

**TECHNOLOGY AND ASSESSMENT IN THE LEGAL CLASSROOM:
AN EMPIRICAL STUDY**

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Abstract

Education has been challenged by technology over the last 20 years. This has begun having an impact even on legal education. There was a time when the Socratic Method was the primary instructional modality in law school and its preeminence was unchallenged. The idea was that the law school's educational program was a rigorous entity unto itself. Each course had one summative final exam.

In the mid 1980s the thinking about "intelligence" began to take a dramatic shift. The shift came in part due to advances in technology, including artificial intelligence. As understanding of the complexity of human intelligences became the focus of educational psychologists, its impact was felt on the science/art of education. Ensuring that teaching methods used in the classroom would reach all learners became the primary role of the teacher, as opposed to being the primary "keeper" of the knowledge to be conveyed to the student, which was the traditional primary role in the formal educational classroom. And then came the computers. What quickly became apparent was that there was a role, even a need, for various types of intelligences in the traditional classroom and in fields where alternate types of intelligence had never been viewed as contributors to success in those fields. One spectacular example came in the surprising field of surgery where surgeons began training with video games which turned out to enable them to use surgical micro robotics to perform procedures that had been impossible previously.

As psychologists became more interested in studying the various intelligences exhibited by humans, they introduced the idea of measuring students' acquisition of skills or the outcomes of learning endeavors. The idea behind assessing students' learning is making education more efficient. Educational outcomes are the product of student aptitudes, effort and the educational program. Maximizing student outcomes or making the educational process efficient became a real focus of educators, but not of legal educators. If students are making progress at a rate that will allow them to achieve the outcomes of the program on schedule, all is well; if they are not, adjustments in one or more of the three factors is necessary. Of course, affecting students' aptitudes is not always feasible, but targeting instructional efforts utilizing their learning modality strengths is.

New technology provides the teacher an assessment of the students' learning.

It isn't enough to know whether or not the majority of students (defined as 70% or more) have grasped the concept, the teacher must then make decisions about what to do with the data. In my class, if fewer than 70% of the students have not mastered the concept, we continue instructional interventions and measure their success until 70% or more of the students have displayed mastery. We are attempting to assess whether or not this approach contributes to student outcomes, by comparing the performance of the students in my section who have been subjected to the rigors of measuring their response to instructional interventions to those of other students who have not had such formative assessments.

Keywords: Innovation, technology, research projects, etc.

INTRODUCTION:

During the past twenty years legal educators as well as educators in other fields have been engaged in the process of making legal education more efficient and relevant. Many reasons for the changes come to mind such as changes in the way the marketplace for attorneys accepts new law school graduates or maybe different expectations of the level of skills expected of the new attorneys. Maybe the advances in technology have created new challenges to legal education as the role of legal educators changed from being the "keepers" of the knowledge to be conveyed to students to ensuring that knowledge reached all learners. Maybe law firms starting new associates at \$130,000 per year, or more, want associates ready to hit the ground running, or at least jogging! Whatever the reason, over the past twenty years legal education institutions as well as legal educators have witnessed a significant debate as to how best to impart education in the legal classroom. Initially, the debate was focused on what type of education was to be administered in law school. Should students be taught to "think like lawyers" or should they be taught "the skills of lawyering"? Where does legal education begin with the process of education?

Legal education has changed over the years, reflecting the state of the art of education and psychology and the zeitgeist or thinking of the times. One thing has remained constant for educators in general as well as legal educators, how to teach anything is of vital interest, and the more efficient the method of imparting the knowledge, the better the educator can be at the job. It then becomes the burden of the formal school mechanisms (the law schools) to provide the training needed for a student to become a lawyer and to make this a cost-efficient process. That is, the law school must focus on imparting the knowledge and skills required by the profession in a manner that attracts students who recognize the school's ability to provide such training. Law professors, like other educators, must take their cue from those who teach others how to teach. Law students have also changed over the years as have learners in other fields. Educators have taught teachers in all fields to instruct using differentiated instructional methods, so learners have been accustomed to being instructed in multiple modalities, rather than relying solely on the auditory learning modality. The information age, in which we find ourselves, has made learners expect almost instantaneous information and feedback, which in law schools has resulted in "more demanding" law students. The new law students seem to expect more from their teachers, too. No longer do they passively accept a grade on a test..they want to know "why?!"

