studied and closely reviewing the material on the test. During that same class, students receive immediate feedback about how well they mastered core concepts, with the professor providing a brief follow-up lecture to correct any misunderstandings.

Figure 1. Team-Based Learning Sequence

(repeated four to seven times per semester)

	Class 1	Class 2	Class 3	Classes 4 – 7
Student Preparation Before Class	Students read foundational material on learning unit topics	Students read more complex primary and secondary materials; may have problems in advance to prepare and outline	Students read more complex primary and secondary materials; may have problems to outline	Repeat sequence following class 2 & 3 with additional readings and

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learning goals, consider MACCRATE REPORT, *supra* note **, at 135-221; STUCKEY ET AL., *supra* note **, at 39-91; GREGORY S. MUNRO, OUTCOMES ASSESSMENT FOR LAW SCHOOLS 199-217 (Institute for Law Teaching and Learning 2000). *See also* THOMAS A. ANGELO & K. PATRICIA CROSS, CLASSROOM ASSESSMENT TECHNIQUES: A HANDBOOK FOR COLLEGE TEACHERS 393-97 (2d ed., Jossey-Bass 1993), which provides a "Teaching Goals Inventory and Self-Scorable Worksheet" that allows professors to identify goals for a course, such as "Develop ability to apply principles and generalizations already learned to new problems and situations," "Develop ability to synthesize and integrate information and ideas," and "Develop ability to think holistically: to see the whole as well as the parts."

[21] *See supra* text accompanying notes ** to ** for a detailed discussion of how to structure a number of learning units in a course.

In-Class	Closed-book test on core concepts for learning unit. Students take individually, then take the test again in teams, write optional appeals to test questions, and have misunderstandings clarified by professor's micro lecture	Students work in teams applying basic principles from course material for learning unit – professor facilitates & clarifies	Students work in teams applying more complex principles and facts relating to course material for learning unit - professor facilitates & clarifies	problems

Once students have completed this initial phase — the Readiness Assurance Process — they spend the next several classes working in teams to apply course material to relevant and significant problems — the Application Phase. Because students have already engaged in the Readiness Assurance Process, they are prepared to deepen and apply their understanding to a variety of increasingly complex and sophisticated problems. During the Application Phase, students continue to work in the same diverse teams, drawing on their different perspectives to solve more complex problems than they would individually. Think of this as "five brains" being better than one, or as a group of lawyers working well together to solve clients' complex problems.[22] For the Application Phase of the course to be effective, it is critical that Team-Based Learning professors take the time to design challenging and significant problems; five brains are only better than one if the problem includes sufficient complexities, and students perceive the problem to be significant and relevant. Problems with those features benefit from a group discussion, and students will likely expend the energy to solve them because the problems are interesting and challenging.[23]

Research supports having students actively engaged in applying course material during most of their time in class, as studies show a connection between student engagement and student learning.[24] Assigning teams to solve problems as a stand-alone teaching

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[22] Nearly 20 years ago, the MacCrate Report, identified collaboration as fundamental to effective lawyering in fundamental skill nine: "9. Organization and Management of Legal Work. In order to organize and manage legal work effectively, a lawyer should be familiar with the skills, concepts, and processes required for efficient management, including . . . cooperation among co-workers." MACCRATE REPORT, *supra,* note **, at 199. The MacCrate Report elaborates on this in "9.4 *Developing Systems and Procedures for Effectively Working with Other People*, including systems and procedures for: (a) Collaborating with other attorneys in the same office or other offices" *Id.* at 201. More recently, legal educators have confirmed "the ability to work effectively as a member of a team" as an essential professional skill for lawyers. Stuckey, *supra* note **, at 77. DANIEL GOLEMAN ET AL., PRIMAL LEADERSHIP: REALIZING THE POWER OF EMOTIONAL INTELLIGENCE (Harvard Business School Publishing 2002).

[23] COMM. ON DEVS. IN THE SCI. OF LEARNING, NAT'L RESEARCH COUNCIL, HOW PEOPLE LEARN: BRAIN, MIND, EXPERIENCE, AND SCHOOL 77 (John D. Bransford et al. eds., National Academy Press 2000) [hereinafter HOW PEOPLE LEARN] ("Students are motivated to spend the time needed to learn complex subjects and to solve problems that they find interesting.").

[24] FINK, CREATING SIGNIFICANT LEARNING EXPERIENCES, *supra* note **, at 103; CHARLES C. BONWELL & JAMES A. EISON, ACTIVE LEARNING: CREATING EXCITEMENT IN THE CLASSROOM, ASHE-ERIC HIGHER

approach, however, may be ineffective in promoting deep understanding. All students must be prepared to solve the problem; teams are generally less effective when some in the group are unprepared, a situation that frustrates prepared teammates.[25] To promote student preparation Team-Based Learning professors create grading systems that make students accountable to both the professor and to their teammates.[26] In Team-Based Learning courses, students assess their teammates' contributions to the team during the course, usually accounting for five to 15 percent of the total course grade.[27] When students are not prepared or contributing to their team, their grades suffer. They are thus accountable for being prepared and participating in their teams during every class.

To summarize, Team-Based Learning's principles of teamwork, assessment, feedback, advanced high-level applications, and accountability are transformative; those using Team-Based Learning have found students' performance improves when compared to traditional teaching.[28] In addition to improving their ability to apply important concepts, students also learn professional interpersonal skills essential to succeeding in a job.[29] Because these significant benefits occur without sacrificing course coverage, and can occur in classes of over 100 students, Team-Based Learning is an effective and attractive approach for legal education.

II. Making the Case for Team-Based Learning

While Team-Based Learning's requirements that students apply legal concepts, be accountable for their own learning, and engage in their legal education[30] alone might inspire many law professors to adopt the Team-Based Learning strategy, some might need more convincing evidence. Compellingly, Team-Based Learning's transformative power also addresses key reforms in legal education such as transparent teaching of specified learning outcomes, developing professional values, and learning problem-solving skills that reflect real-world situations.[31] As a teaching strategy that improves student learning, and a vehicle to carry curricular reforms to fruition, Team-Based Learning has unmatched potential in legal

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EDUCATION REPORT NO. 1 (Jossey-Bass 1991) (noting that throughout the 1980s, research studies showed that actively learning strategies were "superior to lectures in promoting the development of students' skills in thinking and writing.").

[25] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 5.

[26] Larry K. Michaelsen, *Getting Started With Team-Based Learning*, *in* TEAM-BASED LEARNING, *supra* note **, at 31-32; Larry K. Michaelsen & Arletta Bauman Knight, *Creating Effective Assignments: A Key Component of Team-Based Learning*, *in* TEAM-BASED LEARNING, *supra* note **, at 52.

[27] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 17-18; Larry K. Michaelsen, *Setting Grade Weights: A Team-Building Exercise*, *in* TEAM-BASED LEARNING, *supra* note **, at 245.

[28] *See* Clyde Freeman Herreid, *Using Case Studies in Science*, *in* TEAM-BASED LEARNING, *supra* note **, at 111-12; Michaelsen, *Getting Started with Team-Based Learning*, *in* TEAM-BASED LEARNING, *supra* note **, at 47.

[29] Marjorie M. Shultz & Sheldon Zedeck, *Predicting Lawyer Effectiveness: A New Assessment for Use in Law School Admission Decisions* (2008), *available at* http://ssrn.com/abstract=1442118.

[30] *See* L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 4, 12.

[31] *See* CARNEGIE REPORT, *supra* note **; MACCRATE REPORT, *supra* note **; STUCKEY ET AL., BEST PRACTICES FOR LEGAL EDUCATION, *supra* note **, at 55-59.

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education. Professors who want to evolve beyond the traditional case dialogue method or those who use active learning techniques and who seek a more integrated teaching strategy will find that Team-Based Learning offers the best of both worlds. It engages students in rigorous analytical thinking that the case dialogue method seeks to develop, and develops students' essential lawyering communication skills.

A. Team-Based Learning Promotes Better Student Learning

The most important reason professors might adopt Team-Based Learning is that it results in better learning.[32] There are several reasons for this phenomenon. First, students consistently engage in higher level thinking[33] to apply course knowledge and skills to problem solving activities.[34] Second, students are responsible for learning the foundational material, and accountable to their team for being prepared.[35] Third, students learn to work collaboratively as part of a team, an essential professional skill.[36] Finally, Team-Based Learning brings the benefits of small-group work to large lecture classes.[37]

We believe professors want to promote student achievement through deep understanding of the law. To achieve this deep understanding, students must apply foundational knowledge to a set of facts — the more frequently, the better. Team-Based Learning allows students to take several passes at material early in a module, and then move on to advanced applications. This course structure allows students to consistently practice their analytical skills, likely exceeding their "thinking time" in a lecture-based course.

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[32] Frank J. Dinan, *An Alternative to Lecturing in the Sciences*, *in* TEAM-BASED LEARNING, *supra* note **, at 103 ("These studies showed that the team-based leaning classes consistently obtain statistically higher mean and average grades as do lecture students.").

[33] For a complete discussion of "higher level thinking" and what it means in legal education see SCHWARTZ ET AL., *supra* note **, at 68-71.

[34] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 20 ("Most cooperative learning exercises are application exercises, by the time spent on these exercises seldom exceeds 24-40 percent of total class time. With team-based learning, that percentage increases to 75-80.").

[35] Frank J. Dinan, *An Alternative to Lecturing in the Sciences*, *in* TEAM-BASED LEARNING, *supra* note **, at 102 (Reporting that in a six year study of student experience in Team-Based Learning organic and general chemistry courses 90% of students reported feeling "responsible to prepare for each class as well as possible" and 78% reporting that Team-Based Learning required "more consistent work than . . . the lecture method.").

[36] *See, e.g.*, Edward Poll, *Partnering with Your Partners: Promoting Team Rewards*, LAW PRACTICE TODAY (2003) (Why would lawyers in one firm want to team up? First and foremost, team efforts produce greater revenues, both for the firm and for the individuals. One reason for this is that it's easier to promote the capabilities of a colleague than it is to brag about yourself. Another is that the chances to connect on a personal level with a prospective client increase when more people are involved. A second benefit to teamwork is that multiple minds are frequently better than one. The intellectual interaction between lawyers working on a matter, especially a contested matter, can provide the fuel for very creative strategies that might not otherwise come up. A less obvious benefit was recently stated by a McLean, Virginia, company when it concluded: "...internal surveys show there's a bonus to teamwork. Workers not only make more money for the company; they are happier." Since law firms' assets wear shoes (and can leave without notice), the work atmosphere is important. Happy employees work longer, harder, and more effectively.)

[37] Larry K. Michaelsen, *Team-Based Learning in Large Classes*, in TEAM-BASED LEARNING, *supra* note **, at 154 ("Because most of the class time is used for group work, the interaction patterns resemble a small class even though there may be several hundred students in the same room. Students: (1) have many opportunities to interact with each other and the instructor, (2) are explicitly accountable for being prepared for, and, attending class, and (3) are motivated to do their part in completing the team assignments.").

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Research shows that students perform better on assessments in Team-Based Learning courses and report higher satisfaction with the course. For example, a study of 178 students in medical education showed students taught using Team-Based Learning achieved 5.9% higher mean scores on their examinations when compared to their peers taught with other methods.[38] This study showed that weaker students benefited at a higher rate.[39] Similarly, in a medical ethics course, which historically had not captured students' attention, students taught using Team-Based Learning achieved improved performance and increased student engagement and satisfaction.[40] This ethics course study also reinforced earlier findings that teams consistently outperformed individual students. The study supports the theory that group problem solving is more effective than individual problem solving.[41]

Students report satisfaction with Team-Based Learning, though this is not always apparent. For example, it takes time for new groups to become teams.[42] This process has been described as "forming, storming, norming, and performing."[43] Final large course evaluations have revealed that students find Team-Based Learning helps their learning more than it hurts it.[44] Not surprisingly, in addition to medical education, business and management educators are also Team-Based Learning adopters who have evaluated the impact of team on individual learning. Their findings reveal that a student's ability to engage in a variety of networks, social or otherwise, improve student learning and satisfaction with Team-Based Learning.[45] Overall, it appears that students feel more motivated to complete their work in order to help their team perform, resulting in better overall student learning.[46]

It is important for law students to be able to work collaboratively with other people, whether this takes the form of communicating with the court, clients, colleagues, or other

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[38] Paul Koles et al., *The impact of team-based learning on medical students' academic performance*, 85 J. OF THE ASSOC. OF AMER. MED. COLLS. 1739, 1745 (2010) (stating the course studied was a medical pathology course).

[39] Koles, *supra* note **, at 1745 (students in the lowest quartile mean scores were 7.9% higher on exam questions, while highest quartile students mean scores were 3.8% higher).

[40] Eun-Kyung Chung et al., *The effect of team-based learning in medical ethics education*, 31 MED. TEACHER 1013, 1017 (2009).

[41] Chung, *supra* note **, at 1015, 1016. *See* G. Neider et al., *Team-based learning in a medical gross anatomy and embryology class*, 18 CLIN. ANAT. 56 (2004).

[42] Clyde Freeman Herreid, *Using Case Studies in Science-And Still "Covering the Content"*, in TEAM-BASED LEARNING, *supra* note **, at 111.

[43] Clyde Freeman Herreid, *Using Case Studies in Science And Still "Covering the Content"*, in TEAM-BASED LEARNING, *supra* note **, at 111.

[44] Larry K. Michaelsen, *Team-Based Learning in Large Classes*, in TEAM-BASED LEARNING, *supra* note **, at 155 (citing survey of 605 students over 5 large courses, which also reported 18% thought the strategy helped and hurt, 24% reported it made no difference, 7% thought it hurt more than it helped, and 2% reported it hurt "a great deal").

