
ARTICLES

Using Individual and Group Multiple-Choice Quizzes to Deepen Students' Learning

SOPHIE M. SPARROW*

“Oh, I get it. Learning the law isn't about just understanding the black-letter rules, it's about applying them to other facts.” – *Comment from a first year student during the second week of school, after taking a multiple-choice quiz.*

INTRODUCTION

For years, I was highly skeptical about using multiple-choice questions to assess law students' learning.¹ Clients, after all, do not ask lawyers to solve multiple-choice problems. I have realized, however, that multiple-choice quizzes can be a highly effective technique to include in any doctrinal class. Well-designed multiple-choice quizzes can help students in any size class learn foundational doctrine, provide feedback to teachers and students, develop students' interpersonal skills, and prepare students for the bar exam. Having used multiple-choice quiz-

* Professor of Law, University of New Hampshire School of Law, J.D. Harvard Law School, A.B. *cum laude* Harvard College. The Author thanks her colleagues Erin Corcoran, Gerry Hess, Dana Irwin, Chris Johnson, and Margaret Sova McCabe, who provided helpful comments on earlier drafts. The Author also thanks her research assistant Georgia Ellis, who provided thoughtful comments and helpful research. The Author is grateful to the University of New Hampshire School of Law for its support and assistance in completing this work.

¹ Janet W. Fisher, *Multiple-Choice: Choosing the Best Options For More Effective and Less Frustrating Law School Testing*, 37 CAP. U. L. REV. 119, 120-23 (2008) (providing an overview of the history of multiple-choice questions, problems with administering them in law schools, and their increased use).

zes in first year and upper-level courses for several years,² I now value multiple-choice quizzes as an effective first step in preparing students to engage in solving complex legal problems. When used with other assessments³ as part of a comprehensive, coherent, and intentional overall course design, multiple-choice quizzes are effective in preparing law students for the deep learning necessary to practice law effectively.

This Article focuses on a particular approach to using multiple-choice quizzes. In this approach, a one-semester course is broken into five to seven modules, and students individually complete a scheduled, closed-book, multiple-choice quiz toward the beginning of each new course module, before the material is formally “covered” in class but after students have completed reading on the topic.⁴ Each quiz primarily tests students on foundational doctrine for the new module and

² I have used a series of quizzes for several years in Remedies, Torts, and Legal Writing. Colleagues at the University of New Hampshire School of Law and other law schools have successfully used them in teaching Administrative Process, Criminal Law, Professional Responsibility, and Patent Law, among others.

³ Trudy W. Banta, *Introduction: What Are Some Hallmarks of Effective Practice in Assessment?*, in HALLMARKS OF EFFECTIVE OUTCOMES ASSESSMENT 1, 4 (Trudy W. Banta ed., 2004) (“Effective implementation of assessment . . . [r]ecognizes that learning is multidimensional and developmental and thus uses multiple measures, therefore maximizing reliability and validity.”); MICHAEL HUNTER SCHWARTZ, SOPHIE SPARROW & GERALD HESS, *TEACHING LAW BY DESIGN: ENGAGING STUDENTS FROM THE SYLLABUS TO THE FINAL EXAM* 155 (2009) (noting the need to have multiple kinds of assessment, “[s]tudents should only earn a grade after having multiple and varied assessments . . .”); LINDA SUSKIE, *ASSESSING STUDENT LEARNING: A COMMON SENSE GUIDE* 20 (1st ed. 2004) (“Because each assessment technique is imperfect and has inherent strengths and weaknesses, collect more than one kind of evidence of what students have learned.”); see 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, 392-95 (2007) (noting the value of using multiple-choice questions with other assessments); Kenney F. Hegland, *On Essay Exams*, 56 J. LEGAL EDUC. 140 (2006) (noting the importance of essay exams in assessing students’ ability to show their analytical skills in writing).

⁴ This kind of course design is one of the components of the team-based learning teaching strategy. LARRY K. MICHAELSEN, *Getting Started with Team-Based Learning*, in TEAM-BASED LEARNING: A TRANSFORMATIVE USE OF SMALL GROUPS IN COLLEGE TEACHING 27, 31 (Larry K. Michaelsen, Arletta Bauman Knight, & L. Dee Fink eds., 2004); Dean X. Parmelee & Larry K. Michaelsen, *Twelve Tips for Doing Effective Team-Based Learning (TBL)*, 32 MEDICAL TEACHER 118, 118 (2010). A full discussion of team-based learning, which has been applied to classes with hundreds of students, and includes a fundamentally different approach to designing a course, is beyond the scope of this Article. For another approach to giving in-class quizzes, see Thomas G. Field, Jr., *Weekly Quizzes*, L. TCHR., Spring 2005, at 5.

incorporates previous course material.⁵ After taking the multiple-choice quiz individually, students immediately retake the same quiz in small groups, earning grades for both their individual and group quiz scores.⁶ Following the group quiz, students can appeal the answers their group got wrong. At the end of the multiple-choice quiz process, the teacher provides a mini-lecture, focusing on those multiple-choice questions and topics that were most challenging. This Article first shows why using this method of multiple-choice quizzes is effective and appropriate in law school doctrinal classes.⁷ The remainder of the Article suggests how to design and use these quizzes to maximize their effectiveness.

I. BENEFITS OF USING MULTIPLE-CHOICE QUIZZES IN LAW SCHOOL

Effectively designed multiple-choice quizzes can provide many benefits for students and teachers when they are incorporated into a coherent and intentional course design and used with other assessments. Using multiple-choice quizzes has three significant advantages: the quizzes 1) help students learn fundamental concepts by providing multiple opportunities for practice, assessment and feedback, 2) provide teachers with assessments of students' learning, and 3) prepare students for part of the traditional bar exam.⁸ I have found that including several multiple-choice quizzes within a course presents numerous other benefits, such as helping students develop as professionals and leaders, building a positive classroom community, reducing law students' isolation and stress, and allowing teachers to teach more material.⁹ Because of these potential benefits, multiple-choice quizzes can

⁵ Michaelsen, *supra* note 4, at 31 (stating quizzes usually include 18-20 multiple-choice questions). I have modified this in my courses and usually include 10 multiple-choice questions in each of six quizzes. "Foundational doctrine" refers to general rules or principles, such as elements, rather than specialized exceptions to the rules or other nuances.

⁶ Larry K. Michaelsen & Michael Sweet, *The Essential Elements of Team-Based Learning*, in *TEAM-BASED LEARNING: SMALL-GROUP LEARNING'S NEXT BIG STEP* 7, 17 (Marilla D. Svinicki et al. eds., 2008).

⁷ While I have used multiple-choice quizzes in objective and persuasive legal writing classes, given the course learning outcomes for those classes, I use those kinds of quizzes in a more limited way.

⁸ All but two states—Louisiana and Washington—require applicants to the bar to complete the Multistate Bar Exam (MBE), a six-hour test with 200 multiple-choice questions. NAT'L CONFERENCE OF BAR EXAM'RS & AM. BAR ASS'N SECTION ON LEGAL EDUC. AND ADMISSIONS TO THE BAR, *COMPREHENSIVE GUIDE TO BAR ADMISSION REQUIREMENTS* 17 (2010).

⁹ These other advantages are significant, but beyond the scope of this Article.

contribute to a “learner-centered”¹⁰ and “best practices”¹¹ approach to teaching.