Up until 1960, law schools offered only one type of legal education, emphasizing the development of analytical skills, the development of legal research skills, and the learning of substantive law. In order to teach these skills, law schools relied, for the most part, on the Socratic method,ⁱⁱ where students are trained to reason via question and answer debate in the classroom (that auditory learning modality!), applying legal statutes and principles where appropriate.ⁱⁱⁱ This method of instruction ensured that law schools became a source of "sorting" students who were good at legal analysis from those who were poor at it without concern as to how these students, once they became lawyers, would acquire skills relevant to providing services to real clients, i.e., expertise, judgment, and problem-solving abilities that go beyond classroom legal analysis.

With the development of clinical legal education in the 1960s, that tradition began to change. In 1973, the American Bar Association's adoption of its Standards for law school approval incorporated core curriculum requirements, professional responsibility requirements and professional skills training.

These requirements were later amended to include legal writing.^{iv} In 1992, the McCrate Report identified fundamental lawyering skills as essential for competent representation.^v The report also identified values, and this combination of skills and values is what contributors to the

McCrate Report felt all lawyers need in order to be part of the "learned profession." The lawyering skills listed include problem solving, legal analysis and reasoning, legal research, factual investigation, communication, counseling, negotiation, litigation and alternative dispute resolution procedures, organization and management of legal work, and recognizing and resolving ethical dilemmas. The values listed include providing competent representation, striving to promote justice, fairness, and morality and striving to improve the profession and professional self-development.

Lacking, however, was the idea of measuring the student's acquisition of skills or the outcomes of learning endeavors that was being utilized in the social sciences. The idea behind assessing students' learning periodically is making education more efficient because instruction can be amended when students are not achieving "benchmarks" or interim goals towards the final outcomes on the desired schedule. Educational outcomes are the product of student aptitudes, effort and the educational program. Maximizing student outcomes or making the educational process efficient became a real focus of educators, but not of legal educators. If students are making progress at a rate that will allow them to achieve the outcomes of the program on schedule, all is well; if they are not, adjustments in one or more of the three factors is necessary. Of course, affecting students' aptitudes is not always feasible, but targeting instructional efforts, utilizing their learning modality strengths, is.

In 2008, The American Bar Association, the accreditation body of law schools, criticized law schools for "not approaching teaching goals at a cohesive institutional level."^{vi} In support for the criticism, the ABA cited two influential reports, the Carnegie Report and the Best Practices for Legal education.^{vi} In its report the ABA identifies "three issues that are critical to any discussion of the use of outcome measures in law school": (1) What outcomes may be regarded as central to the legal education field as a whole? (2) How effective are the existing measures for assessing these outcomes? And (3) what other outcomes measures might be developed? Further, the ABA in its report, again citing Carnegie, identifies six tasks that are involved in preparing lawyers: developing in students an academic knowledge base; providing the students with the capacity to engage in complex practice; enabling students to learn to make judgments; teaching students how to learn from experience; introducing students to disciplines of creating and participating in the professional community; and forming students able and willing to join an enterprise of public service.