[45] Timothy Baldwin et al., *The Social-Fabric of a Team-Based M.B.A. Program: Network Effects on Student Satisfaction and Performance*, 40 ACAD. OF MGMT. J. 1369, 1392 (1997) ("A second general finding of the present study was that levels of communication within teams were directly and strongly associated with perceptions of team effectiveness and workload sharing." *Id.* Baldwin also identifies that a student who is not well connected to a network finds team-based learning less enjoyable.)

[46] Legal education reforms have already indentified the benefits of collaboration among students. STUCKEY ET AL., BEST PRACTICES, *supra* note **, at 118 ("An extensive body of research documents the benefits of cooperative learning methods. Over the past 100 years, more than 600 studies have demonstrated that cooperative learning produces higher achievement, more positive relationships among students, and psychologically healthier students than competitive or individualistic learning.")(quoting Gerald F. Hess, *Heads and Hearts: The Teaching and Learning Environment in Law School*, 52 J. LEG. EDUC. 75, 77 (2002)).

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constituents. Team-Based Learning helps students understand how they can learn from others and how to resolve intellectual and interpersonal conflict. High functioning teams often generate "a willingness to challenge each other without fear of giving offense because of a high tolerance for honest communication."[47] Additionally, and of particular interest in law courses, is that the team experience facilitates "learning how to incorporate the ideas and perspectives of several people, and learning how to work through differences . . . greatly enhance[ing] each student's own ability to think effectively."[48]

Finally, Team-Based Learning can completely transform a typical large course full of silent students staring at laptop screens. A Team-Based Learning environment forces students out of disengagement because the professor uses her expertise to design a dynamic learning environment rather than relying on a traditional lecture based, knowledge-transfer model. Moreover, this happens without sacrificing content. Therefore, a student emerges from a Team-Based Learning course with the same knowledge exposure as a traditional course, but a much higher percentage of time spent applying material and receiving feedback. For example, a typical Team-Based Learning class may include students huddled around, sharing eye contact and physical space as they come to the best solution for a Torts problem. As one professor noted, "In normal lecture-based classes, students can remain passive, hidden throughout the semester. This is impossible to do in team-based learning. They must keep up with the work or everyone will know it. It is no wonder the grades are better."[49]

B. Team-Based Learning Meets the Need for Pedagogical Innovation in Legal Education

In 1992, the MacCrate Report laid the foundation for a number of legal education reforms.[50] Focusing on the need to narrow the gap between law school and the profession, the report focused on the skills and values necessary to form competent lawyers.[51] The MacCrate report specifically recognized that: "a lawyer functioning as a member of a team need not be familiar with all of the skills and values analyzed in the Statement, so long as the team as a whole can mobilize and effectively apply the full range of skills and values in representing a client and making professional judgments."[52] However, this recognition begs the question: How will law students know how to function as part of a team when we structure courses so that it is "relatively rare for students to address one another directly"?[53]

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[47] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 12.

[48] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 23.

[49] Clyde Freeman Herreid, *Using Case Studies in Science--- And Still "Covering the Content"*, *in* TEAM-BASED LEARNING, *supra* note **, at 112.

[50] MACCRATE REPORT, *supra* note **, at **.

[51] *See* MACCRATE REPORT, *supra* note **, at 124.

[52] MACCRATE REPORT, *supra* note **, at 125.

[53] CARNEGIE REPORT, *supra* note **, at 49-50. The authors note that skill based training is an exception to this observation. However, we suggest that the mere fact of the divide between "doctrinal" and "skills" based

The Carnegie report criticizes legal education's overreliance on its "signature pedagogy," the case dialogue method, particularly in the first year.[54] Others have chronicled how the Socratic method can alienate students from their legal education for cultural and gender based reasons.[55] However, the Carnegie report also describes the case dialogue method as "a potent form of learning-by-doing" and acknowledges that "[i]t encourages, at least for skillful teachers, the use of all of the basic features of cognitive apprenticeship."[56] A successful cognitive apprenticeship is one where the learner is engaged and motivated to learn, and acquires knowledge and skill at a mastery level.[57]

One approach to cognitive apprenticeship identifies six methods to effectively train a student to achieve mastery.[58] These six methods form the foundation for high-quality learning, where the professor is responsible for 1) modeling, 2) coaching, and 3) scaffolding, and the students engages in 4) articulating, 5) reflecting, and 6) exploring .[59] Team-Based Learning incorporates all six methods of mastery training. First, *modeling* typically occurs as the student prepares for class. A well-designed Team-Based Learning course exposes students to the foundational knowledge through assignments addressing core course concepts.[60] This might be assigned text reading, power point presentations, or a mini-lecture that equips students with the knowledge that they will apply later in the class or course. This models how a lawyer might approach learning a new area of law in practice and shows the

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courses erodes students' ability to understand that the skills courses are applicable to the doctrine they are learning.

[54] CARNEGIE REPORT, *supra* note **, at 77 (noting the diminishing student engagement in learning through second and third years of law school and hypothesizes that "many students having at first been intimidated by the demands of case-dialogue classes, gradually become disengaged from their coursework.").

[55] *See, e.g.*, Carole J. Bruckner, *Realizing Grutter v. Bollinger's "Compelling Educational Benefits of Diversity" – Transforming Aspirational Rhetoric into Experience*, 72 U.M.K.C. L. REV. 877 (2004) (describing the negative experiences of minorities with Socratic method and describing how to modify teaching to be more inclusive, particularly using heterogeneous learning groups); Lani Gunier et al., *Becoming Gentlemen Women's Experiences at One Ivy League Law School*, 143 U. PA. L. REV. 1 (1994) (describing women's experiences with case dialogue method).

[56] CARNEGIE REPORT, *supra* note **, at 74-75. The four basic teaching strategies observed in the case dialogue method are: "1) modeling, by making cognition visible; 2) coaching, by providing guidance and feedback: 3) scaffolding, by providing support for students who have not yet reached the point of mastery; 4) fading, by encouraging students when they are ready to proceed on their own." *Id.* at 61.

[57] John Seely Brown, Allan Collins & P. Duguid, *Situated Cognition and the Culture of Learning*, 18 EDUCATIONAL RESEARCHER 32 (1989) (hereinafter Brown)(…the term apprenticeship helps to emphasize the centrality of activity in learning and knowledge and highlights the inherently context-dependent, situated, and enculterating nature of learning. And apprenticeship also suggests the paradigm of situated modeling, coaching and fading…). *See also* Dorothy H. Evensen*, To Group or Not to Group: Students' Perceptions of Collaborative Learning Activities in Law School,* 28 S. ILL. U. L.J. 343, 354 (2004) ("They conclude that learners need to draw upon material tools and social resources that in essence extend, or distribute, cognitive capacities beyond those individually available.").

[58] Brown*, supra* note **, at 40 (In essence, cognitive apprenticeship attempts to promote learning within the nexus of activity, tool, and culture that we have described. Learning, both outside and inside school, advances through collaborative social interaction and the social construction of knowledge. Resnick has pointed out (1988) that throughout most of their lives people learn and work collaboratively, not individually, as they are asked to do in many schools. Lampert's and Schoenfeld's work, Scardamalia, Bereiter, and Steinbach's teaching of writing (1984), and Palincsar and Brown's (1984) work with reciprocal teaching of reading all employ some form of social interaction, social construction of knowledge, and collaboration.)

[59] *Id.*

[60] *See infra* pp. **-** for text discussing Team-Based Learning course design.

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student she can acquire knowledge without a lecture. It also allows a student to draw on skills she already has (basic reading and analysis) and use them to become an expert learner.

Second, the readiness assurance process[61] is a potent form of *coaching*, providing students with multiple kinds of immediate feedback. For one, students get feedback from their teammates when they take the readiness assurance test the second time as a team. They learn from their teammates when they debate the reasons for their answer choice, and they find out the whether they were correct as soon as the team makes it choice.[62] For another, the readiness assurance process provides individual data to the professor and student that can form the basis for one-on-one coaching during office hours.[63] In addition, the team readiness assurance process allows the entire class to engage in analyzing the best answer. As the professor discusses the results of the readiness assurance test in the class, the professor can easily correct misconceptions or misapplications of fundamental knowledge.

Third, the readiness assurance process serves to *scaffold* the necessary critical thinking for students to successfully apply their knowledge to more advanced applications. This *scaffolding* process also makes learning transparent. Because the solutions to problems are revealed in class, students are able to compare their own analysis not only to that of their peers, but also to that of the "expert": the professor.[64]

Fourth, one of the most powerful aspects of Team-Based Learning is that every student *articulates* his or her understanding of legal concepts in almost every class, thus engaging in one of the building blocks of mastery.[65] At a very basic level, talking through the analysis trains law students how to engage in discussions of the law. For example, a Team-Based Learning professor might pose a problem to the class with a specific set of questions. That specific set of questions *scaffolds* the discussion in a way that requires students to *articulate* the "why" of their analysis.[66]

Fifth, when students *articulate* their reasoning within the team, they also have the opportunity to *reflect* on how others reason. In turn, this helps students move from having one approach to problem solving, to a obtaining several different approaches.[67] *Reflecting* may be done as part of a team assessment (asking how did the team help the students' learning) or it may occur as part of the problem-solving process within teams. As students *reflect*, they

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[61] *See* text accompanying notes ** to ** about the readiness assurance process.

[62] *See* text accompanying notes ** to ** about the "Immediate Feedback Assessment Technique" forms.

[63] Once we started using the readiness assurance process, we found that students approached us much earlier in the semester to talk about ways they could improve their studying. Having received feedback on a readiness assurance test within the first two weeks of school, many students, especially first year law students, realized that they needed to revise their usual systems of studying and preparing for tests. These conversations during office hours are particularly revealing, with students often saying things like, "I guess I need to do more than just understand the rules" and "I need to really read the questions closely."

[64] Allan Collins, John S. Brown. & Susan Newman, *Cognitive Apprenticeship: Teaching the craft of reading, writing, and mathematics, in* KNOWING, LEARNING, AND INSTRUCTION: ESSAYS IN HONOR OF ROBERT GLASER (L.B. Resnick ed. 1989), at 453-94.

[65] MICHAEL HUNTER SCHWARTZ, EXPERT, LEARNING, FOR LAW STUDENTS 185 (2d ed. 2008) (noting the effectiveness of paraphrasing in helping students learn).

[66] *See* INSTITUTE FOR LAW TEACHING AND LEARNING, http://www.teambasedlearning.org/ (last visited Jan. 15, 2012).

[67] *See* Brown*, supra* note **, at 38 (discussing how reflection moves students from understanding the solution to a specific problem to understanding the general approach to problem solving).

are able to more quickly assess their progress in acquiring the necessary knowledge and skill in applying it to novel fact patterns.

Sixth, Team-Based Learning courses engage students in *exploring* how legal rules function by continually giving them opportunities to explore and solve new problems based on their increasing knowledge. Each time students apply new material, they are exploring how to make professional judgments about the kinds of situations that they will face in practice.[68] Therefore, by experiencing the six methods that support a cognitive apprenticeship with Team-Based Learning, students develop professional judgment *and* the ability to discuss their judgments at a level that prepares them for practice. This is a primary reason that Team-Based Learning achieves the cognitive apprenticeship endorsed by the Carnegie Report in a more effective way than the traditional case dialogue method.

In summary, the professor's perspective illustrates the contrast between the case dialogue method and Team-Based Learning. Team-Based Learning allows a law professor to step away from mindset of "What will I teach?" to "What will students learn?"[69] This subtle but critical shift allows law professors to design each class to highlight the key attributes of mastery. Though professors can incorporate some attributes of a cognitive apprenticeship using the case dialogue method, Team-Based Learning more efficiently engages a broader range of the attributes. As a result, Team-Based Learning addresses most of Carnegie's concerns, while also incorporating key objectives of Best Practices and allowing students to practice many MacCrate skills and values. Because of these attributes, there is a strong case for Team-Based Learning use in law school.

C. Team-Based Learning Integrates Knowledge, Skills, and Values Learning

With proposed ABA outcomes and current regional assessment standards,[70] professors will need to use teaching methods that integrate these three pillars of learning.[71] Traditionally, the legal academy has classified courses as either doctrinal or skills based (with values usually incorporated in skills courses).[72] However, today we realize that student engagement and deep learning comes from courses that integrate knowledge, skills, and values learning — a key advantage of Team-Based Learning.

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[68] Leah M. Christensen, *Enhancing Law School Success: A Study of Goal Orientations, Academic Achievement and the Declining Self-Efficacy of Our Law Students,* 33 Law & Psychol. Rev. 57, 76 (2009) (noting the need to help law students transition to practice:

> Young attorneys, especially, encounter some of their greatest fears on a daily basis. When a young attorney (a rookie if you will) is presented with a directive whether it is from a client, a boss or a judge, this can be one of the most daunting events of their young professional life.

(quoting Erika Wirken, *Commentary: Lawyers Must Face Challenges*, DAILY REC. & KANSAS CITY DAILY NEWS PRESS, Sept. 27, 2004).

[69] *See* SCHWARTZ ET AL., TEACHING LAW BY DESIGN, *supra* note **, at 38-40.

[70] NEASC, e.g. representative of regional accrediting. http://cihe.neasc.org/standards_policies/standards. (last visited Jan. 15, 2012).

[71] ABA STANDARDS REV. COMM. ON LEGAL EDUCATION AND ADMISSIONS TO THE BAR chpt. 3 (Proposed Draft), http://www.americanbar.org/content/dam/aba/migrated/2011_build/legal_education/committees/ standards _review_documents/nov2011/20111012_drafts_reporters_notes_november_src_meeting_materials. authcheckdam.pdf (last visited Jan. 15, 2012).

[72] *See, e.g.*,, Byron D. Cooper, *The Integration of Theory, Doctrine, and Practice in Legal Education*, 1 J. OF THE ASS'N OF LEGAL WRITING DIRECTORS (2002), available at http://ssrn.com/abstract=1095487?