A. Multiple-choice quizzes help students learn foundational doctrine

Taking multiple-choice quizzes helps students learn foundational doctrine—core doctrinal concepts—in several ways and at several times. First, students independently read and study for the quiz. Second, students apply their learning to new fact patterns while answering questions on the quiz. Third, students actively engage in discussing their answers in taking the same quiz again in a group. Fourth, students receive immediate feedback on their group quiz, reinforcing their learning. Fifth, they decide whether to write optional evidence-based appeals. Sixth, students subsequently receive targeted teacher guidance about common errors; and seventh, they review and practice the foundational doctrine in subsequent classes and later quizzes.¹² Through these multiple learning methods, students are more likely to understand and retain foundational legal doctrine.¹³

¹⁰ Steven Friedland, *A Critical Inquiry Into the Traditional Uses of Law School Evaluation*, 23 PACE L. REV. 147, 201 (2002) (“Teachers concentrate too often on what they are teaching and not what students are learning. It is broadly assumed that teaching and learning constitute an identity, and therefore, what students actually understand is a useless measure. Yet the literature shows the fallacy of this assumption, and that students learn and respond differently to teaching.”); *see generally*, THOMAS A. ANGELO & K. PATRICIA CROSS, CLASSROOM ASSESSMENT TECHNIQUES: A HANDBOOK FOR COLLEGE TEACHERS 3 (2d ed. 1993) (“[T]here is no such thing as effective teaching in the absence of learning. Teaching without learning is just talking.”); MARYELLEN WEIMER, LEARNER-CENTERED TEACHING 6-20 (2002) (summarizing the current literature on learner-centered teaching and how it applies); 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).

¹¹ ROY STUCKEY ET AL., BEST PRACTICES FOR LEGAL EDUCATION 8-9 (Clinical Legal Educ. Ass’n. 2007) (identifying twelve key recommendations for improving legal education, including providing “multiple formative and summative assessments, and various methods of assessment”).

¹² As noted above, this is one approach to using multiple-choice quizzes within a team-based learning approach. Michaelsen & Sweet, *supra* note 6, at 17-19. For an excellent overview video showing students and teachers using quizzes in a team-based learning class, see Team-Based Learning: Group Work that Works, <http://magenta.cit.utexas.edu/largeclasses/#tbl> (last visited Feb. 3, 2011). *See also* Fisher, *supra* note 1, at 132-34 (explaining the value of an appeals process and describing different variations).

¹³ *See* GERALD F. HESS & STEVEN FRIEDLAND, TECHNIQUES FOR TEACHING LAW 7 (1999) (“students can develop analytical skills, critical thinking, and independent learning through . . . [v]ariety in methods of teaching, learning, and evaluation”); SCHWARTZ ET AL., *supra* note 3, at 72 (“[B]ecause we know our students prefer to learn in various

Understanding foundational legal doctrine is essential to developing the ability to practice law competently. As the authors of the MacCrate Report stated nearly twenty years ago, learning to practice law is complex and requires that lawyers are competent with legal knowledge, skills, and values.¹⁴ The authors identified the ten fundamental skills and four fundamental values “that every lawyer should acquire before assuming responsibility for the handling of a legal matter.”¹⁵ Each fundamental skill and value includes additional complexities.¹⁶ While the MacCrate Report focused on lawyers’ skills and values, the report embedded the importance of understanding legal doctrine in learning skills. The first two fundamental MacCrate skills—“Problem Solving” and “Legal Analysis and Reasoning”¹⁷—include understanding “the legal . . . frameworks in which the problem is set,”¹⁸ “[t]he extent to which . . . legal information [is] needed to analyze or refine the problem,”¹⁹ “[b]reaking legal rules down into their component parts . . . and relating the facts at hand to each of these components.”²⁰ The authors of *Best Practices* and the Carnegie Foundation’s *Educating Lawyers* affirmed the complexity of legal practice more recently,²¹ noting that “[m]ost law school graduates are not sufficiently competent to provide legal services to clients or even to perform the work expected of them in large law firms.”²² To develop competence, law students need to solve complex problems using knowledge, skills, and values.

To develop the kind of expertise necessary to solve complex legal problems, law students must first understand foundational legal doc-

ways, we should plan to use more than one method for each class session and should incorporate many methods over the life of the course.”).

¹⁴ SECTION OF LEGAL ED. AND ADMISSION TO THE BAR, AM. BAR ASS’N, LEGAL EDUCATION AND PROFESSIONAL DEVELOPMENT, AN EDUCATIONAL CONTINUUM, REPORT OF THE TASK FORCE ON LAW SCHOOLS AND THE PROFESSION: NARROWING THE GAP 3-7 (1992) [hereinafter MACCRATE REPORT] (the chair of the task force was Robert MacCrate).

¹⁵ *Id.* at 7, 138-41.

¹⁶ *Id.* at 138-41.

¹⁷ *Id.* at 138.

¹⁸ *Id.* at 142.

¹⁹ *Id.* at 143.

²⁰ *Id.* at 152.

²¹ See STUCKEY ET AL., *supra* note 11, at 17 (discussing the recent trend within legal education towards preparation for the practice of law); see also WILLIAM SULLIVAN ET AL., *EDUCATING LAWYERS: PREPARATION FOR THE PROFESSION OF LAW* 115 (2007) (recognizing how preparation for the practice of law can be beneficial towards legal education).

²² STUCKEY ET AL., *supra* note 11, at 26; see SULLIVAN ET AL., *supra* note 21, at 115 (“Research validates the widespread belief that developing professional judgment takes a long time, as well as much experience. It cannot typically be achieved within three years of law school. . .”).

trine.²³ This is consistent with the research on learning that has found “experts’ abilities to think and solve problems depend strongly on a rich body of knowledge about subject matter.”²⁴ Once students have mastered foundational legal knowledge, they are better equipped to apply that knowledge to a new set of facts to solve a problem.²⁵ “The ability to plan a task, to notice patterns, to generate reasonable arguments and explanations, and to draw analogies to other problems are all more closely intertwined with factual knowledge than was once believed.”²⁶

Students are more likely to develop knowledge if they have multiple opportunities to practice and get feedback on how well they are mastering their learning.²⁷ Taking several multiple-choice quizzes during a course allows students to study foundational doctrine,²⁸ to apply that doctrine to new facts, to get feedback on how well they are mastering core principles, and to revise their learning based on that feedback.

Making multiple-choice quizzes significant by attaching a grade to them also focuses students on learning foundational material. As one leading educator stated, grading “is the most effective tool a teacher has to promote learning.”²⁹ Or, as another educator noted, people

²³ See SULLIVAN ET AL., *supra* note 21, at 13 (noting that understanding principles and doctrine is an essential first step in preparing for the practice of law).

²⁴ COMM. ON DEVS. IN THE SCI. OF LEARNING, NAT’L RESEARCH COUNCIL, HOW PEOPLE LEARN: BRAIN, MIND, EXPERIENCE, AND SCHOOL 9 (John D. Bransford et al. eds., 2000) [hereinafter HOW PEOPLE LEARN] (“[U]sable knowledge’ is not the same as a mere list of disconnected facts. Experts’ knowledge is connected and organized around important concepts. . .”).

²⁵ See *id.* (stating that, for example, people with “usable knowledge” about veins and arteries would be more likely to apply their understanding of the relationships, structure and function of veins and arteries to design an artificial artery).

²⁶ *Id.* at 16.

²⁷ See *id.* at 24-25 (emphasizing the importance of frequent practice and feedback for legal education).

²⁸ See STUCKEY ET AL., *supra* note 11, at 249 (“Multiple choice examinations have been proven to be a highly reliable way to evaluate factual knowledge and problem-solving skills and to assess some aspects of context and clinical reasoning.”).

²⁹ WEIMER, *supra* note 10, at 17; see also WILBERT J. McKEACHIE, TEACHING TIPS: STRATEGIES, RESEARCH, AND THEORY FOR COLLEGE AND UNIVERSITY TEACHERS 306-07 (10th ed. 1999) (discussing how grades provide an incentive to promote learning); but see Barbara Glesner Fines, *Competition and the Curve*, 65 UMKC L. REV. 879, 884 (1997) (observing that although grades induce learning, “[s]tudy after study confirms that grades are not necessary to motivate learning”).

“don’t respect what you expect; they respect what you inspect.”³⁰ If foundational doctrine is on a test, most law students will work to learn the material so that they can do well on the test. As long as the test conforms to the essential characteristics of effective assessment design—valid, reliable, and fair³¹—it allows students to study and to prepare for learning material that is essential to their mastery of core concepts. This is teaching to the test, which is valid so long as the test is valid.³²

Giving students feedback on their quizzes—their individual and group performance on the multiple-choice quiz and the feedback from other group members—also helps them learn.³³ Research on learning shows that one of the four ingredients essential for learning is an “assessment-centered” environment,³⁴ where students receive feedback that helps them learn.³⁵ Receiving feedback about how well they have performed on a quiz five to seven times during a course allows students to derive greater benefit from the course than they would with a single final exam.³⁶ Multiple-choice quizzes, administered five to

³⁰ Jordan Cohen, *Foreword to MEASURING MEDICAL PROFESSIONALISM v* (David Thomas Stern ed., 2006).