The ABA continues its criticism of legal education by finding that legal education focuses disproportionately on developing "the academic knowledge base (content) to the exclusion of developing necessary practical skills" resulting in an "unbalanced learning experience for the students."^{vii} Citing from the Carnegie Report, the ABA suggest three specific claims for improvement: "law schools should incorporate ongoing assessments and other formative techniques to encourage and evaluate student's development of the skills; law schools should shift in assessment from the conceptual knowledge accumulated by student to the assessment of practical competencies and the development of professional identity; and law school need to engage in a cohesive and unified set of teaching goals, rather than an ad hoc goal setting by individual faculty members."^{viii}

Assessment

If it was desired, as suggested by the ABA, that law schools should incorporate assessment to "encourage and evaluate student development of skills and to assess practical competencies,"^{ix} what is the ABA referring to as assessment? Professor Gregory Munro gives a suggestion of what the term "assessment" means and how its use may improve legal education.^x According to Professor Munro "the assessment movement is knocking at the door of American legal education" generating excitement and creating accountability by law schools to "state their mission and outcomes, explain how their curricula is designed to achieve those outcomes, and identify their methods for assessing student performance and institutional outcomes."^{xi}

Generally, in law school the learning of a student is measured by exams. The number of exams vary, of course, depending on the law school and how much the law school values the importance of quantifying outcomes. In most law school the process is what Professor Munro calls "summative," meaning they are used to "measure what students learned after the fact but are seldom used as a diagnostic tool or instructional device for student learning."^{xii} The law school final examination,

according to Professor Munro, is not the only formal and sole source for a student's grade, but rarely is it used as a learning tool.^{xiii}

According to the Carnegie Report, "assessing students' competence performs several important educational functions."^{xiv} In its familiar summative form, assessment "sorts and selects students" not only during their law school careers but from the beginning of their law school career serving as "a filter" to help identify which student is likely to succeed. The report states that "summative assessments are useful devices to protect the public, for they can ensure basic levels of competence." On the other hand formative assessment "focuses on supporting students in learning rather than ranking, sorting and filtering them."^{xv} Educators in general have found that measuring students' skill acquisition fairly frequently allows for adjustment of instruction to keep the student on track towards the end outcome. Referred to as "response to intervention", educators have found that frequently measuring skills via quick methods that enable the educator to amend lesson plans when the student has not mastered a prerequisite skill, allows for much better mastery of skills along the way, thus ensuring a greater number of learners reach mastery by the end of the instructional period.

It appears then that legal education is at a crossroad between the maintenance of legal traditional educational methods and an exciting use of the methods developed from the science of education that have been proven successful in non-law educational settings. The excitement is not limited to assessing the law school's performance as a tool for institutional as well as overall accountability, but as legal educators, through the use of formative assessment tools, become aware of the real learning occurring in the classroom, they inevitably resort to new teaching methods to bring new life to the legal classroom. The use of formative assessment allows the educator to get immediate feedback from the learner as to which efforts have been successful. If the educator has presented material in a visual learning modality, (s)he can assess the success of that attempt and decide whether or not to repeat the methodology.

One seemingly controversial way to bring together the concept of assessment and excitement is the use of technology to make the frequent, quick assessments more efficient. To some in the legal profession, the use of technology, like laptops, is an obstacle rather than a tool to increase participation. Contrary to this view, the use of technology has contributed to the increase of active learning in the classroom. According to professors Paul Caron and Rafael Gely, active learning is "based on two premises: learning by its nature is an active process, and different people learn in different ways."^{xvi} When a student is engaged in learning, meaning participating in ways beyond passive listening, students "undertake higher-order thinking, forcing them to engage in analysis, synthesis and evaluation"^{xvii} One way that educators have used technology to foster active learning is through the use of handheld transmitters which provide immediate feedback to the professor as students respond to questions presented to them on the board and automatically "tracks the individual student's performance throughout the semester"^{xviii}

Methodology

A study is being conducted to empirically determine the impact of the use of technology in the formative assessment of law students. The study should show if the use of technology is a distracter or a tool in the process of engaging students in addition to providing information on whether or not the use of formative assessment aids in bringing a greater number of students towards the desired outcome at the end of the instructional period. In conducting the study, data will be collected which will compare the performance of a section of law students (Section 2) in Real Property at Thurgood Marshall School of Law with the performance of the rest of the first year class. Performance by Section 2 as to whether or not the methods used for formative assessment have been successful in bringing a greater number of them towards the desired end outcome will be determined by comparing the success of the section on the "comprehensive" exam at the end of the school year with the other sections. At the Thurgood Marshall School of Law first year courses are tested with a uniform comprehensive exam in the particular subject. The comprehensive exam is summative and provides half of the grade the student will achieve in the class. The other fifty percent of the grade is provided by the professor in the section. First year students are divided in four sections and each section is taught by a different professor. The professor from a particular subject within each section contributes to the writing of the exam. Additionally, for each first year subject, the student is assigned a tutor, and the tutor holds weekly meetings with the students.