Team-Based Learning allows professors to seamlessly teach knowledge and skills; Team-Based Learning does not sacrifice "coverage" of topics in order to teach "skills." How can this be? Students learn foundational knowledge through their class preparation assignments. Professors are able to assess immediately students' understanding of foundational knowledge with a test and correct any misconceptions with a mico-lecture. With the foundation in place (and students responsible for learning it), the class can then move on to more advanced application exercises. This allows students to engage in higher-level analysis of the course concepts — again resulting in deeper learning without sacrificing coverage.

Team-Based Learning teaches analytical skills through the carefully calibrated application exercises student teams work together to solve. In addition to analytical skills such as synthesis and application, students learn to use valuable communication skills. Working as a team to come to a specific answer requires students to articulate their positions, discuss and analyze their differences, and come to consensus. Students practice these skills as they work through substantive course concepts. More specifically, students engage in using important MacCrate skills such as creativity.[73] As students communicate their creative approaches to problem solving and negotiate within their team, they also discover useful connections and associations between seemingly unrelated concepts and facts.[74] This team interaction introduces and allows students to practice social and ethical behavior necessary for practice and leadership.[75]

Team-Based Learning also teaches the value of clear communication, honesty, and cooperation — all essential to successful legal professionals. Values learning can be difficult for students who must effectively communicate a professional issue to a peer for the first time. However, Team-Based Learning allows this experience in the classroom rather than on the job. We believe most professors would agree that quality "values" learning occurs when teammates consider how to resolve the difficult, but very real, problems of a team member dominating or not carrying a fair share of the load.

For example, a team member who had a successful career before law school may simply take charge of the team without realizing his or her "leadership" has chilled team conversation. How should the team solve this problem? What if the team does not address it? Learning how to address such values issues requires individuals to develop the skills to have difficult, yet frank and productive, discussions with clients or colleagues. Learning what students value about their peers also leads to greater self-reflection about what individuals bring to the team.

D. Team-Based Learning is Transparent Learning

Team-Based Learning is as much a course design tool as it is pedagogy. Because the professor deliberately plans each unit of learning with specific objectives in mind, students gain clear understanding of the learning objectives from the beginning of readiness assurance process. The readiness assurance process also reinforces what students should be learning.

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[73] MACCRATE REPORT, *supra*, note **, at ** (Skill 7.1).

[74] *Id.* at ** (Skills 2.5(b)(i)(A), 4.6(b). 7.1(d)(i)).

[75] Kranich, *supra* note **, at 392. (analyzing Carnegie Report claim that case dialogue method may result in distorted socialization in the profession).

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This increases transparency because students see how the learning objectives are connected to — or aligned with[76] — the course assessments. Further, because the professor gives immediate feedback on foundational concepts, the students see and hear, once again, what is important to learn in the course. Finally, when the professor quickly corrects misconceptions with a mini-lecture before moving students on to higher-level applications, the students see and hear how and where to focus their attention. For example, a student who discounts details as unimportant and focuses only on the black letter rules, will very quickly learn to focus her attention to the nuances of the rule. This happens as the professor specifically discusses what made a particular answer the best one.

The team applications, or what the case dialogue method might call "hypotheticals" also provide formative and summative feedback. Michaelson's "4S's" create a critical thinking environment by requiring significant analysis of the same problem that requires a specific choice and is simultaneously reported by teams.[77] The application process also mitigates some of the problems associated with the case dialogue method. In Team-Based Learning, all students are engaged in the analysis of the same question and have to articulate the point— leading again to transparency about what they are supposed to be learning. For example, if an application answer is "the plaintiff cannot recover economic damages" the team will have reasoned through why this is the correct answer. If the team gets it wrong, they will hear other teams' explanations of the correct answer, with input and guidance from the professor.

With Team-Based Learning, students are vested in knowing the answers given the time they have spent developing their reasoning with their teammates. The subject matter and its analysis take center stage for all students, even if that class is in a large lecture hall.[78] Additionally, Team-Based Learning validates the need for learning outcomes or "standards of performance" across the curriculum. Team-Based Learning is fun and exciting for students and their professors…not just because it is new, but because it is a close-to-perfect solution for many of the disadvantages of traditional legal education.[79]

III. Implementing Team-Based Learning in the Law School Classroom

Team-Based Learning follows and builds on the principles of effective instructional design.[80] As with all effective teaching, Team-Based Learning involves considerably more

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[76] "Alignment refers to the degree to which [an assessment] method captures the [student] learning [objectives]." PEGGY L. MAKI, ASSESSING FOR LEARNING: BUILDING A SUSTAINABLE COMMITMENT ACROSS THE INSTITUTION 90 (2004).

[77] *See* Kranich, *supra* note **, at **-**.; *see also* TEAM-BASED LEARNING NEXT BIG STEP, *supra* note **, at 20-21 (summarizing the "4S's as 1) assigned problems are *significant*; 2) assigned problems are the *same* for all students; 3) students must solve the problem with a *specific* choice; and 4) student teams *simultaneously* report their answer.)

[78] *See* CARNEGIE REPORT, *supra* note **, ** (noting the problematic case dialogue phenomenon that students perceive the professor as the focal point of the course, rather than the subject matter and its analysis).

[79] *See, e.g.*, Justine Dunlap, *"I'd Just As Soon Flunk You As Look at You": The Evolution to Humanizing in a Large Classroom*, 47 WASHBURN L.J. 389, 392 (2008)("The so-called Socratic Method has assumed prominence as the natural inheritance of the law-teaching profession. An examination of its literature led me to conclude that it can be and often is dangerously misused, although there are signs that its abuse is abating. If done well, however, it can be a form of active learning and is not necessarily dehumanizing.").

[80] For a comprehensive discussion of instructional design principles, and their application to legal education, see Michael Hunter Schwartz, *Teaching Law by Design: How Learning Theory and Instructional Design Can Inform and*

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than what happens in the classroom,[81] representing a comprehensive approach to course design, focusing on deep understanding, assessment, accountability, and high levels of group cohesiveness.[82] Many of these course considerations are similar to what law professors already do as they seek to improve student-learning outcomes.[83] The difference is in the way Team-Based Learning builds upon and integrates these components in transformative and powerful ways.

Professors who want to use Team-Based Learning should be prepared to spend significant amounts of time preparing before the course starts, as well as designing and refining course components during the semester.[84] To implement Team-Based Learning effectively, professors must: 1) identify student learning objectives; 2) divide a course into modules or learning units that focus on core learning objectives; 3) create reading assignments and assessments for the readiness assurance process that introduces students to the learning unit; 4) design complex and significant application exercises; 5) determine a grading system; 6) form permanent diverse teams of students; and 7) facilitate team discussions. This section addresses how to design and implement each of these parts of Team-Based Learning, and suggests ways to start using this strategy in traditional law school courses.[85] Because Team-Based Learning requires professors to incorporate a wide variety of assignments, assessments, teaching methods, and materials throughout the course, this section provides information about the larger components, such as designing a grading

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Reform Law Teaching, 38 SAN DIEGO L. REV. 347 (2001); for instructional design principles *see generally* WIGGINS & MCTIGHE, *supra* note **; SMITH & RAGAN, *supra* note**.

[81] KEN BAIN, WHAT THE BEST COLLEGE TEACHERS DO 48-67 (2004) (describing the thorough and thoughtful ways in which exceptional teachers planned and prepared their teaching). Leading educators' books on teaching all stress the importance of planning, preparing, and making intentional and thoughtful choices about teaching. *See, e.g.*, BARBARA GROSS DAVIS, TOOLS FOR TEACHING 4 (2d ed. Jossey Bass 2009) (focusing the first eight chapters on course preparation and responding to current students); Linda B. Nilson, TEACHING AT ITS BEST: A RESEARCH-BASED RESOURCE FOR COLLEGE INSTRUCTORS (2d ed. 2003) (including chapters on topics such as "Understanding Your Students," "In the Beginning: Course Design by Objectives," "The Complete Syllabus," and "Motivating Your Students,"); WILBERT J. MCKEACHIE & MARILLA SVINICKI, MCKEACHIE'S TEACHING TIPS: STRATEGIES, RESEARCH, AND THEORY FOR COLLEGE AND UNIVERSITY TEACHERS 10-20 (13th ed. 2010) (providing an outline of steps to take starting three months before the first class); FINK, CREATING SIGNIFICANT LEARNING EXPERIENCE, *supra* note **, at ** (dedicating four out of the book's seven chapters on how to create and design significant learning experiences); WIGGINS & MCTIGHE, *supra* note ** (dedicating 11 out of 13 chapters to course design); SMITH & RAGAN, *supra* notet ** (dedicating 16 out of 20 chapters on course design and learning strategies).

[82] As Michaelsen notes, "effectively using team-based learning typically requires redesigning a course from beginning to end and the redesign process should begin well before the start of the school term." Larry K. Michaelsen, *Getting Started with Team-Based Learning*, *in* TEAM-BASED LEARNING, *supra* note **, at 35.

[83] *See, e.g.*, SCHWARTZ ET. AL, *supra* note **, at **; GERALD F. HESS ET AL., TECHNIQUES FOR TEACHING LAW 2 (Carolina Academic Press 2011) (containing teaching ideas and perspectives from nearly 100 law professors).

[84] We were inspired to try Team-Based Learning after experiencing the strategy ourselves, observing how everyone in the room was thoroughly engrossed in learning together. We found out, however, that adopting this strategy can be a lot of work, at least the first time it is implemented. Even though Team-Based Learning requires a large initial investment, we continue to use it and strongly encourage colleagues to try it because of its potential to help all students learn regardless of class size, course material, students' class rank, and students' year in law school.

[85] There are multiple ways to use Team-Based Learning in clinics, seminars, writing and skills courses. Professors in other disciplines have used Team-Based Learning in teaching on-line courses, and we have used on-line components in our courses. This Article's focus, however, is on using Team-Based Learning in doctrinal courses.

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system that includes a variety of assessments throughout the course, and smaller details, such as effectively forming student groups early in the semester.

A. Design Law Student Learning Objectives

One of the essential first steps in designing a Team-Based Learning course is to identify what specific objectives law students will learn from the course — knowledge, skills, and values. Without first focusing on the students' learning objectives, and using those objectives to structure the course, the other aspects of Team-Based Learning — students engaging in the readiness assurance process, taking individual and team readiness assurance tests, working in teams to apply course concepts, being accountable for out-of-class preparation and in-class contributions — lose effectiveness.[86]

Identifying learning objectives requires law professors to shift the focus on what *they* do or "cover" to what the students will learn.[87] This requires professors to identify 1) the important legal doctrines, tests, rules, concepts, and procedures that students should know, as well as the relationships among them; 2) the core legal skills students should perform, such as evaluating facts from different sources, advising clients about legal options, drafting documents, conducting research, and resolving ethical dilemmas; and 3) the values or attributes students should show during the course, such as acting professionally, treating others with respect, and learning from feedback. In addition, to make these learning objectives effective, professors should also think about how to measure whether students have achieved these objectives. Ideally, professors identify these learning objectives before the course begins and in the course syllabus, as they shape the design of the entire course.[88]

Team-Based Learning, perhaps more deliberately than any other teaching approach, deeply relies upon and constantly emphasizes student learning objectives. Identifying objectives in advance, referred to as "backward design"[89] is the reverse of how many of us may have designed our courses, where we may have reviewed legal texts' tables of contents,

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[86] Some Team-Based Learning advocates argue that a course is not truly "Team-Based Learning" unless a number of standards are met, including all these components. Leaders in the Team-Based Learning community are currently engaged in debating the "standards" and what makes a course a Team-Based Learning course.

[87] "Objectives" refers to what students are expected to learn from a course; in other educational literature the term "outcomes" or "goals" may have the same meaning. SMITH & RAGAN, INSTRUCTIONAL DESIGN 4-12 (3d ed. Wiley Publishers 2005) (describing the instructional design process and advantages); SCHWARTZ ET AL., TEACHING LAW BY DESIGN, *supra* note **, at 37- 42; 191-202 (including examples of course and class goals, and syllabi); STUCKEY ET AL., BEST PRACTICES FOR LEGAL EDUCATION 39-91 (Clinical Legal Educ. Ass'n. 2007) (including examples of student learning goals) at 37-42, 135-39; L. DEE FINK, CREATING SIGNIFICANT LEARNING EXPERIENCES, *supra* note **, at 33-35, 60-67. For a list of goals applicable to law school, consider "Fundamental Lawyering Skills" from MACCRATE REPORT, *supra* note **, at 135-221; GREGORY S. MUNRO, OUTCOMES ASSESSMENT FOR LAW SCHOOLS 199-217 (Institute for Law Teaching and Learning 2000). *See also* ANGELO & CROSS, *supra* note **, at 393-97 which provides a "Teaching Goals Inventory and Self-Scorable Worksheet" that allows professors to identify goals for a course, such as "Develop ability to apply principles and generalizations already learned to new problems and situations," "Develop ability to synthesize and integrate information and ideas," and "Develop ability to think holistically: to see the whole as well as the parts."

[88] SCHWARTZ ET AL, TEACHING LAW BY DESIGN, *supra* note **, at 38-42, 43-44; BARBARA GROSS DAVIS, TOOLS FOR TEACHING 3-12 (2d ed. Jossey-Bass 2009).

[89] In backward design, "we must be able to state with clarity what the student should understand and be able to do as a result of any plan and irrespective of any constraints we face." WIGGINS & MCTIGHE, *supra* note ** at 14.