³¹ SCHWARTZ ET AL., *supra* note 3, at 155; STUCKEY ET AL., *supra* note 11 at 239.

³² See SCHWARTZ ET AL., *supra* note 3, at 155 (emphasizing the importance of “test[ing] what you teach” in order for an evaluation to be fair and valid).

³³ See Arthur W. Chickering & Zelda F. Gamson, *Seven Principles for Good Practice in Undergraduate Education*, AAHE Bull., Mar. 1987, at 3 (highlighting Principle 4: “Good Practice Gives Prompt Feedback”); see also Gerald F. Hess, *Seven Principles for Good Practice in Legal Education: History and Overview*, 49 J. LEGAL EDUC. 367 (1999) (providing a comprehensive overview applying all seven principles); Terri LeClerq, *Principle 4: Good Practice Gives Prompt Feedback*, 49 J. LEGAL EDUC. 418 (1999).

³⁴ See HOW PEOPLE LEARN, *supra* note 24, at 134. The three other types of environment essential to learning are knowledge-centered, community-centered, and learner-centered. To be effective, assessments need to be “learner-friendly: they are not the Friday quiz for which information is memorized the night before, and for which the student is given a grade that ranks him or her with respect to classmates. Rather, these assessments should provide students with opportunities to revise and improve their thinking, help students see their own progress over the course of weeks or months, and help teachers identify problems that need to be remedied.” *Id.* at 24-25 (internal parentheticals omitted).

³⁵ See *id.* at 139-40 (stressing the importance of feedback within the learning process).

³⁶ STUCKEY ET AL., *supra* note 11, at 255-61. Using several graded multiple-choice quizzes also helps reverse the negative trend throughout legal education in the 20th century, where law students receive little feedback other than the final exam. See Steve Sheppard, *An Informal History of How Law Schools Evaluate Students, With a Predictable Emphasis on Law School Final Exams*, 65 UMKC L. REV. 657, 681 (1997); see also HESS & FRIEDLAND, *supra* note 13 at 8 (law students benefit from having “[f]requent and timely feedback”); Chickering & Gamson, *supra* note 33, at 3 (“In getting started, students

seven times during a course, thus conform to recommendations from the Best Practices study and serve as both formative and summative assessments.³⁷ The quizzes are formative because they provide students with feedback to help them learn foundational material;³⁸ the quizzes are summative because students earn a grade for their performance.³⁹ For students, this means that they know how well they are understanding the material—as assessed on a multiple-choice exam—as early as the first or second week of the semester.⁴⁰

need help in assessing existing knowledge and competence. . . . [S]tudents need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.”). “[F]eedback allows students to recognize performance strengths and weaknesses. Without such recognition, improvement would be haphazard and inefficient. After recognition occurs, and the areas or skills to be improved are identified, specifically directed efforts can be made to improve.” HESS & FRIEDLAND, *supra* note 13 at 286. *But see* Andrea A. Curcio, *Moving in the Direction of Best Practices and the Carnegie Report: Reflections on Using Multiple Assessments in a Large-Section Doctrinal Course*, 19 WIDENER L.J. 159, 171-72, 177 (2009) (noting that most students felt that having multiple assessments helped them learn, but there is a lack of hard evidence showing that multiple assessments help law students learn more). For critiques of having only one final exam in a course see, for example, Robert C. Downs & Nancy Levit, *If It Can't Be Lake Woebegone . . . A Nationwide Survey of Law School Grading and Grade Normalization Practices*, 65 UMKC L. REV. 819, 823-24 (1997) (explaining that the typical law school method of grading students on a single, end-of-semester exam is the “least recommended” according to educational testing theory, but it is unlikely to change given the perception of the status quo and the fact that any alternative is likely to require more time and effort on the part of professors); Friedland, *supra* note 10 at 189 (Using a single final exam creates a “disconnect” between the examination and the body of the course.”); Philip C. Kissam, *Law School Examinations*, 42 VAND. L. REV. 433, 435, 462 (1989) (critiquing end-of-the-semester law school evaluations, or “Blue Book” exams; suggesting that this type of examination latently functions as a “reaffirmation of both conservative legal ideology and professorial prowess”); Sheppard, *supra*, at 36 (The disadvantages of a single essay exam as method of grading are “profound,” and include *inter alia* “the difficulty of student improvement with so rare and sparsely evaluated feedback,” and the calculation of grades based on “stressful and artificial circumstances.”); Paul T. Wangerin, “Alternative” Grading in Large Section Law School Classes, 6 U. FLA. J.L. & PUB. POL’Y 53, 54 (1993) (“[T]he grading system used in most law school classes, the system that primarily relies on the use of a single end-of-term essay exam, is not consistent with generally accepted theory regarding grading in higher education.”).

³⁷ STUCKEY ET AL., *supra* note 11, at 195-96. One of the principles in Chapter 7: Best Practices for Assessing Student Learning, is “10. Ensure that Summative Assessments are also Formative Assessments.” *Id.* at 195.

³⁸ *Id.* at 191 (“[F]ormative assessments are used to provide feedback to students and faculty.”).

³⁹ *Id.* (“A summative assessment is one that is used for assigning a grade or otherwise indicating a student’s level of achievement.”).

⁴⁰ Sophie Sparrow, *Describing the Ball: Improve Teaching by Using Rubrics—Explicit Grading Criteria*, 2004 MICH. ST. L. REV. 1, 2 (noting students’ frustration with not understanding how they earned their grades).

Having five to seven graded quizzes during the course also encourages students to stay current with reading assignments and to pay attention to mastering foundational material throughout the semester, rather than waiting to “pull it all together” at the end of the course. By including questions related to earlier learning modules, students practice reviewing and organizing course material to date, giving them more opportunities to practice the kinds of strategies that increase retention and understanding.⁴¹ In addition, results from earlier quizzes show the teacher where many students misunderstand foundational doctrine, allowing the teacher to refocus the teaching and reassess students’ learning in later quizzes.

Students are further engaged in learning foundational material by taking each graded multiple-choice quiz twice: first individually and then in a group. During the group quiz, students debate and analyze their various responses, arriving at a consensus answer. This helps them deepen their understanding by questioning each other, listening to their group members’ responses, referring to the legal principles they recall from the reading, and applying those principles to the facts on the quiz.⁴² The group quiz, like the individual quiz, engages students in active learning. Discussing the quiz answers in the group and having to arrive at a consensus choice also builds a sense of community within the group,⁴³ which helps students learn. Across multiple disciplines, people learn best when they are in a learning environment that

⁴¹ HOW PEOPLE LEARN, *supra* note 24, at 96 (noting some of the many effective strategies that help students learn) (internal citations omitted).

⁴² HESS & FRIEDLAND, *supra* note 13, at 15 (referring to AAHE Principle 2: Good practice encourages cooperation among students) (“Working with others often increases involvement in learning. Sharing one’s own ideas and responding to others’ reactions sharpen thinking and deepen understanding.”).