At the beginning of the school year students are given a Syllabus which describes the objectives of the course and the manner in which the course will be taught (a reading schedule). The syllabus

also informs the students how they will be graded, in other words what summative measures will be used by the professor to determine the contribution of this portion of the grade to the final grade. The Syllabus for section two identified nine areas of Real Property law that are taught by all first year professors and are tested on the comprehensive exam. Student outcomes were identified for each area. Additionally, exercises, practice quizzes and drafting exercises were added. Additionally, before each unit the students are given a pretest and after the unit is taught, they are given a post test. The purpose of the pre and post tests is to not only identify the law student's performance in the unit as a tool for accountability, but also as a means to inform the instructor what concepts within that unit need additional intervention or teaching. This helps the instructor to use the feedback from the test to plan the intervention. Any question which receives a correct response from seventy percent of the class will require less feedback and intervention; any question that receives less than seventy percent will receive more. Of course, the final assessment of whether or not the intervention was effective could be measured in the ultimate summative tool, the comprehensive exam, and, eventually passage of the bar exam.

The tool used to administer the pre and post test is the use of a personal response system (clicker-reponseware) in which the students respond to a multiple choice exam with handheld devices (smart phone, computers, I-phones). Once the student responds to the question the instructor has the ability to receive immediate feedback as to the percent of students answering correctly (distribution). Several studies have shown that the results of these tests using technology "are consistent with the generative theory of learning, which predicts students are more cognitively engaged during learning."

The feedback from the pre and post test also provides the professor information that can be shared by the assigned tutor for assessment. In this study the tutor in section two will be using the acquired data in a different way than the other sections. Whereas the other tutors use a variety of assessment tools, Section 2 tutors exclusively use the handheld devices. More importantly, the Section 2 tutors as opposed to the others will go beyond using the data for more than simply defining level of success of the tutorial. Section 2 tutors will also use the data to define intervention needs to improve the performance of the students in Section 2.

Tutorial

The need to evaluate and assess law school programs has increased considerably over the past few years. The time of law school professors using the Socratic Method to teach classes is coming to an end. The Socratic Method has long been the standard for teaching in law school. However, in recent years the teaching style has proven to be increasingly less effective in training new lawyers. For this reason many leading educational scholars have commented on the need to move to an outcome based learning environment.

The Socratic Method is a method of teaching where the professor trades roles with the students. By doing this, the students become the teacher and as the teacher they must question and evaluate concepts from all angles. Students gain a deeper understanding of the subject matter by answering questions posed by the professor. These questions help the student's attain new insight into the legal concepts and also reveal any weak points in the student's understanding. However, the major problem with the Socratic Method is the inability to determine whether or not the students actually comprehended the material. To compound the problem, law professors do not assess whether the students grasped the concepts or not.

To get around the traditional pitfalls of traditional law school learning, the class instruction and tutorial sessions are geared towards guiding students through the stages of learning. In order to enhance student learning, these tutorial sessions have been formulated to allow for repetition and discussion of a concept in order for students to have a more thorough understanding of the material. Tutorial sessions begin with the tutor conducting a pre-tutorial examination using Turning Technologies' Turningpoint for the purpose of testing the students' knowledge of the subject. The pre-examination consists of questions from material that will be covered during the tutorial session. When the pre-examination is completed, the students' responses are revealed, but the actual answers are not. Following the students' responses, a brief tutorial is conducted to cover the material designated to be taught for that session and coinciding with what is being taught by the professor during the class sessions.