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pored over texts' hundreds of pages, divided the number of topics by the number of classes, and allocated reading assignments accordingly.[90] This traditional approach to law school course design focuses on "covering"[91] material during the course, rather than focusing on the essential knowledge, skills, and values students should learn. To design a course backwards, consider the following:

> What are the students who really understand the material doing that shows you they get it? Imagine you are working shoulder-to-shoulder with a former student who is now a junior colleague. In a wonderful moment, you see that colleague do something that makes you think, "Hey! She really got from my class what I wanted her to get. There's the evidence right there!" When you are designing a course backward, the question you ask yourself is: "What specifically is that evidence? What could a former student be doing in a moment like that to make it obvious she really internalized what you were trying to teaching her and is putting it to use in a meaningful way? "[92]

Consider many such incidents of what such a student might be doing, as successful students will show a host of complex skills, knowledge, and values because of taking your course.[93]

Another way to approach backward design is to examine a course's final[94] assessment. The knowledge, skills, and values professors test on a final paper, exam, or presentation, should indicate important learning objectives.[95] For example, most Civil Procedure professors we know test students' ability to analyze personal jurisdiction, suggesting that effectively analyzing personal jurisdiction is one of the important learning objectives in Civil Procedure. This seems appropriate; analyzing personal jurisdiction requires that students master complex knowledge and skills, much as lawyers have to use in

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[90] SCHWARTZ ET AL., *supra* note **, at 65; FINK, DESIGNING SIGNIFICANT LEARNING EXPERIENCES, *supra* note **, at 61.

[91] As other educators have phrased this,
> [A]t its worst, a *coverage* orientation—marching through the textbook irrespective of priorities, desired results, learning needs and interests, or apt assessment evidence—may defeat its own aims. For what do students remember, much less understand, when there is only *teaching* with no opportunity to really *learn*—to work with, play with, investigate, use—the key ideas and points of connection? Such an approach might correctly be labeled, "Teach, test, and hope for the best."

WIGGINS & MCTIGHE, *supra* note **, at 3.

[92] Larry K. Michaelsen & Michael Sweet, *The Essential Elements of Team-Based Learning* 13-14, *in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 13-14.

[93] Larry K. Michaelsen & Michael Sweet, *The Essential Elements of Team-Based Learning* 13-14, *in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 14.

[94] We suggest looking at final assessments, as they usually require students to integrate and apply the knowledge and skills they have learned throughout the course.

[95] Within the educational literature, this is often referred to as "alignment." "*Alignment* means that learning outcomes, instructional activities, and assessments of student learning are consistent and reinforce each other. Research shows that learning in improved when there is alignment among what instructors intent to teach, what they actually teach, and what they test." DAVIS, TOOLS FOR TEACHING, *supra* note **, at 4. Not having this alignment begs a question. If final assessments do not test important learning objectives, why are we using them to determine a significant part of students' grades?

practice.[96] In Civil Procedure, as in any law course, students need to have mastered many learning objectives beyond one essay question on an exam. Therefore, professors must consider what else is important for students to have learned by the end of the course. In a Team-Based Learning course, the professor identifies these learning objectives for the course, for each of the four-to-seven units in the course, and for each class. Regardless of how professors identify student learning objectives, they should publish these important measurable learning objectives in writing in their syllabus and course materials. These published explicit learning goals and objectives then shape the course structure, reading assignments, course pacing, topic sequencing, class exercises, feedback mechanisms, exams, and other assessments. When professors have and remind themselves of the learning objectives for each class, assignment, test, exercise, and team project, they are more likely to strive to maximize student learning.[97]

B. Divide a Course into Modules or Learning Units

Following the principles of effective course design, once professors have identified important student learning objectives, they divide a Team-Based Learning course into modules or learning units.[98] The goal is to provide an organizational framework that will promote deep understanding of essential material rather than focusing solely on the volume of doctrine — "the 'mile wide, inch deep' problem."[99] Breaking a course into learning units promotes students' ability to gain deep understanding and helps them develop expertise.[100] Team-Based Learning professors design a series of assignments, assessments, and problems to actively and explicitly reinforce student learning about the material in that unit.

In general, a semester-long Team-Based Learning course will have about four to seven units, each corresponding to several weeks of classes and focusing on important learning objectives.[101] This is similar to what other law professors do already. "For example,

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[96] Testing students about personal jurisdiction assesses whether they have important legal knowledge — they must understand the Federal Rules of Civil Procedure, Supreme Court decisions, state long-arm statutes, and their relationships. Effective personal jurisdiction analysis also demands that students show sophisticated legal skills — analyzing and synthesizing cases, selecting, evaluating, and applying facts, accurately analyzing the relationships among the facts, state statutes, federal cases, and federal rules, and communicating that analysis in an accurate, organized, and coherent written document. On a final exam, students may also be asked to show that they have learned legal values, such as identifying the advantages and disadvantages of the civil procedure system.

[97] FINK, SIGNIFICANT LEARNING EXPERIENCES, *supra* note **, at 100-01.

[98] Suggestions for organizing, limiting, and sequencing course content are included in DAVIS, TOOLS FOR TEACHING 8-11. Michaelsen suggests that this step — breaking a course into separate learning units— comes before identifying student learning objectives. Michaelsen, *Getting Started with Team-Based Learning, in* TEAM BASED LEARNING, *supra* note **, at 36.

[99] HOW PEOPLE LEARN, *supra* note **, at 36. Studies of experts show that "[t]heir knowledge is not simply a list of facts and formulas that are relevant to their domain; instead their knowledge is organized around core concepts or 'big ideas' that guide their thinking about their domains." *Id.* at 36 ("'[U]sable knowledge' is not the same as a mere list of disconnected facts. Experts' knowledge is connected and organized around important concepts....") *Id.* at 9.

[100] *Id.* at 17 ("A key finding in the learning and transfer literature is that organizing information into a conceptual framework allows for greater 'transfer'; that is, it allows the student to apply what was learned in new situations and to learn related information more quickly.")

[101] "Experienced instructional designers recommend four to seven topics or issues for a semester-long introductory course." DAVIS, TOOLS FOR TEACHING 10. *See* Michaelsen, *Getting Started with Team-Based Learning,*

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in contracts, learning units might be: formation, defenses, remedies, interpretation and the parol evidence rule, conditions and performance, and third party contract rights (third party beneficiaries, assignment and delegation)."[102] Regardless of whether the course primarily focuses on skills, doctrine, values, or all three, dividing them into a limited number of learning units as professors apply Team-Based Learning helps them and their students focus on gaining a deep understanding of important learning objectives.

C. Plan the Readiness Assurance Process

Team-Based Learning's readiness assurance process reinforces student-learning objectives in each of a course's four to seven learning units.[103] During the readiness assurance process, students are assigned to learn the core concepts of a learning unit on their own, before the unit's first class. On the first class day of the unit, students take a closed-book[104] multiple-choice test on the core concepts. This process — having students prepare independently, assessing their understanding, and providing them with immediate feedback — ensures that students have sufficient grounding in foundational concepts that they can later solve more sophisticated and complex problems related to the learning unit material.[105] Thus, students do more than identify concepts; they develop the working knowledge necessary to solve problems.[106] Figure 2 illustrates the steps in the readiness assurance process.

Figure 2: Readiness Assurance Process

[in] TEAM-BASED LEARNING, *supra* note **, at 36; SCHWARTZ ET AL., TEACHING LAW BY DESIGN, *supra* note **, at 47-48.

[102] SCHWARTZ ET AL., TEACHING LAW BY DESIGN, *supra* note **, at 47. Similarly, in remedies these learning units might be: injunctive relief, specific performance, contempt and equitable defenses, contract damages, tort damages, restitution and declaratory relief. An advanced writing course could break the learning units into different kinds of documents, such as those relating to pre-trial litigation and discovery; trial and appellate work, advice and demand letters, contracts, legislation and rule-making.

[103] Michaelsen, *Getting Started with Team-Based Learning*, in TEAM BASED LEARNING, *supra* note **, at 38, Table 2.1, 41-44.

[104] As the course continues, we have added variations to the closed-book rule, such as allowing students to bring in a one-page, single-sided sheet with notes and, in a writing class, allowing students to bring in reference material such as THE BLUEBOOK: A UNIFORM SYSTEM OF CITATION (Columbia Law Review Ass'n et al. eds., 19th ed. 2010) and THE REDBOOK: A MANUAL OF STYLE (Bryan A. Garner, Jeff Newman, & Tiger Jackson, 2d ed., Thomson-West Publishing 2002). In addition, students with learning disabilities or other accommodations, such as students who are not native English speakers, may be given access to a foreign language dictionary.

[105] *See* CARNEGIE REPORT, *supra* note **, at 13 (noting that understanding principles and doctrine is an essential first step in preparing for the practice of law); Michaelsen, *Getting Started with Team-Based Learning*, in TEAM BASED LEARNING, *supra* note **, at 43.

[106] L. Dee Fink identifies students' ability to apply knowledge as one of the six major categories in his taxonomy of significant learning, "Application." As Fink explains:

> Besides picking up facts and ideas, students often learn how to engage in some new kind of action, which may be intellectual, physical, or social. Learning how to engage in various kinds of thinking (critical, creative, practical) is an important form of application learning. But this category of significant learning also includes developing certain skills (such as communication or playing the piano) or learning how to manage complex projects. . . . Application learning allows other kinds of learning to become *useful*.

FINK, CREATING SIGNIFICANT LEARNING EXPERIENCES, *supra* note **, at 31.

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Sequence for students ⇩	Sequence for professor ⇩
Before class: 1. Students read overview materials (text, authorities, or supplement) and answer study guide questions. **In class:** 2. In-class, students complete closed book test individually, and submit individual answers. ~ 20 mins 3. Students complete test in teams, using scratch off IF-AT sheets[107] ~ 20 mins 4. Students prepare optional written appeals ~10 mins 5. Students get feedback and guidance from professor about areas of confusion ~10 mins 6. Students receive individual answer sheets with their individual scores	**Before class:** 1. Prepares assignments for learning unit overview 2. Prepares and distributes study guide questions 3. Prepares multiple-choice test on learning unit material (plus previous material) 4. Prepares individual answer sheets for students **In class:** 5. Gives students individual test and collects individual answers 6. Distributes team answer sheets 7. Scores and records individual answers 8. Reviews data from individual and team answers 9. Provides short lecture clarifying biggest areas of confusion 10. Collects written appeals (reviewed and decided out of class, with results given in next class)

1. Assign Independent Student Preparation

   To prepare students for a graded test that assesses whether they understood a learning unit's important concepts, Team-Based Learning professors assign introductory reading[108] material that explains those concepts in ways that students can understand and apply.[109] The focus of the reading material should be on the important concepts in the unit rather than the many nuances and intricacies of the material. "The goal in this initial phase is not for the students to gain an in-depth mastery or full comprehension of all the readings

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[107] *See* text accompanying notes ** to ** for an explanation of Immediate Feedback Assessment Technique (IF-AT).

[108] In addition to reading materials, or as an alternative to written text, students could be assigned to listen to a podcast, watch a narrated slide show or video, or complete a series of interactive computer learning exercises, such as those available at the Center for Computer Assisted Legal Instruction, http://www.cali.org/ (last visited Jan.15, 2012).

[109] Michaelsen, *Getting Started with Team-Based Learning, in* TEAM BASED LEARNING, *supra* note **, at 42.

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but to get a good introduction to the information and ideas on this topic; in-depth understanding will come later."[110] To gauge the effectiveness of assigned material for the readiness assurance process, it helps if professors put themselves in the position of the law students in their course. The assigned material must be accessible and clear enough that all students can independently learn the basic material to answer test questions about it. This means selecting texts, cases, journal articles, or other sources that include effective overviews of the learning units. Some law texts purposefully and helpfully include such an overview;[111] some significant cases will similarly provide the history of a doctrine, outline the major policies behind the law, summarize the major tests and analytical approaches, and provide a context for future application.[112] If such material is unavailable, however, other sources, such as a treatise, student-focused commercial supplement, or the professors' own course material, can provide students with a clear overview of foundational learning unit material.[113]

Even though some professors consider student-focused supplements inappropriate for legal education, these additional descriptions of the law provide a helpful context and clarification for students much as practice materials do for lawyers.[114] Similar to secondary sources used by attorneys, supplements provide overviews of material that are not reliable as governing law, but often provide helpful structures, visual aids, clear language, and other features that enhance students' ability to grasp material from primary sources.[115] By assigning

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[110] Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM BASED LEARNING, *supra* note **, at 10. For law professors, this would be the content found in the general table of contents, not the detailed table of contents.

[111] *E.g.* MICHAEL HUNTER SCHWARTZ & DENISE RIEBE, CONTRACTS: A CONTEXT AND PRACTICE CASEBOOK xxvi (2009) (This is the first of a new casebook series designed to reflect current research on teaching and learning and responding to recent critiques of legal education).

[112] For example, in Administrative Law the *Chevron* case and its progeny can be very difficult for students to understand from cases alone. In this instance, Margaret assigns Chevron, U.S.A. v. Natural Resources Defense Council, Inc., 467 U.S. 837 (1984) as presented in WILLAM F. FUNK ET AL., ADMINISTRATIVE PROCEDURE AND PRACTICE, PROBLEMS AND CASES 144-54 (4th ed. Thomson-West Publishing 2010) and WILLIAM F. FUNK AND RICHARD H. SEAMON, ADMINISTRATIVE LAW: EXAMPLES AND EXPLANATIONS 281-299 (Aspen Publishers 2009) so that students read the case, apply its rule to a specific problem, and have context for the rule from a secondary source.

[113] Some resources that students find helpful are those that law publishers produce, such as Aspen's Examples & Explanations series, LexisNexis's Understanding series, and Thomson West's Concise Hornbooks series, among others. Students also learn from materials designed for practice, which many can access at their law library or through their law school's electronic research databases.

[114] Visiting the website of the American Bar Association suggests that practicing lawyers find secondary sources useful. "Our legal publications support professional excellence and greater understanding of the law. We publish approximately 100 law books per year as well as approximately 60 magazines, newsletters, and journals in numerous specialized areas of the law." AMERICAN BAR ASSOCIATION, http://www.americanbar.org/publications_cle/publications.html (last visited Jan.15, 2012).