⁴³ In addition, groups almost always perform better than any individual, making the group process rewarding. Larry K. Michaelsen, *Team-Based Learning in Large Classes*, in TEAM-BASED LEARNING: A TRANSFORMATIVE USE OF SMALL GROUPS IN COLLEGE TEACHING, *supra* note 4, at 163 (“Historically, over 99 percent of the teams’ scores will be higher than their own best member.”).

provides them with a sense of community,⁴⁴ when they are engaged in active learning,⁴⁵ and when they collaborate with each other.⁴⁶

Administering five to seven quizzes during a course also helps students learn by providing a more effective and efficient use of class time. Having a quiz at or toward the beginning of each course module incentivizes students to learn the foundational doctrine on their own, outside of class.⁴⁷ This frees the teacher from restating basic material that students should have understood either from the assigned casebook or from other supplemental material, and can instead spend the majority of class time having students apply, analyze, synthesize, and evaluate that foundational doctrine to increasingly complex

⁴⁴ Several scholars have identified a supportive classroom community as vital to students' ability to learn. Amy S. Hirschy & John M. Braxton, *Effects of Student Classroom Incivilities on Students*, NEW DIRECTIONS FOR TEACHING & LEARNING, Fall 2004, at 67, 69 (“[A] supportive classroom environment is related to higher levels of participation, and a student’s level of participation is positively correlated to intellectual skill development.”) (citations omitted); HOW PEOPLE LEARN, *supra* note 24, at 132 (“New developments in the science of learning suggest that the degree to which environments are community centered is also important for learning. Especially important are norms for people learning from one another and continually attempting to improve.”); see James B. Levy, *As a Last Resort, Ask the Students: What They Say Makes Someone an Effective Law Teacher*, 58 ME. L. REV. 50, 56-65 (2006) (addressing how socio-emotional factors in the classroom affect law student learning).

⁴⁵ E.g., HOW PEOPLE LEARN, *supra* note 24, at 12-13. See also ELIZABETH BARKLEY, *STUDENT ENGAGEMENT TECHNIQUES: A HANDBOOK FOR COLLEGE FACULTY* 23 (2010).

⁴⁶ STUCKEY ET AL., *supra* note 11, at 96-97; Gerald F. Hess, *Heads and Hearts: The Teaching and Learning Environment in Law School*, 52 J. LEGAL EDUC. 75, 94 (2002); Vernellia R. Randall, *Increasing Retention and Improving Performance: Practical Advice on Using Cooperative Learning in Law Schools*, 16 T.M. COOLEY L. REV. 201, 218 (1999). Having students work in groups to arrive at a consensus answer also prepares students to the kinds of professional interactions they will have in practice. Developing professionalism skills is important for law students; using groups and team-based learning is one way for students to learn and practice these skills, but beyond the scope of this Article. Many resources provide guidance on ways to teach professionalism. See generally, e.g., MELISSA H. WERESH, *LEGAL WRITING: ETHICAL AND PROFESSIONAL CONSIDERATIONS* (2d ed. 2009); Donna C. Chin et al., *One Response to the Decline of Civility in the Legal Profession: Teaching Professionalism in Legal Research and Writing*, 51 RUTGERS L. REV. 889 (1999); Leah M. Christensen, *Going Back to Kindergarten: Considering the Application of Waldorf Education Principles to Legal Education*, 40 SUFFOLK U. L. REV. 315 (2006-2007); Sophie Sparrow, *Practicing Civility in the Legal Writing Course: Helping Law Students Learn Professionalism*, 13 J. LEGAL WRITING 113 (2007); Melissa H. Weresh, *Fostering a Respect for Our Students, Our Specialty, and the Legal Profession: Introducing Ethics and Professionalism into the Legal Writing Curriculum*, 21 TOURO L. REV. 427 (2005-2006).

⁴⁷ See Michaelsen, *supra* note 4, at 10-11, 35-37. See also *infra* notes 69-79 and accompanying text on how to help students prepare effectively and efficiently for these quizzes.

problems,⁴⁸ such as lawyers would face in practice. The work students do by studying for the quiz, individually taking the quiz, and then taking the quiz in a group lays the foundation for them to later engage actively in solving complex hypothetical problems—the kind of in-depth analysis we expect to see students do on a final exam. Having students solve complex hypothetical problems is more likely to be successful once students have had several opportunities to study, apply, discuss, and receive targeted guidance about foundational doctrine.

B. *Multiple-choice quizzes assess students' understanding of
foundational doctrine*

Having students take five to seven multiple-choice quizzes also allows the professor to assess whether students have learned many doctrinal topics.⁴⁹ For example, in a Remedies course with six quizzes of ten questions each, students will have completed 60 multiple-choice questions. This allows the teacher to assess students' learning of foundational doctrine several times with different questions, increasing the validity of assessment results.⁵⁰ In addition, effectively designed multiple-choice questions test more than rote memorization or recall, where students show that they can recognize material that is presented on a test in the same way that the material was presented in class or course materials. Instead, effective multiple-choice questions assess sophisticated levels of learning, such as comprehension and application.⁵¹ Assessing students' learning in this way is consistent with the changes proposed to the ABA's Standards, where each law school may be asked to "gather a variety of types of qualitative and/or quantitative evidence

⁴⁸ Michaelsen, *supra* note 4, at 35.

⁴⁹ See Susan M. Case & Beth E. Donahue, *Developing High-Quality Multiple-Choice Questions for Assessment in Legal Education*, 58 J. LEGAL EDUC. 372, 373 (2008); Greg Sergienko, *New Modes of Assessment*, 38 SAN DIEGO L. REV. 463, 486 (2001).

⁵⁰ Case & Donahue., *supra* note 49, at 373-74.

⁵¹ This is based on Dr. Benjamin Bloom's taxonomy of learning, which identifies six levels of learning, from highest to lowest: create, evaluate, analyze, apply, understand, and remember. SCHWARTZ ET AL., *supra* note 3, at 69-70 (applying Bloom's taxonomy to legal education). See THOMAS M. HALADYNA, *DEVELOPING AND VALIDATING MULTIPLE-CHOICE TEST ITEMS*, 19-40 (3rd ed. 2004) (see Chapter 2: Content and Cognitive Processes). While written in the context of standardized achievement tests conducted in elementary and secondary education, this chapter relies on extensive assessment research. The author notes, "[a]lthough the Bloom taxonomy continues to be an impressive marker in the history of the study of student achievement, it does not provide the most effective guidance in test and item design. Most testing programs in my experience use simpler cognitive classification systems that mainly include the first two levels of this cognitive taxonomy." *Id.* at 22.

. . . to measure the degree to which its students, by the time of graduation, have attained competency in its learning outcomes.”⁵² Among the “learning outcomes” identified by the Student Learning Outcomes Subcommittee are “competency as an entry-level practitioner in the . . . knowledge and understanding of substantive law and procedure”⁵³ In contrast to one end-of-semester exam, where a professor is necessarily limited in the range of material that can be tested, multiple quizzes allow the professor to assess whether students have learned almost every important principle in the course.

C. Multiple-choice exams help students prepare for part of the traditional bar exam

Many students struggle with successfully answering multiple-choice law questions.⁵⁴ This was my experience when I first started using them in a doctrinal course. Students encountered multiple-choice questions twice: first as part of a midterm exam, and second as part of a final exam. Most students performed poorly on both sets of multiple-choice questions. After spending a significant amount of time reviewing the midterm multiple-choice questions with the class, I realized that many of them were not skilled at taking multiple-choice tests. When I changed my course design to include several multiple-choice

⁵² Student Learning Outcomes Subcommittee, American Bar Association, *May 5, 2010 Draft of Chapter 3: Program of Legal Education*, 2010 A.B.A. SEC. LEGAL EDUC. & ADMISSIONS TO THE BAR Standard 305(a), <http://www.abanet.org/legaled/committees/comstandards.html> (last visited Feb. 13, 2011). For guidance on effective outcomes assessment, see generally Banta, *supra* note 3; PEGGY L. MAKI, *ASSESSING FOR LEARNING: BUILDING A SUSTAINABLE COMMITMENT ACROSS THE INSTITUTION* (2004); BARBARA E. WALVOORD, *ASSESSMENT CLEAR AND SIMPLE: A PRACTICAL GUIDE FOR INSTITUTIONS, DEPARTMENTS, AND GENERAL EDUCATION* (2004).

⁵³ Student Learning Outcomes Subcommittee, *supra* note 52, Standard 302(b)(1).

⁵⁴ Fisher, *supra* note 1, at 119. Fisher notes:

“I always have trouble with the multiple-choice questions,” is a common law student complaint to academic support faculty. Many of the students who seek our assistance are distraught over their failure to perform well on multiple-choice questions because performing poorly on even one test can have serious consequences in the high-stakes testing environment of law school. Doctrinal faculty occasionally express puzzlement to academic support faculty over why some students perform poorly on multiple-choice questions.