Additionally, as a supplemental teaching tool, students work through questions from workbooks that were designed to correspond with the class syllabus. During this time, students work through these questions in groups and then peer evaluate their classmates' responses. The tutor then allows for a

group discussion to comment and further analyze the questions. With the peer instruction, the students must defend and advocate their position to the other students in their group.

At the termination of the teaching and peer evaluation session, the students are given the post-tutorial examination, a repeat of the questions given during the pre-tutorial examination. The responses are again revealed and compared with the previous responses given from the pre-tutorial examination. Finally, the answers to the questions are revealed and the students then have the opportunity to have an open floor discussion reviewing each individual question.

At the conclusion of the tutorial session the results of the students' responses are totaled. With these numbers we are able to distinguish which students need additional help. These students are identified by the students who receive less than seventy percent (70%) on the overall results. To facilitate these students in their development of knowledge of the law, we provide small group lectures, case synthesis, additional quizzes, sample problems, one-on-one specially tailored reviews and illustrations of relevant topics.

To explore the validity of these techniques one section of students from the first year class is given the opportunity to attend these tutorial sessions, while three other groups are taught using the traditional method. At the end of the school year, the goal (i.e., broadly to explore how students learn differently and to expand teaching methods to help them achieve better grades and ultimately pass the bar exam, and more narrowly, to explore whether or not frequent formative assessment and adjustment of instruction results in greater numbers of students acquiring the skill needed for the desired end outcome) will be evaluated by comparing the performance of Section 2 to the other three sections.

In the interim, we did a preliminary analysis of the information available of the test group (Section 2 of the class of 2013) with Section 2 of the class of 2012. In comparing both sections, Section 2 for the class of 2012 had an incoming GPA of 2.92 and a LSAT score of 146; Section 2 for the class of 2012 had an incoming GPA of 2.56 and a LSAT score of 147. Some use of formative assessment to guide teaching/reteaching had been used in the Real Property class with the class of 2012, although not as tightly as is currently used with Section 2 of the class of 2013. The class of 2012 performed very well on the comprehensive exam in the spring of 2010. They achieved the highest scores of any of the four sections, correctly answering eighteen of the sixty questions on the comprehensive exam. The other sections achieved scores in the following order; fifteen questions for Section 1; fourteen questions for Section 3 and thirteen questions for Section 4.

As a preliminary investigation, we compared the class of 2012 to the class of 2013 by repeating five questions from the class of 2012 final on the midterm for the class of 2013. The result showed that the class of 2012 did better on 3 of the five questions. The class of 2012 did better on the future interest questions and the class of 2013 did better on the recording statutes and deeds questions. However, when looking at the overall results of the exam itself, the class of 2013 had a class average of 72.6% and class of 2012 had a class average of 69.7%. With this result, the prediction is that the class of 2013 will perform better on the comprehensive exam because this class is ahead of last year's class in the overall results. We are eager to see whether or not this prediction is realized. A pilot study of the hypothesis that the use of formative assessment will ultimately improve the performance of students on the high stakes, desired outcome evaluated the Law School's (Thurgood Marshall School of Law) July 2010 bar examinees. In that study, a statistical comparison was done of the experimental group (Section 2, who had been exposed to some formative assessment by their professor, who informally used the results to aid his teaching/reteaching efforts) versus the control group (the other three sections from that class). The findings yielded an experimental group that scored a higher mean on both the subject area of focus and overall bar score. More specifically, the average bar exam score for Section 2 members was 25.55 points higher than the control group. This measure was found to be statistically significant at the .01 level when an independent samples t-test was done ($p = .006$, assuming equal variances).

CONCLUSION

We anticipate that the use of feedback at frequent intervals to aid in determining students' progress towards the long term goal (i.e., passing the comprehensive test and ultimately, the state bar exam) will aid in keeping students' progress on track for a greater number of learners.

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