[115] We know of no law professors who teach using only commercial supplements, and doubt that any law school administration would support that approach. Several law professors, including the authors, have either required or recommended students use specific commercial supplements in their courses, but students cannot excel in the course without reading primary materials. Letting students know about supplements — and the similar materials available for lawyers — also educates them about the vast array of resources they can use in law school and practice to efficiently begin to grasp complex new material. We know of many colleagues in legal education and practice who are stunned to learn that such helpful resources are available, making comments such as, "I had no idea there was an entire series on this area of practice in my state." In addition, supplements may provide students with useful resources that students can use to help them realize their different learning preferences. LEAH CHRISTENSEN, THINKING OUT OF THE BOX: A HANDBOOK FOR LAW STUDENTS WHO LEARN DIFFERENTLY 81-83 (Carolina Academic Press 2011).

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overview material, Team-Based Learning mirrors how lawyers learn independently, and reinforces one of the important goals of legal education: preparing students for a career that demands life-long learning.[116]

Some students can easily and independently grasp important concepts from overview material, but others, especially first year students, may struggle.[117] In these situations, consider creating a series of study guide questions that help students focus on learning the material that they would expect everyone to know, such as the elements of a cause of action, definitions of key terms, important tests, processes, or concepts.[118] Study guides used in a Team-Based Learning course can also identify which questions students should be able know and apply on a closed-book readiness assurance test, helping students focus on key principles they need to learn.[119] Depending on the course and your students, professors may decide to provide study guide questions for important materials throughout the course, or choose to gradually limit the number of questions as students develop expertise and skill in legal reading and self-regulated learning.[120]

2. Assess Student Understanding

Having identified the important foundational concepts students need to learn for each learning unit, the next step in a Team-Based Learning course is designing the readiness assurance tests. Each test, given on the first day of a new learning unit, usually includes ten to twenty multiple-choice questions,[121] each of which focuses on important concepts

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[116] As the authors of BEST PRACTICES state, "All professionals must be lifelong learner." STUCKEY ET AL., *supra* note **, at 66. The authors further note, "[i]t is unlikely that three years of law school will fully prepare students for practice, but law schools can protect their graduates' clients by helping students become proficient lifelong learners who can realistically evaluate their own level of performance and develop a plan for improving." *Id.* at 67.

[117] "In some cases, students' reading limitations are a very legitimate cause for concern. These include: difficult subject matter, poorly written reading materials, insufficient reading skills, limited [English] language skills, and physical or mental handicaps." Larry K. Michaelsen, *Frequently Asked Questions about Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 218.

[118] Most of the study guide questions can ask students to find the right answer in the reading material, such as "What are the elements of negligence?" or "What is the general rule for the standard of care for a minor?" Students could additionally be guided to consult additional resources, such as RUTH ANN MCKINNEY, READING LIKE A LAWYER 19 (Carolina Academic Press 2005) and MICHAEL HUNTER SCHWARTZ, EXPERT LEARNING FOR LAW STUDENTS (2d ed. Carolina Academic Press 2008), both of which provide excellent guidance in how to read legal texts. Students could also consult with the educators at their law school's Academic Success Program, who have expertise in teaching students how to maximize reading and learning strategies.

[119] In addition to including questions that focus on foundational material, study guides can include more complex questions that help students test their understanding at a deeper level, such as asking students to integrate or compare basic principles, or answering hypothetical questions.

[120] In a first year, first semester course, such as Torts, we typically provide study guide questions for all learning units. In an upper level course, such as Remedies, a few study guide questions are provided at the beginning of the course; as the course proceeds, students practice independently identifying important concepts, issues, and tests, much as they would in practice.

[121] Michaelsen, *Getting Started With Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 31 (stating quizzes usually include 18-20 multiple-choice questions). For detailed guidance on how to write effective multiple-choice questions in law school, *see* Susan M. Case & Beth E. Donahue, *Developing High-Quality Multiple-Choice Questions for Assessment in Legal Education*, 58 J. LEGAL EDUC. 372 (2008). Other formats for readiness assurance tests are possible, such as short answer essays. *See also* Larry K. Michaelsen, *Frequently Asked Questions*

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students can learn from completing the readiness assignments.[122] Students first take the readiness assurance test individually for a grade, turn in their answers, and then immediately take the test a second time with their teammates, earning a team grade for the test. While the test questions focus on basic knowledge and understanding designed to assess whether students are ready to engage more deeply in applying the learning unit material, test questions should assess more than recognition of accurate definitions, concepts or rules.[123] Instead, test questions should be challenging enough that students will need to show sufficient understanding to apply basic concepts, rather than recognize a right answer, but sufficiently achievable that most students will answer most of them accurately. As Michaelsen explains:

> [T]est questions should also emphasize key concepts (i.e. avoid asking questions about inconsequential details) and enhance learning. With respect to enhancing learning, one characteristic is that at least some of the questions must be difficult enough to stimulate discussion. Otherwise teams will simply defer to their best member. In addition, using related questions that require increasingly complex levels of understanding are particularly helpful for two reasons. First, if the questions are correctly chosen and sequenced, students can learn from the questions themselves while they are taking the [readiness assurance test]. For example, by asking one or two recognition-type questions followed by a question that requires synthesizing the concepts from the two earlier questions students are provided with the opportunity to develop a deeper understanding of the concepts themselves. Second, questions that require higher-level thinking skills are far more likely to stimulate the kind of discussion that promotes peer teaching. [124]

Writing many of these kinds of effective multiple-choice questions is difficult and time-consuming, particularly for those who have limited experience drafting them.[125] Developing

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about Team-Based Learning, in TEAM-BASED LEARNING, *supra* note **, at 226. We have only used multiple-choice questions in our courses, with each readiness assurance test usually including ten questions.

[122] For more guidance about designing multiple-choice tests, and the advantages of having multiple tests during the semester, see Sophie Sparrow, *Using Individual and Group Multiple-Choice Quizzes to Deepen Students' Learning*, 3 ELON L. REV. 1 (2011).

[123] In Bloom's taxonomy of learning, the two lowest levels of thinking are understanding and remembering. SCHWARTZ ET AL., TEACHING LAW BY DESIGN, *supra* note **, at 68-70. Questions at the higher levels, such as those that require students to apply, analyze and evaluate, require students to engage in and practice more complex thinking skills. *Id.*

[124] Larry K. Michaelsen, *Frequently Asked Questions about Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 226.

[125] *See* Case & Donahue, *Developing High Quality Multiple Choice Questions*, supra note **, at 373; Sophie Sparrow, *Using Individual and Group Multiple-Choice Quizzes to Deepen Students' Learning, supra* note **, at 19. Depending on the course goals and structure, developing multiple readiness assurance tests might require writing between 40 to 140 multiple-choice questions. Having 140 questions would likely be the larger number of questions in a Team-Based Learning course, representing 20 questions for each of seven units. Many law professors include ten questions per learning unit, making the task closer to one of designing 40 to 70 questions, depending on the number of learning units in the course.

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these questions, however, is an excellent investment: by collecting all tests at the end of that first class, professors can revise and reuse them the next time they teach that course.[126]

The questions on a readiness assurance test do not need to be flawless; one of the features of Team-Based Learning is giving students the opportunity to appeal their incorrect team answers.[127] The appeal process has several advantages. It provides another way for students to learn and engage in the material, and it provides professors with feedback on their test questions. When students decide to appeal a team answer, they must write analytical arguments during that class, and can rely on all course materials when doing so. Student teams can earn full points for their teams and as individuals when they use effective reasoning to show the flaws in the question, confusing wording in the answers, conflicting material in the texts or any other ambiguity, and citing to authorities.[128] During the appeal, students engage in additional learning as they scrupulously study their notes, authorities, and texts to draft legal arguments for their preferred answer choice.[129] Because student teams have the potential to earn higher test scores if their appeals are granted, they have an enormous incentive to undertake additional written legal analytical work.

3. Provide Students with Immediate Feedback

Because student learning is enhanced when students receive immediate feedback on their learning, the readiness assurance process provides students with multiple kinds of feedback on the learning unit's first day. As students take the readiness assurance test in their teams, they use Immediate Feedback Assessment Technique (IF-AT)[130] "scratch off" answer sheets. These IF-AT forms, and their scoring, provide several advantages. One is that when students scratch off the letter corresponding to the correct answer, they see a small star, giving them immediate feedback that they have identified the right answer.[131] Second, because student teams can earn partial credit if they identify the correct answer within several tries,[132] teams have an incentive to keep debating and collectively reach the right

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[126] As with writing any kind of exam or assignment for which students will be graded, to improve the effectiveness of the questions, show them to colleagues, teaching assistants, and others to check for errors and areas of confusion. In addition, focus on the important learning objectives for the material in the unit; many professors have a fear of making tests too easy, and, as a result, make them more difficult than is effective, particularly at this point in the process.

[127] Michaelsen, *Getting Started with Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 42-43. *See* Michaelsen & Sweet, *The Essential Elements of Team-Based Learning, in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 18-19; TEAM-BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/Default.aspx?pageId=1032387(last visited Jan. 15, 2012) (providing information and forms about the appeal process).

[128] Sparrow, *Using Individual and Group Multiple Choice Quizzes to Deepen Students' Learning, supra* note **, at 22-23 (providing additional information about using the appeals process in law school class).

[129] JOHN C. BEAN, ENGAGING IDEAS: THE PROFESSOR'S GUIDE TO INTEGRATING WRITING, CRITICAL THINKING, AND ACTIVE LEARNING IN THE CLASSROOM (Jossey-Bass 1996).

[130] Description of the IF-AT form and its advantages can be found at TEAM-BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/Default.aspx?pageId=1032387 (last visited Jan. 2, 2012); EPSTEIN EDUCATIONAL ENTERPRISES, http://www.epsteineducation.com/home/about/how.aspx (last visited Jan. 2, 2012).

[131] Because the star is small and is in a different location each time, students cannot game the system by figuring out a pattern of stars. EPSTEIN EDUCATIONAL ENTERPRISES, http://www.epsteineducation.com/home/about/default.aspx (last visited Jan. 2, 2012).

[132] Each time earning less points, for example, earning four points if they score correctly the first time, three if they select the right answer within two tries, and two points if they select it within three. Michaelsen has also

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response. Third, having the immediate feedback also positively shapes team behavior to improve learning: when a more assertive student persuades her teammates to scratch an answer that turns out to be wrong, team members seek input from quieter teammates who had picked the correct answer.[133]

Fourth, with the IF-AT forms, students can easily track their team's and their own test performance. The IF-AT provides an ongoing record of which questions the team answered correctly the first time, and which questions the team struggled with. Students can track their own scores by marking the correct answer, as revealed by the team's IF-AT sheet, in their notes. By comparing their individual answers to the correct answers on the IF-AT sheets, students get immediate feedback on how well they are doing as individuals. Fifth, by scoring their team answer, and putting their team score on the board at the front of the room, students immediately see how other teams are doing, and over the semester compete with other teams to score high on team tests. And finally, scratch-off answer sheets are fun, which also helps promote learning.[134] It is fascinating to watching a team of students huddle together holding their breath as one of their teammates scratches off their answer — the fist bumps, cheers, and smiles are huge when the first answer scratched is correct.[135]

While students work in teams to take the readiness assurance test the second time, their individual readiness tests can be scored, using Scanton® technology, or teaching assistants. Completing this step helps the students and professor. For the students, this means that they can receive their individual test results by the end of the class, confirming their own assessment of their performance, and providing them with its record.[136] For the professor, having the results of student performance, as well as a breakdown about how the class did on each question, and which wrong answers were most often selected, provides important feedback on where students are struggling and where they need more guidance.[137]

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designed a "split answers" system that allows students to take a similar approach on their individual answer sheets, splitting a total of four points among four possible answers, depending on their degree of confidence in the right answer choice. Michaelsen, *Frequently Asked Questions*, *in* TEAM-BASED LEARNING, *supra* note **, at 224-25.

[133] Michaelsen & Sweet, *The Essential Elements of Team-Based Learning*, *in* TEAM BASED LEARNING: NEXT BIG STEP, *supra* note **, at 18 ("'Pushy' members are only one scratch away from embarrassing themselves, and quiet members are one scratch away from being validated as a valuable source of information and two scratches away from being told that they need to speak up.").

[134] DANIEL GOLEMAN, SOCIAL INTELLIGENCE: THE NEW SCIENCE OF HUMAN RELATIONSHIPS 270 (Bantam Books 2006) ("When the mind runs with such internal harmony, ease, efficiency, rapidity, and power are at a maximum. Heightened prefrontal activity enhances mental abilities like creative thinking, cognitive flexibility, and the processing of information. Even physicians, those paragons of rationality, think more clearly when they are in good moods. Radiologists ... work with greater speed and accuracy after getting a small mood-boosting gift--and their diagnostic notes include more helpful suggestions for further treatment, as well as more offers to do further consultation.").

[135] For a video showing students engaged in taking the team test and using the IF-AT scratch off forms, see TEAM-BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/Default.aspx?pageId=1032387 (last visited Jan. 2, 2012).

[136] Helpful for students who forget to note which answers they chose on some of the questions, or did not have time to note the correct answer when they were working in teams.

[137] *See generally* Lynn M. Daggett, *All of the Above: Computerized exam Scoring of Multiple Choice Items Helps to: (A) Show How Exam Items Worked Technically, (B) Maximize Exam Fairness, (C) Justly Assign Letter Grades, and (D) Provide Feedback on Student Learning*, 57 J. LEGAL EDUC. 391 (2007) (providing a detailed description of this process, also known as "item analysis").

Once all teams have completed the tests, and professors know where students are struggling, professors can also provide immediate feedback and focused teaching on areas of confusion.[138] With data from the test, including which question most students answered incorrectly, as well as which answers they chose, professors can provide an immediate micro lecture clarifying the material from the question and explaining the correct answers and incorrect answers.[139] Students thus receive immediate feedback as individuals from taking the team test, comparing their answers to team answers, receiving their score on their individual and team tests, and receiving a short lecture.