Id. My limited experience in designing effective multiple-choice questions also hampered their success. To reduce the influence of my inexperience in test design, students were invited, but not required, to provide narrative responses along with their selection. The optional narrative responses could not reduce a student’s grade, even when they showed fundamental misconceptions, and a student could earn full points for guessing the correct answer. The multiple-choice questions also carried less weight than the narrative responses to essay exams.

quizzes during the semester, students had significantly more practice, and many students who performed poorly on multiple-choice quizzes at the beginning of the semester improved significantly by the end of the course. This was especially true for students who engaged in self-regulating learning behavior⁵⁵ early in the semester, seeking help from me, the course teaching assistants, and academic success professionals about how to more effectively prepare for and take multiple-choice quizzes. The cycle of preparing for a multiple-choice quiz, taking the quiz, getting feedback about quiz performance, and revising how they prepare and take multiple-choice quizzes helps students prepare for the kinds of questions they will face on the Multistate Bar Exam (MBE). On the MBE, applicants to the bar will spend six hours answering 200 multiple-choice questions on Constitutional Law, Contracts, Criminal Law and Procedure, Evidence, Real Property, and Torts.⁵⁶

Preparing students to pass the MBE certainly should not be our only or even our main goal as legal educators, but given that students graduate with extreme debt loads⁵⁷ and that most plan to practice law, one of our duties as teachers is to help prepare them to pass state bar exams. This is not to defend the bar exam, or to suggest that it mea-

⁵⁵ MICHAEL HUNTER SCHWARTZ, EXPERT LEARNING FOR LAW STUDENTS 3, 29-33 (2d ed. 2008). During the reflection phase of the self-regulated learning cycle, a “student reflects on what she did and how effective it was and then considers the implications of her experience for future learning activities.” *Id.* at 33.

⁵⁶ According to the National Conference of Bar Examiners, the MBE assesses students’ ability to apply fundamental legal principles of Constitutional Law, Contracts, Criminal Law and Procedure, Evidence, Real Property, and Torts. “All questions are multiple choice. Applicants are asked to choose the best answer from the four stated alternatives. The test is designed to give credit only when the applicant has selected the best answer.” Of the 200 questions on the MBE, “the exam contains 10 pretest questions, which are indistinguishable from the live test items, but which will not be used for scoring purposes.” National Conference of Bar Examiners: Description of the MBE, <http://www.ncbex.org/multistate-tests/mbe/mbe-faqs/description> (last visited April 19, 2011). Also see the “Myths and Facts” section which refers to research supporting the validity of the MBE. National Conference of Bar Examiners: Myths and Facts, <http://www.ncbex.org/multistate-tests/mbe/mbe-faqs/myths-and-facts/> (last visited Feb. 13, 2011). Many authors have criticized the MBE as a valid assessment of an applicant’s ability to practice law. *E.g.*, Soc’y of Am. Law Teachers, *Statement on the Bar Exam*, 52 J. LEGAL EDUC. 446 (2002); *see also* John Burwell Garvey & Anne F. Zinkin, *Making Law Students Client-Ready: A New Model in Legal Education*, 1 DUKE F. FOR L. & SOC. CHANGE, 101, 115-26 (2009) (describing an alternative two year bar exam which trains and assesses “the skills and values needed by lawyers to practice law competently”).

⁵⁷ *See* LAW SCHOOL SURVEY OF STUDENT ENGAGEMENT, 2009 ANNUAL SURVEY RESULTS 8 [hereinafter LSSSE] (“More than one-third (44%) of 3Ls expect to owe more than \$100,000 in law school loans upon graduation.”).

sure the knowledge, skills, and values essential to practice, but rather to note that, until students have alternative ways to show their legal competence, they will spend thousands of dollars and weeks of their lives studying and preparing for the bar exam. If we take this duty seriously, we can help our students by preparing them to pass the bar exam in our doctrinal courses and not just in separate bar courses.⁵⁸

II. TECHNIQUES TO USE MULTIPLE-CHOICE QUESTION QUIZZES EFFECTIVELY

To use closed-book multiple-choice quizzes effectively, quizzes should be incorporated into the overall course design.⁵⁹ Students should be prepared for the quizzes, quizzes should include well-designed multiple-choice questions, and the quiz process should include an appeals process. Multiple-choice quizzes, like any other aspect of teaching and learning, are effective when they are related to a course's instructional goals and overall design. To understand instructional goals, or "learning outcomes,"⁶⁰ as teachers we have to "think backward"⁶¹ to identify what we want students to be able to do by the end of the course,⁶² and incorporate multiple-choice quizzes as part of devel-

⁵⁸ For criticisms of the traditional bar exam and suggestions about alternatives, see generally Andrea A. Curcio, *Assessing Differently and Using Empirical Studies to See if it Makes a Difference: Can Law Schools Do It Better?* 27 QUINNIPIAC L. REV. 899 (2009); Garvey et al., *supra* note 56; Soc'y of Am. Law Teachers, *supra* note 56; Kristin Booth Glen, *When and Where We Enter: Rethinking Admission to the Legal Profession* 102 COLUM. L. REV. 1696, 1710-11 (2002).

⁵⁹ 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 Reform Law Teaching*, 38 SAN DIEGO L. REV. 347 (2001).

⁶⁰ "Goals" refers to what students are expected to learn from a course; in other educational literature the term "outcomes" or "objectives" may have the same meaning. PATRICIA L. SMITH & TILLMAN J. RAGAN, *INSTRUCTIONAL DESIGN* 4-12 (3d ed. 2005) (describing the instructional design process and advantages); SCHWARTZ ET AL., *supra* note 3, at 37-42, 135-39; L. DEE FINK, *CREATING SIGNIFICANT LEARNING EXPERIENCES* 33-35, 60-67 (2003). For a list of goals applicable to law school, consider "Fundamental Lawyering Skills" from MACCRATE REPORT, *supra* note 13, at 135-221; STUCKEY ET AL., *supra* note 10, at 39-91; GREGORY S. MUNRO, *OUTCOMES ASSESSMENT FOR LAW SCHOOLS* 199-217 (2000); and also see ANGELO & CROSS, *supra* note 10, 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."

⁶¹ FINK, *supra* note 60, at 63.

⁶² Michaelsen & Sweet, *supra* note 6, at 13; SCHWARTZ ET AL., *supra* note 3, at 38.

oping students' competence in mastering those learning outcomes. Identifying important course learning outcomes is difficult for many of us to do,⁶³ but is essential for us and our students.⁶⁴ Once we have identified the course learning outcomes, we further divide the course into five to seven learning units, each of which comprise an essential body of learning for that course.⁶⁵ Each learning unit in turn has specific learning outcomes.⁶⁶ Toward the beginning of each learning unit, students spend all or most of a class session taking a multiple-choice quiz that tests them on the foundational knowledge of the learning

⁶³ Ideally teachers identify their student learning outcomes before the course starts. SCHWARTZ ET AL., *supra* note 3, at 138. One way to identify student learning outcomes is to ask:

What are the students who really understand the material doing that shows you they get it? Imagine that 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 teach her and is putting it to use in a meaningful way?"

Michaelsen & Sweet, *supra* note 6, at 13. Unfortunately, with little guidance and experience in effective teaching, few professors know how to do this. Maryellen Weimer suggests that professors consider what they would like a student to remember about their course five years later; alternatively, that professors write the ideal final exam for the course, and then work backwards to determine "the skills and knowledge a student would need to perform well on that final." MARYELLEN WEIMER, *IMPROVING YOUR CLASSROOM TEACHING* 29 (1996); *see also* Glesner Fines, *supra* note 30, at 882 (noting that developing criteria to evaluate law students "is by no means an easy task - some may say impossible").