In addition, for student teams who choose to appeal an incorrect answer, they receive feedback and gain deeper understanding by revisiting the material and writing about it. To assess whether this reading, testing, and re-teaching cycle has effectively enabled students to master the course's learning objectives, the professor can also choose to include a question on the same topic in a test given later in the semester, thus again assessing whether students have mastered basic understanding.[140] When students repeatedly err in understanding and applying a core learning objective, professors have valuable feedback on which objectives are particularly difficult for students to learn, and which areas require additional instructional methods.[141] By engaging students in a cycle of independently learning, assessing their learning, and providing feedback, Team-Based Learning professors have a solid grasp of what most of their students know, do not know, and how to refocus the course to address gaps in student learning.[142]

D. Design Complex, Practice-based Application Exercises

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[138] *See generally,* Dennis R. Honabach, *Precision Teaching in Law School: An Essay in Support of Student-Centered Teaching and Assessment,* 34 U. TOL. L. REV. 95 (2002) (arguing for law schools to embrace "'precision teaching'—the use of pedagogical techniques that permit us to focus on the needs and abilities of individual students.").

[139] This sequence is a highly effective use of lecture. HOW PEOPLE LEARN, *supra* note **, at 58 ("Providing students with opportunities to first grapple with specific information relevant to a topic has been shown to create a 'time for telling' that enables them to learn much more from an organizing lecture (as measured by subsequent abilities to transfer) than students who did not first have these specific opportunities").

[140] Although the readiness assurance process is designed to ensure that students have sufficient foundational knowledge to apply basic concepts for a given course learning unit, the readiness assurance tests can also test cumulative understanding. For example, the authors tell students that all readiness assurance tests are cumulative, meaning that when they study for tests later in the course, they should review earlier concepts and consider their relationship with new material, much as they have to do on a final exam. This means that students are usually reviewing much earlier in the semester than usual, and seeing the value of outlining a course as it unfolds, rather than days before the final exam.

[141] One of the authors learned that students in her Torts class struggled to analyze negligence per se. This was apparent on students' final exam answers when she taught Torts using active learning methods and multiple assessments. When she realized that students still struggled with this concept after reading, applying, analyzing and answering several readiness assurance test questions assessing this understanding, she realized that students needed more in-depth application. Once this was apparent, she revised the course to include a team project on negligence per se, and students' analysis of that issue on their final exams were significantly improved.

[142] DAVID A. SOUSA, HOW THE BRAIN LEARNS 118 (3d ed. Corwin-Press Publishing 2006) (noting "complex concepts require the learner to make connections and to form association and other relationships to establish sense and meaning…. The information may need to be processed several times as new links are found).

Having planned the readiness assurance process for the first class of the learning unit, Team-Based Learning professors design the remaining classes in the learning unit[143] to give students opportunities to apply material to solve complex, significant legal problems. This part of the course will be familiar to many law professors — think of this as engaging students in solving complex hypothetical scenarios similar to those given on final exams, but posing questions to teams rather than individuals. Having participated in the readiness assurance process, students have the tools necessary[144] to spend the next few classes engaging in increasingly difficult questions and problems.[145] Professors could assign students to read or research additional materials, such as cases, statutes, regulations, factual evidence, documents, videos, and secondary sources to apply more complex features of the doctrine. For those who use Team-Based Learning, the challenge is to design significant problems that will "simultaneously foster group cohesiveness and promote higher-order learning."[146]

Team-Based Learning experts identify four elements that are critical to designing effective group problems, the "4 S's: (1) assignments should always be designed around a problem that is *significant to students,* (2) all of the students in the class should be working on the *same* problem, (3) students should be required to make a *specific choice*, and (4) groups should *simultaneously* report their choices."[147] Each of these is discussed below.

1. Design Significant Problems

For law students, a significant problem is one that attorneys are likely to confront in practice[148] and that requires students to work through the kinds of complex, ill-defined tasks they will encounter as attorneys.[149] For example, student teams in a contracts course could receive a scenario about a client who contracted to buy a building only to learn that the seller

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[143] For a graphic representation of the learning unit sequence, see Figure 1, *supra.*

[144] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 10.

[145] L. Dee Fink, *Beyond Small Groups: Harnessing the Extraordinary Power of Learning Teams*, *in* TEAM-BASED LEARNING, *supra* note **, at 10

[146] Larry K. Michaelsen & Arletta Bauman Knight, *Creating Effective Assignments*, *in* Team Based Learning, *supra* note **, at 51.

[147] Larry K. Michaelsen & Michael Sweet, *The Essential Elements of Team-Based Learning*, *in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 20.

[148] In identifying the "Best Practices for Setting Goals of the Program of Instruction" the authors of BEST PRACTICES first identify the first principle as: "The school is committed to preparing its students to practice law effectively and responsibly in the contexts they are likely to encounter as new lawyers." STUCKEY ET AL., *supra* note **, at 39.

[149] Colleagues, practicing attorneys, news, government filings, recently published court decisions, and transactional documents are excellent sources of complex significant problems. Colleagues with current and recent experience in practice, such as clinicians and faculty who supervise externships are terrific sources. Librarians can research practice-based problems, and research assistants can find relevant problems and related materials. Students are valuable sources as well, often providing fascinating stories about law related problems they have encountered. Even though they may not be aware of their potential as factual scenarios, many students rent housing during law school, have automobile insurance, and have been employed, giving them direct exposure to multiple legal areas such as property, insurance, torts, and employment law. Similarly, when asked, friends, family, and acquaintances can provide a wealth of information about legal issues affecting health care, educational systems, criminal justice, taxes, state agencies, municipalities, and environment regulation, among many others. We recommend professors keep an ongoing file of interesting problems they can develop.

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refuses to perform.[150] In teams, students would be asked to identify the most important questions and documents they would need from the client to determine what damages she was entitled to, and her best solution to the seller's breach.[151] In doing so, students would practice relevant lawyering skills including identifying what the client wants, considering creative alternatives, developing a plan, identifying legal issues and theories, researching rules, and planning a factual investigation, among others.[152] Even though some students might initially consider the contract problem irrelevant, as they never intend to represent clients in a private real estate transaction, the skills and values that students use to work on in solving this kind of problem are significant and transferable across many legal disciplines.[153]

2. Give All Students the Same Problem

The best problems will suggest a range of possible effective answers, allowing teams to engage in animated discussions about why their different answers are better. As Michaelsen explains, these discussions give students "immediate feedback regarding the quality of their own thinking. . . . Having a common task allows for comparison, first between group members, and then between groups, and provides students important feedback on their own thinking and their performance as a learning team."[154] This is similar to legal education's signature pedagogy, the case dialogue method, but actively engages all students in the discussion.[155] This has been our experience as well; when law students have worked together on a problem, they become very invested in their collective response, and examine other teams' solutions with great care and depth.[156]

3. Ask Student Teams to Make a Specific Choice

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[150] MICHAEL HUNTER SCHWARTZ & DENISE RIEBE, CONTRACTS: A CONTEXT AND PRACTICE CASEBOOK 255 (Carolina Academic Press 2009).

[151] *Id.*

[152] MACCRATE REPORT, *supra* note **, at 142 - 221, (identifying and elaborating on fundamental lawyering skills and values).

[153] HOW PEOPLE LEARN, *supra* note **, at 17 ("A key finding in the learning and transfer literature is that organizing information into a conceptual framework allows for greater 'transfer'; that is, it allows the student to apply what was learned in new situations and to learn related information more quickly").

[154] Michaelsen, *Creating Effective Assignments: A Key Component of Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 62.

[155] CARNEGIE REPORT, *supra* note **, at 77 (noting the diminishing student engagement in learning through second and third years of law school and hypothesizes that "many students having at first been intimidated by the demands of case-dialogue classes, gradually become disengaged from their coursework.").

[156] For example, student teams in Remedies were assigned to estimate the value of a client's damages after a car accident. All student teams were given the same facts about the client as well as a specific jurisdiction. Each team had to first research which injuries to person and property were compensable within the jurisdiction and how that jurisdiction measured such damages. Student teams also had to conduct factual research to determine the value of the client's minivan, pet beagle, and lost earning potential. In addition, students had to learn about the kind of medical treatment and costs the client would need, including the cost of having multiple prosthetic limbs over the remainder of the client's estimated lifespan. As they were researching and preparing to present their damage estimate to the rest of the class, teams posted additional questions on the course website, which the professor answered and made available to all students. Having had a common experience trying to identify a reasonable damages estimate, and having arrived at different estimates, the teams engaged in detailed and highly engaged discussions following each team's brief presentations, challenging each other on the law, facts, and assumptions.

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To practice higher level-thinking skills that lead to deep understanding, ask teams to make a specific choice in solving a significant problem.[157] This requires students to apply multiple levels of thinking skills and make informed judgments, much as they will be required to do in practice. For example, consider three different ways of designing significant problems for students in Administrative Law. The first problem asks student teams to prepare an outline of the steps they would take in analyzing an administrative law problem, the second asks students to identify a claimant's administrative law issues in a factual scenario, and the third problem asks students to identify the biggest weakness in the claimant's position. To arrive at the answer to the third problem, student teams have to engage in all the thinking skills of the other two problems, and make "multiple comparisons and discriminations, analyzing content information, and verifying rule application."[158] Michaelsen also notes that requiring students to engage in these kinds of complex, higher-order thinking skills motivates students to prepare.

> [L]earners have to use higher-level thinking skills to actually make a choice. As a result, most will enter the group discussion having made a serious attempt to think through the issues. Second, unless the group is in complete agreement, members gain additional self-insight when they are preparing to explain the reasons behind their selections to their peers. Third, students' motivation to prepare for subsequent group work is typically enhanced because they realize that make-a-specific choice assignments practically eliminate the opportunity to hide and let someone else carry the group.[159]

Having asked students to make a specific choice in solving a complex legal problem, such as "What is the most significant piece of evidence showing discrimination?" teams can present their answer in different ways. Students could be shown four multiple-choice answers, with teams first discussing their response and then holding up a card with the letter of their choice. Alternatively, teams could use a dark marker to write a few words or a number on a sheet of paper, making the letters or numbers large and bold enough that everyone in the classroom could see the response. Student teams could be also be asked to prepare a one-page summary of their analysis of the problem, post it on the classroom walls, and then asked to spend a limited amount of time reviewing and preparing questions for other teams.[160] All these methods engage students in higher-level thinking to first arrive at a team decision, and then debate the choices of other teams. In addition, even when teams agree on the specific choice, their reasons for their decisions may vary dramatically, leading to highly engaged student-to-student discussions.

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[157] Michaelsen, *Essential Elements*, *in* TEAM BASED LEARNING: NEXT BIG STEP, *supra* note **, at 21 (explaining the value of having students make a specific choice: "Think of the task of a courtroom jury: members are given complex information and asked to produce a simple decision . . . . nearly one hundred percent of their time and effort is spent digging into the details of their content.").

[158] Larry K. Michaelsen & Arletta Bauman Knight, *Creating Effective Assignments: A Key Component of Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 64.

[159] Larry K. Michaelsen & Arletta Bauman Knight, *Creating Effective Assignments: A Key Component of Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 64.

[160] *See* Michael S. Sweet, Larry K. Michaelsen, & Christine M. Wright, *Simultaneous Report: A Reliable Method to Stimulate Class Discussion,* 6 DECISION SCIENCES JOURNAL OF INNOVATIVE EDUCATION 483, 6(2) 483, 485-486 (2008).

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4. Have Teams Simultaneously Report

Unlike the usual use of student groups, where class time is spent having a designated reporter from each group sequentially talk to the whole class, Team-Based Learning groups simultaneously report their specific solutions. In identifying the limits of sequential reporting, Team-Based Learning experts note:

> [t]he problem with sequential reporting is that the initial response has a powerful impact on the subsequent discussion because later reporting teams tend to change their answer in response to what seems to be an emerging majority view — even if that majority is wrong. . . . Requiring a simultaneous public commitment to a specific choice increases both learning and team development because each team is accountable for its choice and motivated to defend its position. Moreover, the more difficult the problem, the greater the potential is for disagreements that are likely to prompt give-and-take discussion, and the teams become more cohesive as they pull together in an attempt to defend their position.[161]

Unlike the usual "report back" method, where the energy in a classroom increasingly fades as students with each subsequent group report, when students simultaneously report the energy in the room soars.[162]

Students simultaneously report in several ways. A member of each team can simultaneously hold up a large letter corresponding to a multiple-choice hypothetical, hold up or post on the wall a sheet of paper with written or textual information, write material on the board at the front of the room, or send material to the class website. Having publicized their team's choice, students are eager to see what their law school classmates chose, and enthusiastically apply their persuasive lawyering skills to argue for their response.

E. Determine a Grading System

Before, during, or after designing the readiness assurance process and complex application exercises for each learning unit,[163] create a grading system that promotes both individual accountability and team cohesiveness.[164] Having students earn grades in three

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[161] Michaelsen, *The Essential Elements of Team-Based Learning, in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 22.

[162] Michaelsen & Knight, *Creating Effective Assignments*, in TEAM-BASED LEARNING, *supra* note **, at 66-67 (describing marketing professor's experience using TBL and first having teams sequentially report, and then simultaneously report).

[163] While this Article identifies discreet steps in the Team-Based Learning design process, these steps frequently overlap. Decisions made during one part of the design process, such as creating complex applications, may cause a professor to revise the readiness assurance process, or the grading system, and vice versa.

[164] Michaelsen, *The Essential Elements of Team-Based Learning, in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 11.

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areas — individual performance, team performance, and peer-evaluation — ensures that this happens.[165]

> The individual performance component provides a basis for student accountability to the instructor and to each other. The group performance component provides incentives for the development of group cohesiveness and justifies putting effort into group work. The peer evaluation solves two important motivational problems. One is providing an incentive for individuals to participate in group discussions. The other is removing the students' fear that they will have to choose between getting a low grade on the group assignments and having to carry the group work if other group members fail to do their fair share.[166]

To make the grading system effective, all three grading areas need to carry significant weight.[167] Educator L. Dee Fink recommends that teams' graded performance "constitute a significant percentage of the course grade, say 30-40 percent."[168] Having individual performance count for 40-60 percent, and peer evaluation for 10-20 percent increases the likelihood that students will pay attention to all three aspects of the grading system. While many law students care deeply about their learning, and respond to their law professors' high expectations, some students need a bit more incentive. As other professional educators have noted, "[p]eople learn what you inspect, not what you expect."[169]

F. Form Permanent Diverse Teams of Students

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[165] Michaelsen, *Frequently Asked Questions About Team-Based Learning, in* TEAM BASED LEARNING, *supra* note **, at 218. *See* Michaelsen, *Getting Started with Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 40 (noting that

> students' uneasiness about grades in a group-oriented course are based on past experience in which they have been forced to choose between carrying the group or getting a bad grade. Fortunately, their anxiety largely goes away when they understand two of the essential features of team-based learning. One is that two elements of the grading system — "counting" individual scores on the [readiness assurance tests] and basing part of the grade on a peer evaluation — create a high level of individual accountability for pre-class preparation and class attendance. The other is that there is little danger that one or two less-motivated members can put the group at risk because the team assignments will be done in class and will require thinking, discussing, and deciding.

[166] Michaelsen, *Frequently Asked Questions about Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 219.

[167] Micaelsen, *Essential Elements of Team-Based Learning, in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 15. Michaelsen recommends engaging students in setting the specific grade weights, having first given students a range of acceptable percentages. *See* Michalesen, *Setting Grade Weights: A Team-Building Exercise, in* TEAM-BASED LEARNING, *supra* note **, at 241. *See* TEAM-BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/Default.aspx?pageId=1032384 (last visited Jan. 12, 2012) for a video clip of a grade weight setting exercise. Some Team-Based Learning educators use this approach while others set the grade weights for the class.

[168] L. Dee Fink, *Beyond Small Groups, in* TEAM-BASED LEARNING, *supra* note **, at 16.

[169] Jordan Cohen, *Foreword, in* MEASURING MEDICAL PROFESSIONALISM (David Thomas Stern ed., Oxford U. Press 2006), at v. When law students learn that a portion of their grade will be based on their teammates' assessment of their contributions and preparedness, many of them prepare more rigorously than if they were only accountable to us. For an example of grading system, see Larry K. Michaelsen, *Setting Grade Weights: A Team-Building Exercise, in* TEAM-BASED LEARNING, *supra* note **, at 241-48.

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To be able to solve complex significant problems, "[t]eams should be comprised of five to seven members and as heterogeneous as possible."[170] Think of this as harnessing the power of five to seven brains, experiences, and perspectives.To form effective teams, identify the skills and traits that help a student be successful in the course, and distribute them across all teams.[171] To give the teams time to develop cohesiveness and maximize their interactions, student teams are formed at the beginning of the course and last throughout the semester.[172]

We form law student teams in several ways. One is by asking students to individually complete and score themselves on a short survey, asking questions about relevant knowledge, skills, and values that would help them in the course. For example, students would score themselves high on knowledge-based questions if they had previous coursework and related clinical, externship, law office, and volunteer experience. Students with financial, social, information literacy, time-management, and detail-oriented skills would score themselves high on those kinds of skills-based questions; students who valued working with others and were comfortable addressing conflict would similarly score high on questions about values and attitudes. Having totaled their scores, students would line up in order of scores, and then count off to distribute themselves evenly among the appropriate number of teams.[173]

G. Facilitate Student Discussion

In Team-Based Learning, as in other teaching approaches that focus on student learning, the professor's job is to facilitate the discussion and help students uncover the learning. This means that the job of the professor is to enable the students to be the ones in the room who are "acting like lawyers,"[174] with the professor facilitating by listening, asking questions, encouraging, keeping the discussion on track, and providing guidance after students have engaged in working through material.[175] In Team-Based Learning, the professor can take on several roles. When student teams are working on problems, the professor can circulate among the teams, listening to their discussion to see if students are focused on the assigned task and redirecting them as appropriate. In listening and talking to teams, the professor can also respond to questions, remind them of additional features in the assignment they need to complete, ask questions to deepen their understanding, correct errors, and remind them of the time remaining. The professor can also provide challenge and support, reinforcing quieter students' contributions, encouraging diverse perspectives, and inviting teams to consider more difficult questions.

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[170] Michaelsen, *Getting Started with Team-Based Learning, in* TEAM BASED LEARNING, *supra* note **, at 29.

[171] Michaelsen, *Essential Elements of Team-Based Learning, in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 10.

[172] Michaelsen, *Essential Elements of Team-Based Learning, in* TEAM-BASED LEARNING: NEXT BIG STEP, *supra* note **, at 10.

[173] See TEAM BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/Default.aspx?pageId=1032336 (last visited Jan. 12, 2012) for a video demonstration about forming permanent diverse teams, text and graphics illustrating the line-up exercise, and descriptions of using an excel spreadsheet to distribute students in large classes.

[174] SCHWARTZ ET AL., TEACHING LAW BY DESIGN, *supra* note **, at 107-08.

[175] Derek Lane, *Teaching Skills for Facilitating Team-Based Learning, in* TEAM BASED LEARNING: NEXT BIG STEP, *supra* note **, at 59 ("The goal of the Team-Based Learning instructor is to guide the groups, facilitate their growth, and manage the classroom environment without getting in the way of student learning.").

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Within the whole class, the professor can articulate some of the points she overheard as she circulated, write or project well-worded questions, clarify misunderstandings shown by the whole class, and summarize the class discussion at the end.[176] To keep the role of an effective facilitator of learning in mind, educator L. Dee Fink articulates a helpful metaphor, moving beyond the oft-quoted, "'Be a "guide on the side" rather than a "sage on the stage."[177] As Fink explains,

> the image of a 'guide on the side' is also more passive than most good teachers seem to be. . . . . [T]eachers are often proactive and reactive at the same time. They are also in interdependent situations where each person involved is required to be competent in their individual role, yet the whole endeavor requires serious teamwork and coordinated effort. . . . I would like to offer a new metaphor for teaching: the teacher as *helmsman* for the learning experience. . . . Negotiating white water, several people work together in a raft to maneuver it down a challenging river and stay away from rocks so they can reach a destination somewhere downstream. . . . The whole group must see that they have an important and challenging job to do (significant learning); the helmsman (teacher) is a leader and plays an important role in coordinating the actions of everyone else. But the oarsmen (students) also have to understand both their individual role (to study and learn) and how to work together with others. That is, everyone has to support one another in the learning process. It is a coordinated team effort with the teacher playing an active leadership role.[178]

A professor using Team-Based Learning is not at the center of the stage, disseminating information most of the time. Instead, she has engaged in extensive preparation to ensure that all students are actively engaged with the material in every class, setting the direction, pacing, and learning in the course.

IV. Adopting Team-Based Learning in Law School

Team-Based Learning's Larry Michaelsen argues that while most experienced teachers have the skills to implement Team-Based Learning, "[t]he major change, which can be a difficult one, involves thinking differently about what should be happening in our classrooms. Instead of thinking about how we should be teaching, we have to focus on what we can do to enhance student learning."[179] To implement Team-Based Learning gradually, Michaelsen suggests starting with the readiness assurance process for each learning unit and

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[176] For examples of the role of the professor as a discussion facilitator, *see, e.g.*, DONALD FINKEL, TEACHING WITH YOUR MOUTH SHUT 42-44 (Boynton/Cook Publishers 2002); Bonwell & Eison, *Active Learning, in* MCKEACHIE'S TEACHING TIPS, *supra* note **, at 36-54; DAVIS, *supra* note **, 2d at 95-126.

[177] L. DEE FINK, CREATING SIGNIFICANT LEARNING EXPERIENCES, *supra* note **, at 243.

[178] *Id.* at 243-44. (recognizing the problem with using a term that is gender specific, Fink notes, "I toyed with using *helmsperson* instead, in keeping with the gender sensitivity of our times, but that seem more cumbersome and less effective than the original — and no one of either sex would use it afloat.") *Id.* at 243.

[179] Michaelsen, *Frequently Asked Questions about Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 214.

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assigning at least one complex team problem.[180] For most professors, this is still a significant investment in redesigning a course: for those new to the experience, preparing four to six effective multiple-choice tests might take 40 hours or more.[181] Using the readiness assurance process alone, students could earn a percentage of their course grade for their individual performance on readiness assurance tests, about the same percentage on their team test performance, a smaller percentage on their individual contributions to the team, and the rest of the course grade coming from students' performance on exams or other assessments that the professor usually assigns.[182]

Once professors have started incorporating Team-Based Learning in a course, it becomes much easier and less time consuming to use this strategy in later iterations of the course. Professors may choose to modify parts of the readiness assurance process, such as changing the sequence and order of reading assignments, revise the study guide questions used to help students prepare for the readiness assurance process, and change parts of the multiple-choice readiness tests to improve their effectiveness.[183] In addition, once professors have one or two complex problems that engage students in higher-order thinking, they can gradually add others, developing one or two each semester. At that point, they will also have a better sense of what features contribute to making the problems effective for their students and their course.

Professors adopting Team-Based Learning, however, should be mindful of challenges beyond the classroom: administrative, institutional, and cultural challenges. Though professors can overcome them, administrative barriers span from the time it takes to convert a traditional course to a Team-Based Learning course to issues of classroom space and configuration. Even though these administrative challenges can be significant,

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[180] Michalesen, *Frequently Asked Questions about Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 213; *see supra* text accompanying notes ** to ** (describing the readiness assurance process, and notes __ to __ on designing applications). In addition to starting out with the readiness assurance process, Michaelsen also recommends implementing Team-Based Learning one course at a time, and in a course with which professors are already familiar, have "a moderate number of students (20-40), at least a seventy-five-minute time slot, and a classroom in which students do not face significant physical barriers to working face-to-face with each other." Michaelsen, *Frequently Asked Questions about Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, at 214. These are ideal circumstances, but, in our experience, not essential, if professors want to try this approach. Students are remarkably resourceful at working with fixed seating especially when professors explain that they need to sit so that they can make eye contact and hear everyone. *See* TEAM-BASED LEARNING COLLABORATIVE- NAW READINESS ASSURANCE PROCESS PAGE, http://www.teambasedlearning.org/Default.aspx?pageId=1032387 (last visited Jan. 15, 2012) for an illustration of teams' placement in a classroom. We have also first implemented Team-Based Learning in courses with fewer than 20 students and which have a 60 minute period. Our experience is that class size, length of instructional period, and classroom set up present minor challenges when the essential elements of Team-Based Learning are present.

[181] As novices at writing multiple-choice questions, writing a ten question multiple-choice quiz took an average of eight hours. As noted above, because the questions can be reused the following year, the time required in later semesters is greatly reduced.

[182] For example, students might earn 10% of their course grade from their individual performance and 10% on their team performance on the readiness assurance tests, 5% on their team contributions, 15% on a midterm assessment, and 65% on a final exam. *See also* TEAM-BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/FAQ#q7 (last visited Jan. 15, 2012).

[183] Over the past four years of teaching with Team-Based Learning, we have done all of these, including changing supplemental readings and casebooks. Making these changes take time, but the process is considerably easier each time we teach the course.

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institutional and cultural barriers are more formidable. Institutional barriers include grading policies such as mandatory curves, limitations on peer assessment, and for junior faculty, promotion and retention standards that may discourage innovative teaching methods. Legal education's cultural barriers include the traditional expectation, held by faculty and students, that professors convey their expertise through lecture or the case dialogue method. This section identifies a few of the major barriers to adopting Team-Based Learning. Because of Team-Based Learning's potential benefits for student learning, these barriers should not deter professors from exploring this teaching strategy.

A. Administrative Challenges[184]

A simple but daunting administrative barrier is administering teams in a large class. In a 100-person tax class, a professor might have 15-20 teams, each with five to seven students. Each team needs its own set of materials, such as a team folder, attendance sheet, readiness tests, and team answer sheets.[185] In addition, increased assessment requires increased recordkeeping. These barriers are real, but also easily resolved.[186] Again, the first time professors implement Team-Based Learning, they face a relatively steep administrative learning curve; after the first year, administering the Team-Based Learning process becomes easier. Having created team folders,[187] response cards, and a spreadsheet with multiple assessments, professors need only update names and timely record grades.[188] These administrative barriers are ones that are the most easily surmountable. Other challenges may not be so quickly resolved.

B. Institutional Challenges

Team-Based Learning is a radical departure from traditional law school teaching and its mastery goals may conflict with institutional policies. The first, and most significant, barrier is a school's requirement that professors grade students on a mandatory curve or conform to a required average. One important attribute of Team-Based Learning is that all students are aggressively pushed to master important knowledge, skills, and values. Those students, who cannot individually achieve a course grade in the "B" range, may typically achieve a "B" through the team process. While a simple solution might be to weight

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[184] This section addresses administrative challenges that were not covered in the discussion of course design. *See infra*, pp. **-**.

[185] For more on administering team folders and readiness assurance test immediate feedback cards, *see* TEAM-BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/Default.aspx?pageId=1032387 (last visited Jan. 15, 2012).

[186] *See Miscellaneous Materials Related to Team-Based Learning, in* TEAM-BASED LEARNING, *supra* note **, app. 153-172 (summarizing steps to overcome administrative barriers, especially in large classes).