⁶⁴ "Students perform better when they know what goals they are trying to achieve . . ." Hess, *supra* note 46, at 99 (citing research by Donelson R. Forsyth & James H. McMillan, *Practical Proposals for Motivating Students*, in *TEACHING AND LEARNING IN THE COLLEGE CLASSROOM* (Kenneth A. Feldman & Michael B. Paulsen eds., 1993)); *see* BARBARA E. WALVROOD & VIRGINIA JOHNSON ANDERSON, *EFFECTIVE GRADING: A TOOL FOR LEARNING AND ASSESSMENT* 66-67 (2d ed. 2010) (noting that becoming more explicit in identifying goals and subsequently teaching to them allowed their students to become more proficient on their biology tests).

⁶⁵ Breaking a course into five to seven important components requires us to "identify the most important concepts, issues, topics, or themes that constitute the subject of the course—usually at least four and no more than seven." FINK, *supra* note 60, at 128. Fink compares designing a course by dividing it into units with the traditional approach, the "list of topics" method, where "the teacher looks at the subject, creates a list of eight to twelve topics on it, and then proceeds to work up lectures on each topic. With the addition of a midterm exam or two plus a final, the course is ready to go . . . [i]n a matter of minutes . . ." *Id.* at 61.

⁶⁶ Michaelsen, *supra* note 4, at 36, 42-43; *see* SCHWARTZ ET AL., *supra* note 3, at 47-52.

unit.⁶⁷ Over a fourteen-week course that meets twice a week, where the course has six learning units, students would be engaged in taking multiple-choice quizzes for about 20 percent of the classroom time. The remaining 80 percent of classes during the course would engage students in applying the unit concepts to more complex situations.⁶⁸

A. *Preparing students for multiple-choice quizzes*

Having regular quizzes in a course may be familiar to students from their college experiences, especially those who have had courses in math and science, but is uncommon in most law school courses. To help students understand using quizzes this way, it helps to spend one of the first classes explaining the approach and, most importantly, why you are doing it, namely, to help their learning.⁶⁹ Professor Larry Michaelsen, who has had students take quizzes at the beginning of learning units over decades of teaching, recommends that students take an ungraded practice quiz early in the semester.⁷⁰ For example, during one of the first classes in the course, students could read a short article or the course syllabus, and then take a closed-book multiple choice quiz on the topic individually and then as a group. From this experience students quickly recognize the need to read carefully—both the material and the questions—and the value of taking quizzes as a group, since the group almost always performs better than the individ-

⁶⁷ Depending on the number and complexity of the questions on a multiple-choice quiz, having students engage in the quiz process, including taking the quiz individually and in small groups, appealing answers and receiving a mini lecture on the material, can take between 50 to 90 minutes. For a video including footage of students taking a group multiple-choice quiz see Team-Based Learning: Group Work That Works, *supra* note 12.

⁶⁸ Six of the twenty-eight classes (21%) would engage students in taking the multiple-choice quiz process. During one class towards the beginning of the unit, students would complete the closed-book quiz individually, again as a team, complete any optional appeals, and receive focused guidance from the teacher. The remainder of the classes during the course, the twenty-two of twenty-eight classes (79%) would engage students in applying the unit concepts to increasingly complex fact situations, some of which could require students to integrate the current learning unit with previous units, much like they would need to do on a final exam and in practice.

⁶⁹ Michaelsen & Sweet, *supra* note 6, at 15-16. Explaining why you use multiple quizzes on the first day of the course works well in required courses where all students are likely present in the first class. For other courses, where student enrollment may shift until the end of a final add/drop date, it helps to give a brief overview on the first day, and include a fuller explanation after the add/drop date, after student enrollment is set.

⁷⁰ *Id.* at 16.

ual student, and the lowest group score is almost always higher than the highest individual score.⁷¹

Explaining why you use this approach to help students learn bears repeating later in the semester. Students often forget why the course is designed this way. In the midst of other deadlines and stresses of law school, some students resent the additional work that the course requires. Many upper level students spend significantly less time on preparing for class than first year students;⁷² preparing for five to seven cumulative quizzes over a semester requires students to engage more deeply with the material than they would if they were focused on studying only for one final exam. As a third year student in a Remedies course said to me, “this is way more work than I have to do in my other classes.”⁷³ My usual response is that this may be true, but “chances are you will learn more, too.” I do not yet have the evidence to prove that they will learn more, but every year recent graduates let me know that they felt confident when they *used* the material from Remedies on the bar exam and in practice.

Having identified the essential course learning outcomes, and the learning goals for each unit, we prepare students by assigning initial reading material that will help them understand foundational doctrine. These initial reading assignments form the basis for the multiple-choice quizzes,⁷⁴ and should enable students to understand a legal doctrine’s foundational core concepts,⁷⁵ such as general rules, rather than specialized exceptions to the rules or other nuances, such as the name of a judge in a dissenting opinion. Pre-quiz assigned readings may include the introductory material presented at the beginning of a chapter or section of a casebook, the notes pages after major case discussions, short treatises, portions of restatements, or the teacher’s own supplementary material.⁷⁶

⁷¹ Michaelsen, *supra* note 43, at 163.

⁷² See LSSSE, *supra* note 57, at 8.

⁷³ Other second and third year students have made similar statements in the past, such as “this is not a laptop class,” or, “this forces me to keep reviewing the material during the semester - I usually wait to do that until just before the exam.”

⁷⁴ See Michaelsen & Sweet, *supra* note 6, at 17.

⁷⁵ *Id.* at 17.

⁷⁶ Some casebooks have such introductory material, but “[m]ost law school texts provide little to no background knowledge and require [students] to derive rules of law from cases in a way that is very different from how practicing lawyers do so.” MICHAEL HUNTER SCHWARTZ & DENISE RIEBE, *CONTRACTS: A CONTEXT AND PRACTICE CASEBOOK* xxvi (2009) (describing a new casebook series designed to reflect current research on teaching and learning and responding to recent critiques of legal education).

Before we quiz students on how well they understand foundational doctrine, it helps to explain what we mean by foundational doctrine. As a colleague describes it, “this is the material they should know off the top of their head, without having to look it up.”⁷⁷ For example, in a first year Torts course, most Torts professors would agree that students should know the elements of common law negligence. This kind of foundational knowledge often seems obvious to those teaching in the field. But, because many students, especially first year students, struggle to understand the difference between foundational knowledge, such as elements of a cause of action, and sub-rules, such as multiple factors that affect how an element is applied, explicitly identifying these core concepts can be very helpful. One way to do this is to give students a study guide—a series of questions about the initial pre-quiz reading assignments.⁷⁸ Reading to find the answers to study guide questions, students focus on the material that the teacher considers important, rather than trying to absorb every nuance.⁷⁹ For a given unit of instruction, these questions can identify the kinds of knowledge and skills that students should understand and be able to apply at a basic level, such as on a closed-book multiple-choice quiz, and questions that focus on more sophisticated analysis, which would require in-depth case analysis, synthesis, and application.⁸⁰

⁷⁷ Conversation with colleague who uses quizzes in teaching upper level students. This is like understanding basic multiplication: most of us use calculators to multiply two three-digit numbers, but basic number literacy demands that we know single digit multiplication facts.

⁷⁸ Larry K. Michaelsen, *Frequently Asked Questions About Team-Based Learning*, in *TEAM-BASED LEARNING: A TRANSFORMATIVE USE OF SMALL GROUPS IN COLLEGE TEACHING*, *supra* note 4, at 218.

⁷⁹ SCHWARTZ ET AL., *supra* note 3, at 78 (explaining that giving students questions in advance “allow[s] students to focus their preparation, just as a lawyer prepares for the issues that will be central to a motion hearing”); see also RUTH ANN MCKINNEY, *READING LIKE A LAWYER* 19 (2005) (noting that “beginning students need to know what to look for in cases and what to expect to learn from cases”).