[187] Team folders have the number or name of the team on the outside, and contain attendance sheets, handouts commented upon assignments, and any other course materials that need to be distributed. At the beginning of class, we put the folders on the desk in the front of the room; students from each team collect the folder, ensure that they have signed the attendance sheet, and distribute materials from the folder. This is a quick and easy way for students to take care of these administrative items which can otherwise be distracting and time-consuming. Examples of team attendance sheets and other materials are available on the Institute for Law Teaching and Learning ….wwww…..CITE

[188] Depending on professors' school's resources and policies, they may have excellent help from faculty administrative assistants, access to on-line resources, and the use of upper level teaching assistants.

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individual scores more heavily to make the mandatory curve easier to reach, this solution erodes the principle that "together the team achieves more."[189]

While we believe that a natural curve will likely always occur, we do find that Team-Based Learning courses tended to have a more compressed curve, meaning more Bs (and likely fewer As and Cs or Ds).[190] While we do not think this is terrible, it may not perform the "sorting" function that employers attribute to law school grades.[191] Additionally, professors should be aware that Team-Based Learning may help lower-performing students achieve more, but not help higher performing students to the same degree.[192]

Additionally, a mandatory curve policy can potentially create the fear of teams "gaming" the peer assessment scores to bring a high performing teammate's grade down — essentially taking her "out of the running" for achieving an "A." Verifying such gaming is likely impossible unless students admit it. However, professors can use course policies to neutralize gaming. One approach is a course policy that allows the professor to nullify or adjust poor peer evaluation scores that the professor can reasonably attribute to gaming.[193] Another approach is a course policy that allows the professor to review peer assessment scores that differ from the class average by more than a standard deviation and require the

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[189] *See, e.g.*, Larry K. Michaelsen & Michael Sweet, *The Essential Elements of Team-Based Learning*, 116 NEW DIRECTIONS IN TEACHING AND LEARNING 7, 25 (2008) (When TBL is well implemented, students can progress considerably beyond simply acquiring factual knowledge and achieve a depth of understanding that can come only through problem solving a series of problems for even the best students to complete through their individual effort).

[190] Because of the readiness assurance process and students' interactions, students receive feedback about their thinking and mastery of course goals throughout the course. With this type of early and often feedback, those who do not do well initially seek help, and, in our experience, significantly improve over the course of the semester. This results in fewer students at the low end of the scale, those who otherwise might have earned D's and F's if they had received no feedback during the course. This is consistent with teachers who use Team-Based Learning in other disciplines, who similarly find that all students perform better under this instructional strategy, with the greatest learning gains appearing in those students at the bottom of the class. *See* Larry K. Michaelsen & Michael Sweet, *The Essential Elements of Team-Based Learning*, 116 NEW DIRECTIONS IN TEACHING AND LEARNING 7, 25 (2008), *supra* note **, at ** (discussing better learning outcomes in medical education).

[191] Stewart E. Sterk, *Information Production and Rent-Seeking in Law School Administration: Rules and Discretion*, 83 B.U. L. REV. 1141, 1150 (2003) (…. some grading system is almost certainly necessary for student placement purposes. Employers might reduce hiring from a school that refuses to sort students and from a school that reduces incentives for students to work. Moreover, the law school benefits when high grades correlate well with performance in practice because firms will be more likely to recruit at a school where grades have predictive value). *See* Barbara Glesner-Fines, *Competition and the Curve*, 65 UMKC L. REV. 879, 886-87, 908 (1997). Because of their negative influences, Glesner-Fines argues competitive grading structures should be eliminated. She recognizes, however, this is unlikely given the pressure and competition amongst law schools and from the marketplace. She also suggests that law students would be disadvantaged if not graded and ranked, losing interview and job opportunities to students from other schools that do rank. *Id.* at 886-887.

[192] *See infra* at ** (discussing Team-Based Learning's ability to help lower performing students achieve more).

[193] For example, we have recently added the following language to our syllabi:

> Finally, team participation represents 15% of your grade. Though each teammate will assign points to his or her team members, I consistently monitor teams to observe professionalism. If there is evidence that a team member is using team points to lower a classmate's final grade without justification, I reserve the right to nullify the team points and award the professionalism grade. Awarding professionalism points is not a preferred option, as it indicates that the team was unable to work together.

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team to articulate its reasons for the low score. Finally, a professor might consider discussing the grading weights decided by the class with his or her academic dean and explaining the process of peer review. This disclosure can go a long way towards institutional support for Team-Based Learning's grading methods.

C. Cultural Challenges

Law school has its own cultural norms,[194] which tend to be traditional and slow to change.[195] Because, as suggested above, Team-Based Learning challenges many of these norms we recommend that professors who adopt Team-Based Learning recognize the cultural barriers and proactively address them. The most significant cultural barrier is students' expectation that they should focus on their individual performance on a final exam rather than for the pursuit of knowledge.[196] A second, but equally important cultural barrier, is the legal academy's general aversion to innovative pedagogy.[197]

In general, law school culture values competition[198] more than student collaboration.[199] Typically, students expect an expert professor who will recite her knowledge rather than coaching students through applying it on their own. Therefore, students want the professor to show them what they need to know, frequently with the mindset that if the subject is not on the test it is not important.[200] Moreover, according to the Law School Survey of Student Engagement, many students, especially third years, do not spend time engaging in higher-order thinking skills in class.[201] In class, they are used to having the

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[194] Susan Sturm & Lani Guinier, *The Law School Matrix: Reforming Legal Education in A Culture of Competition and Conformity*, 60 VAND. L. REV. 515, 517 (2007) ("Law schools, whose culture has been passed down through generations of lawyers, generally do not ask fundamental questions about long-established practices and their relationship to institutional mission."); *see also* Jim Sibley and Dean X. Parmelee, *Knowledge is no Longer Enough: Enhancing Professional Education with Team-Based Learning*, 116 NEW DIRECTIONS FOR TEACHING AND LEARNING 41, 47 (2008)("The institutional culture, including the students, must support instructional innovation and understand that a new strategy has a trial-and-error period.").

[195] STUCKEY ET AL., BEST PRACTICES, *supra* note **, at 3 ("In the history of legal education in the United States, there is no record of any concerted effort to consider what new lawyers should know or be able to do on their first day in practice . . .").

[196] Dorothy H. Evensen, *To Group or Not to Group: Students' Perceptions of Collaborative Learning Activities in Law School*, 28 S. ILL. U. L.J. 343, 370 (2004) (A female student at a regional-draw school was emphatic that: "All people in law school want to know is what's going to be on the test. If this is not going to be on the test, if it's not going to be graded, then pssht, I don't care so much about it." "Another female from the same school maintained: "It's finals that matter, not what you say in class. So there is no point in going crazy to be prepared (for class). It's being prepared for the final."). *Also see* Christensen and others – performance vs. mastery goals – Schwartz as well?

[197] Stuckey, *supra* note **, at 109 ("Improving the quality of teaching in United States' law schools will not happen quickly or easily.").

[198] Evensen, *To Group or Not to Group: Students' Perceptions of Collaborative Learning Activities in Law School*, *supra* note **, at 378 ("In-class, group activities were seen as incongruous with the culture of competition.").

[199] *But see, e.g.* Elizabeth A. Reilly, *Deposing the "Tyranny of Experts: Collaborative learning in the Traditional Classroom Format "* 50 J. LEGAL EDUC. 593 (2000) (one of many articles identifying and elaborating on the value of collaborative learning); STUCKEY ET. AL,, BEST PRACTICES, *supra* note **, at 132-141 (criticizing reliance on the case dialogue method).

[200] Evensen, *To Group or Not to Group: Students' Perceptions of Collaborative Learning Activities in Law School*, *supra* note **, at 12.

[201] *See* LAW SCHOOL SURVEY OF STUDENT ENGAGEMENT, 2010 ANNUAL SURVEY RESULTS 7 ("One in four students (24%) said that their coursework placed a strong emphasis on memorizing facts, ideas, or methods from courses and readings so that the student could repeat them in pretty much the same form."); LAW

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professor, plus a few of their more outspoken classmates, doing most of the talking.[202] Similarly, students often dismiss group work as unimportant or even a distraction from the ultimate task: exam performance. Students then have difficulty understanding how and why they need to work with a team in order to excel, even though it is what many of them will face in practice. Furthermore, accustomed to being rewarded for their individual performance, students are also highly skeptical of having significant portions of their grade be based on their team's performance and their teammates' interactions with them.

As noted above, professors can address this cultural barrier by educating students about the benefits of Team-Based Learning, giving them a chance to see what it is like in practice, and explain why they are using it.[203] Briefly explaining the research about Team-Based Learning as well as the legal profession's demand for attorneys to work collaboratively[204] does not dispel all reservations, but reassures most students. This ongoing process begins with the course description and carries through to the final exam. At each turn, students need to understand that with Team-Based Learning they are actively engaging in a cognitive apprenticeship that prepares them for practice. The professor should consistently remind students that one of the joys of the legal profession is the ability to articulate coherent analysis to a court, client, or colleague and that Team-Based Learning provides the opportunity to practice this skill in every class. Another technique to mitigate this barrier is asking students to suspend their disbelief that Team-Based Learning results in real learning until the end of the semester. Finally, the professor should also have direct conversations with the most recalcitrant students (often the students who are sure they can achieve the individual "A" without the "deadweight" of a team). Professors can plan for these discussions by being very clear about their own reasons for adopting Team-Based Learning and making sure to connect the course design to real world practice.

The final barrier is the legal academy's traditional aversion to innovative pedagogy. We do not criticize this tradition but rather suggest Team-Based Learning adopters consider how to address it. Faculty might consider this the most daunting barrier. We are sure that some senior colleagues, even innovators, would discourage a more junior professor from adopting Team-Based Learning. How then can a junior professor tell a more senior colleague he or she is not using the case dialogue method in a large doctrinal class *and* is experimenting with peer assessment? As with the mandatory curve issue, we think the best practice is for professors to be transparent and open with their colleagues. Faculty might garner support from their teaching effectiveness (or similar) committee by scheduling a short lunch that discusses Team-Based Learning. Faculty would also be wise to discuss Team-Based Learning with their colleagues before implementing it. Junior faculty might also

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SCHOOL SURVEY OF STUDENT ENGAGEMENT, 2009 ANNUAL SURVEY RESULTS 7 ("One quarter of 3Ls (27%) frequently come to class without completing readings or assignments.").

[202] *See, e.g.*, STUCKEY ET. AL., BEST PRACTICES, *supra* note **, at 132-41 (summarizing critiques of over-reliance on the case-dialogue method).

[203] Larry K. Michaelsen & L. Dee Fink, *Preface,* in TEAM-BASED LEARNING, *supra* note **, at **. *See also* TEAM BASED LEARNING COLLABORATIVE, http://www.teambasedlearning.org/Default.aspx?pageId=1032382 (last visited Jan. 15, 2012) for a video and other materials on ways to introduce students to Team-Based Learning; Larry K. Michaelsen, *Getting Started With Team-Based Learning, in* Team Based Learning, *supra* note **, at 39 (suggesting strategies for educating students about the professor's choice to use Team-Based Learning).

[204] Marjorie M. Shultz & Sheldon Zeddeck, LSAC FINAL REPORT Identification, Development, and Validation of Predictors for Successful Lawyering (2008), *available* at http://ssrn.com/abstract=1442118 (last visited Jan. 15, 2012).

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collaborate with a more senior tenured colleague to design the course together. This kind of open communication will help the adopter gain the support of the faculty who might hear complaints from students. If colleagues are uninformed about Team-Based Learning and the adopting professor's reasons for choosing it, colleagues may not be as supportive of the adopter as is necessary to promote student confidence in the teaching strategy.

The good news is that the challenges can be overcome with planning and communication. Team-Based Learning is a transformative technique. The student learning gains are well worth the effort to navigate the challenges. A supportive, thoughtful, growing, interdisciplinary Team-Based Learning community provides excellent assistance and coaching. This community can be a great source of wisdom (and commiseration).[205] By choosing to explore Team-Based Learning, professors are choosing to use their substantive expertise in a way that not only prepares students for practice, but also engages them with the law in a deep and meaningful way. Or, to borrow a student's own words:

> [The professor] gave us the learning objectives and assignments for each Team-Based Learning module at the beginning of the course. The only two surprises were that they really matched what we did and learned in the module, and to contribute the most to your team, you had to go beyond the minimum in the assignment. I've never worked so hard in a course in my life; I wanted our team to rule.[206]

V. Conclusion

Team-based Learning is a comprehensive teaching strategy that engages professors in designing a course where students achieve the desired learning objectives. Through carefully structured preparation assignments that are followed by tests, students receive immediate feedback about their foundational knowledge. Next, students have the opportunity to experience skills and values learning as they apply the foundational knowledge to complex problems with their team. In the end, students achieve more together than they could alone. This is better student learning.

Team-based Learning offers professors an opportunity to use their knowledge to design a course that immerses students in deep learning and higher-level thinking. To adopt the strategy requires some work, but it is well worth the investment of time and energy. Though challenges exist along the way, the reward of knowing you empowered a student to make the following observation about problem solving with a team makes the effort worth it:

> We usually couldn't wait to get to this part because the answers
> would never be in the book . . . [y]ou had to interpret . . . and make some

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[205] The TBL Collaborative listserv is an excellent resource for all who are interested in learning more about the strategy, gathering advice and new ideas, or trouble-shooting issues. For subscription instructions, see TEAM-BASED LEARNING COLLABORATIVE- LISTSERV, http://www.teambasedlearning.org/listserv (last visited Jan. 15, 2012).

[206] Jim Sibley and Dean X. Parmelee, *Knowledge is No Longer Enough: Enhancing Professional Education with Team-Based Learning*, 116 NEW DIRECTIONS FOR TEACHING AND LEARNING 41, 50 (2008).

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hard choices. Then it was tough to hear from another team how they approached the question – they made more sense and our argument wouldn't hold up. But sometimes, we'd think we were on the right track; one of us would stand up and make the case. What a thrill when the class would clap. We got it![207]

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[207] Sibley and Parmelee, *supra* note **, at 50.