⁸⁰ Study guide questions can include a range of questions that help students focus on the material for a number of classes in addition to foundational quiz questions. Within a cluster of questions, teachers can identify the questions relating to foundational doctrine that students could expect to see on a quiz. These questions serve as study guides for students and can be part of a course supplement, given to students at the beginning of the course. Alternatively, because these questions take time to develop, they can be prepared and given to students a week or a few days in advance, posting them on a course website and differentiating between general questions that they would take time to understand and analyze, and ones that are fundamental and expected to know memorize. In my study guide questions, I put an asterisk by the questions to which they should know the answer without having to look it up, such as the elements of negli-

B. *Designing effective multiple-choice questions*

Good multiple-choice quiz questions test students' ability to comprehend and apply the foundational doctrine from the reading.⁸¹ These questions "should focus on the concepts that would be found in a typical table of contents, not just in the index."⁸² In addition, the number of questions on any topic should be consistent with that topic's importance.⁸³ As a general principle, about 75% of the quiz questions should be at the application level⁸⁴ and about 25% at the knowledge level.⁸⁵ The quiz questions also must be sufficiently challenging to generate student discussion when students retake the quiz as a group.⁸⁶

Writing effective multiple-choice questions is difficult and time-consuming, requiring significantly more work than writing essay questions.⁸⁷ With a multiple-choice question, the goal is to assess students' learning and to provide them with feedback about how well they are meeting the most important knowledge and skills learning outcomes for the course.⁸⁸ These learning outcomes suggest the kinds of knowledge and cognitive processes that form the basis for the questions.⁸⁹

gence, and the reasonable person standard of care. For examples of effective understanding and application questions, see generally SCHWARTZ & RIEBE, *supra* note 76.

⁸¹ See Case & Donahue, *supra* note 49, at 377-78.

⁸² Michaelsen, *supra* note 78, at 220.

⁸³ Sandy Cook, *Writing Outstanding MCQs that Match Your Objectives: Why Keep Assessing Your Student's Performance a Secret?*, 17 SGH PROCEEDINGS 154, 157 (2008).

⁸⁴ See generally SCHWARTZ ET AL., *supra* note 3, at 68-70 (applying Bloom's taxonomy of levels of learning to legal education).

⁸⁵ Larry K. Michaelsen, Workshop on Writing Effective Questions for a TBL Module, Team-Based Learning 2009 Conference (Mar. 5-6, 2009) (on file with author). Effective multiple-choice questions are also more effective if "at least some of the questions [are] difficult enough to stimulate discussion If the questions are correctly chosen and sequenced, students can learn from the questions themselves" as they take the quiz. Michaelsen, *supra* note 78, at 226.

⁸⁶ Michaelsen & Sweet, *supra* note 6, at 17.

⁸⁷ See Case & Donahue, *supra* note 49, at 373, for explicit guidance on creating multiple-choice questions for law students, including examples of effective and ineffective questions. Another excellent brief article on writing multiple-choice questions is Cook, *supra* note 83. I wish I had these articles when I first designed quizzes, which unfortunately included many of the mistakes listed in the article.

⁸⁸ As one educator stated, "Good MCQ questions define for the student what is important." Cook, *supra* note 83, at 157. Levels of knowledge and skills are more easily assessed on multiple-choice questions than values. Teaching values is important in law school, but beyond the scope of this Article.

⁸⁹ For an extensive discussion about testing students' knowledge of content and cognitive processes, see HALADYNA, *supra* note 51, at 19-40 (while written in the context of

Once the learning outcomes are identified, writing effective questions requires that we follow detailed guidelines on designing the three essential aspects of each question: the “facts,” the “call of the question,” and the answer choices.⁹⁰ Fact scenarios, also called “problem stems,” should be short and relevant to practice; they should contain no distractions, and they should be written in plain English.⁹¹ The call of the question, referred to as the “lead-in,”⁹² follows the stem and should “pose a single, specific task” that suggests a group of parallel and plausible answers.⁹³ Effective lead-ins can assess a range of students’ knowledge and skills, including the lawyering skills of problem-solving and strategizing.⁹⁴ For lead-ins, experts also recommend asking for the best answer rather than the correct answer,⁹⁵ avoiding negative questions, and not using questions posed as a “fill in the blank.”⁹⁶ Answer choices, usually A, B, C, or D, called “options,” should be short and parallel in construction and length.⁹⁷ Answers with “always,” “never,” “all,” “none,” “rarely,” “usually,” “none of the above,” and “all of the above,” should be avoided.⁹⁸ Incorrect answers, called “distractors,” should be plausible and should represent common student mistakes.⁹⁹

C. Administering multiple-choice quizzes

I use the first day of a new learning unit to administer a ten question, closed-book, multiple-choice quiz; the quiz process usually takes the entire class.¹⁰⁰ The quiz process consists of having the students

standardized achievement tests conducted in elementary and secondary education, this chapter relies on extensive assessment research).

⁹⁰ Case & Donahue, *supra* note 49, at 374; Jannette Collins, *Education Techniques for Lifelong Learning: Writing Multiple-Choice Questions for Continuing Medical Education Activities and Self-Assessment Modules*, 26 RADIOGRAPHICS 543, 543 (2006).

⁹¹ BARKLEY, *supra* note 45, at 349; *see* Case & Donahue, *supra* note 49, at 375-79.

⁹² Case & Donahue, *supra* note 49, at 374.

⁹³ *Id.* at 379.

⁹⁴ *Id.* at 379-80.

⁹⁵ BARKLEY, *supra* note 45, at 349; *see* Cook, *supra* note 83, at 158.

⁹⁶ Case & Donahue, *supra* note 49, at 380; *see* Cook, *supra* note 83, at 158.

⁹⁷ Case & Donahue, *supra* note 49, at 383.

⁹⁸ *Id.*

⁹⁹ *Id.* at 380. Writing effective distractors is easier for quizzes given later in the course, where distractors can include mistakes and misunderstandings that students showed in quizzes taken earlier in the semester.

¹⁰⁰ In the event that students individually and in their groups will complete the quiz process before the end of class, I have additional exercises designed to actively engage students with the doctrine from the new learning unit, and connect students’ new learning to previous learning units.

complete the quiz individually, complete the quiz again in groups, prepare appeals to quiz questions, and listen to a mini-lecture or participate in a discussion reviewing the foundational material on the quiz. At the beginning of class, all students receive an answer sheet and a hard copy of the quiz.¹⁰¹ Students have a specific amount of time to complete the quiz, such as 20-25 minutes,¹⁰² depending on the number of quiz questions and the amount of reading in the questions. Alternatively, students turn in their answers once they have completed the quiz; as soon as a complete team of students has finished, all students have five minutes to complete the quiz.¹⁰³ This five-minute window allows all students roughly the same amount of time. Students mark their answers to the quiz in two places—on the quiz itself and on the separate answer sheet. Once their answer sheets are turned in, students' individual quiz answer sheets are scored while they are working on group quizzes, and returned at the end of class.¹⁰⁴

Once all students have completed their individual quizzes, students discuss their approaches and answers to the quiz within their groups.¹⁰⁵ Because they have already marked their answers on the quiz, students discuss what answers they chose, and why. Each group records their answer on a specialized self-scoring form,¹⁰⁶ by using a coin to scratch off the box corresponding to their chosen answer. Much like a lottery ticket, the forms immediately reveal whether the group's answer

¹⁰¹ Answer sheets can be Scantron® forms or forms with answer choices students can mark.

¹⁰² Students who receive additional time under the Americans with Disabilities Act, 42 U.S.C. § 12101 et seq. (1990), or as otherwise provided in the University of New Hampshire School of Law's academic rules start taking their quizzes earlier in another room. They return to the class to complete their group quizzes. For additional information on providing additional time, see Suzanne E. Rowe, *Reasonable Accommodations for Unreasonable Requests: The Americans with Disabilities Act in Legal Writing Courses*, 12 LEGAL WRITING: J. LEGAL WRITING INST. 3, 53-54 (2006).

¹⁰³ I have found a hybrid approach works best for my students. I usually guarantee students a minimum amount of time, such as twenty minutes. If all the students in one team finish early, such as within the first ten minutes, all remaining students still have twenty minutes to complete the quiz. If the first team of students finishes after twenty minutes, all students have an additional five minutes to complete the quiz.

¹⁰⁴ Some teachers use a portable electronic scanning device. I am fortunate to have teaching assistants who score the sheets and record the results.

¹⁰⁵ I use permanent diverse groups of five to seven students, following the principles of team-based learning. For more on how to form effective cohesive groups, see Michaelsen, *supra* note 4, at 28-30, 39-40.

¹⁰⁶ Michaelsen & Sweet, *supra* note 6, at 17.

is correct by showing a small star under the correct answer.¹⁰⁷ The group earns full points if the first choice is the correct answer. If not, the group continues to deliberate, earning fewer points with each incorrect answer.¹⁰⁸ Because the students can still earn some points even if their first choice was wrong, they continue discussing their answers until they scratch the correct one. Using the scratch-off answer forms as they work, all students in the group receive immediate feedback on their performance on the quiz, both individually and as a group.

As with the individual quiz, groups have five minutes after the first group has finished to complete the quiz. Groups work at different rates, and over the semester develop a range of strategies to take the quiz. Some groups initially go through all the quiz questions, identifying the ones where they mostly agree on the correct answer and where they chose a wide range of responses, going back to revisit the questions and discuss each of them before scratching off an answer. Other groups systematically work through the quiz starting with the first question, debating and arriving at the correct answer before moving on. Because the scratch-off answer forms allow the groups to move at different rates while still providing immediate feedback for all, the groups develop and modify their strategies during the course. As soon as a group has completed the quiz, the group may begin working on any optional open-book appeals for questions that the group has answered incorrectly.¹⁰⁹ After the last group finishes the quiz, all groups have a final ten minutes to submit any optional appeals for questions the group has gotten wrong. They complete these in class, referring to their notes, the text, and any other materials.¹¹⁰ I review their appeals out of class and give them a decision the following class. If the group successfully appeals the answer to a question, the group receives full points for the question. All individual students' who chose the same

¹⁰⁷ IF-AT® *Immediate Feedback Assessment Technique*, Epstein Educational Enterprises (2001), available at <http://www.epsteineducation.com>. Because the star shows up in different places on the answer forms, students cannot cheat by scraping away a tiny portion of the answer box.

¹⁰⁸ Michaelsen & Sweet, *supra* note 6, at 17. For example, with four choices—A, B, C, or D—if a correct answer earns ten points, the second choice answer would earn six, the third correct answer would earn two points, and the fourth answer would result in zero points.

¹⁰⁹ *Id.* at 18-19. For additional material about the appeals process and sample appeal form, see Team-Based Learning, <http://tblc.camp9.org/ReadinessAssuranceProcess> (last visited April 19, 2011).

¹¹⁰ Michaelsen & Sweet, *supra* note 6, at 18.

option as the subject of the appeal also receive full points for that question.¹¹¹

As each group finishes the quiz, a member of the group comes to the front of the room and lists the group's score.¹¹² At the end of the group quiz, I also post the high, low, and average scores for the individual quizzes¹¹³ on the board. This provides students with feedback about how well they are doing in relation to the rest of the class. This is usually very reassuring, as students realize that a score of 70, while earning a failing grade in college, might more closely correspond to about a "B" in law school when 70 is near the class's average score for the quiz.

Once all groups have finished their quizzes and any optional appeals, I give a short lecture of about five to ten minutes reviewing the questions that the highest number of students got wrong, and discussing the merits of the different options.¹¹⁴ Students frequently have questions during this review and vigorously debate the question stems and options. The follow up lecture and discussion helps reinforce students' need to read the question stem, lead-in, and options very closely—exactly the kind of close reading that they need to do as lawyers.

D. *Two practices to improve giving multiple-choice quizzes
efficiently and effectively*

Designing effective multiple-choice questions can be like preparing for a new course; each of my ten-question multiple-choice quizzes takes about eight-to-ten hours to develop.¹¹⁵ Two practices make designing these quizzes effective and more efficient in the long term.

¹¹¹ Students who chose the correct option initially do not lose points if the group's appeal is successful.

¹¹² Students are fascinated by how their group does in comparison to others, with fist bumps and high fives for the groups that do well. Groups that do less well have frequently decided to get together to study before a quiz to review key concepts and check each other's understanding of the material.

¹¹³ This information is supplied by my teaching assistants, one of whom records all the data on a spreadsheet. Having scored all the individual quizzes, the teaching assistants also provide me with information about which questions were the most problematic, and within those questions, which options students chose most often. For a detailed description of conducting sophisticated analysis of students' multiple-choice responses, see Daggett, *supra* note 3, at 402-06.

¹¹⁴ Michaelsen & Sweet, *supra* note 6, at 8.

¹¹⁵ See Collins, *supra* note 90, at 544 ("Professional test-item writers plan on 1 hour or more to write one good item."); Sergienko, *supra* note 49, at 490 ("Most people who draft multiple-choice questions agree that drafting them is very difficult.").

One is to have quizzes field-tested, the other is to revise and reuse the quizzes in subsequent semesters. Whenever possible, I give teaching assistants, colleagues, and my faculty assistant quizzes in advance. Teaching assistants, who took the same course a year or two ago, often provide me with helpful feedback about the difficulty of the quiz questions and identify areas of ambiguity. Colleagues, both those who teach the subject and those who are unfamiliar with it, also identify ambiguities and ask insightful questions about the quiz. My faculty assistant proofreads the quiz, and, as someone without a law background, is particularly helpful in noticing things that cause confusion and could be difficult for foreign students.¹¹⁶

I also reuse much of the material on the quizzes from semester to semester. To prevent students from having access to previous quizzes, students only receive the multiple-choice quiz in hard copy on the day of the quiz, and they must return the quizzes at the end of the class, or earn a zero on the quiz. Because students want to ensure they earn points for their individual and team quizzes, the groups are extremely efficient and effective about monitoring each other and making sure they return all quizzes.¹¹⁷

Each semester the quizzes need less revision and can be reused for future semesters with minor changes. I keep notes and data about students' performance on quizzes and the questions they generated afterwards; I also keep copies of their appeals and whether they were granted or denied. The next time I teach the course I review the material about students' performance and their written appeals. Often their appeals show that the stems, lead-ins, and options could be more effectively phrased; I change the questions to address these problems. Based on student performance, I also add new questions on material many students got wrong, using different formats, such as changing the facts in the stem, or modifying the options.¹¹⁸

¹¹⁶ My faculty assistant also often identifies what she thinks the right answers are, and why. Learning about her questions, areas of confusion, and thoughts about which answers are correct helps improve the questions.

¹¹⁷ At the end of the class, after they have taken the quiz individually and in a group, they are required to gather all the quizzes from their group and return the collection with their group's name. Any group that fails to return all the group's quizzes earns a zero for the group quiz. In addition, if a group fails to return all the group's quizzes, all members of the group also individually earn a zero for their individual quizzes. Since I started using this approach, all quizzes have been returned every time.

¹¹⁸ Five years ago, when I first started using MCQs as part of a Torts midterm exam, I discovered that many students misunderstood how to apply violating a statute as evi-

CONCLUSION

Individual and group multiple-choice quizzes can be effective teaching and learning tools that contribute to student-centered legal education. Well-designed quizzes, when integrated into a comprehensive course design, and used with other assignments and assessments, help students learn foundational material in doctrinal courses, assess students' learning, and prepare students for part of the traditional bar exam. Taking multiple-choice quizzes at the beginning of a course's learning unit causes students to take initial responsibility for learning foundational material. During the quizzes, students individually practice applying their knowledge of core concepts. By immediately working with group members in retaking the quiz, students refine and deepen their understanding of core concepts by debating and then receiving feedback about the quiz's correct answers. Students continue to develop their understanding by completing optional appeals to quiz questions the group answered incorrectly. Having completed individual and group quizzes at the beginning of each learning unit in a course, students can early on address their misconceptions. For the remainder of the course students can engage in more sophisticated application, analysis, synthesis, and evaluation of legal problems—the kind of sophisticated problem-solving we seek for them to do in practice.

dence of a defendant's breach, or negligence per se, a core learning concept. Once I started using multiple MCQ quizzes, I saw similar errors about negligence per se the first time the concept was tested. By the end of the semester, students had practiced applying negligence per se to a number of problems in class and on three quizzes. By the last quiz and the final exam, most students correctly applied negligence per se to a new set of facts.

