ASYNCHRONOUS, E-LEARNING IN LEGAL EDUCATION:
A COMPARATIVE STUDY WITH THE TRADITIONAL CLASSROOM

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CONTENTS

BACKGROUND .................................................................................................................. 143
I. DESIGNING THE DOCTRINAL LAW COURSE FOR ASYNCHRONOUS, ONLINE DELIVERY .................................................. 146
II. RELEVANT GUIDANCE, RULES & REGULATIONS FOR THE DESIGN & ADMINISTRATION OF AN ONLINE COURSE .......... 147
III. DESIGNING THE ONLINE COURSE ........................................................................ 150
IV. DESIGNING A SURVEY TO ANSWER THE COMPARATIVE QUESTIONS ........................................................................ 152
V. PROCESS OF CONDUCTING THE RESEARCH ..................................................... 153
VI. THE FINDINGS OF THE STUDY ............................................................................ 154
   A. Demographics ....................................................................................................... 154
   B. Comparisons to a Traditional Law Course ..................................................... 154
   C. Study Behaviors with Asynchronous Law E-Learning .................................. 156
   D. Evaluating Assessment Methods ....................................................................... 161
   E. Anecdotal Observations .................................................................................... 162
   F. Biases .................................................................................................................. 163

CONCLUSION ................................................................................................................ 164
   A. Hybrid Courses Compared to Asynchronous Courses ........................................ 165
   B. Recommendations ............................................................................................. 166

BACKGROUND

A 2015 survey from Wolters Kluwer† showed that only 14% of respondents on behalf of law schools were aggressively planning for online

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1. Wolters Kluwer published a report, “The Leading Edge Report,” which they describe as “intended to succinctly summarize many of the key areas of focus for law schools today
legal education, while 19% did not plan to ever offer online education.\footnote{2} The rest of the responses fell into the proceeding-with-caution category.\footnote{3} The authors attribute two major factors to this state of affairs—first, the limited number of hours allowed for online courses by the American Bar Association (ABA); and second, the technological difficulties and the reluctance of professors to learn the technology necessary to offer online courses.\footnote{4} In addition, what the report calls a “greater barrier over time” was the general “wide-scale perception that online education is worth less than on-campus education.”\footnote{5} Online offerings in law schools have increased significantly in the last four years since the Wolters Kluwer survey.\footnote{6} By February 2018, ABA had accredited three hybrid, online J.D. programs,\footnote{7} and ABA responded with more than doubling the amount of online credit that could be earned in a Juris Doctorate degree (J.D.), revising the ABA Standard in August 2018.\footnote{8}

The question of whether online, or e-learning, education is “worth less” than the traditional classroom experience had not been empirically tested, before this study; and the idea that online education was “worth less” was being passed along as a kind of folk psychology among legal educators.\footnote{9} This study was designed to produce evidence-based answers seeking to evolve their teaching model to meet the challenges and opportunities of 21st century legal education.” Legal Education Leading Edge Report, 2015 Edition, WOLTERS KLUWER, http://www.wklegaledu.com/supplements/id-9781454875307/Legal_Education_Leading_Edge_Report_2015Edition (last visited Sept. 28, 2019).

3. Id. at 19 fig.4.

Response to the question: “Many law schools are considering expanding the number of online course options their students have access to. Such online courses would involve students meeting faculty ‘virtually’ at specified times for discussions of study materials, accessing pre-recorded lectures, and downloading assignments and papers online. Which statement best describes your law school’s plans for including online courses in its curriculum?” The survey was conducted in May 2014 and was completed by 40 respondents. Of these, 36 answered this question.

\textit{Id.} Where 19% answered “[w]e do not plan to offer”; 67% the majority, answered, “[w]e plan to move cautiously”; and only 14% responded, “[w]e plan to be aggressive.” \textit{Id.}

4. Id. at 18–19.
5. Id.
to these questions.

Research was lacking; however, there is good reason for the lack of research data—there are just a very small number of asynchronous law e-learning courses available to study, and there is additional work required to do it properly. So in deciding whether to plunge into the asynchronous law teaching domain, without such evidence, it seemed inevitable that I should develop a comparative study and make a contribution to this need for the legal academy.

Returning to the Wolters-Kluwer survey, perhaps the right question to be asked next, is not whether online legal education is better or worse; but how does it compare to traditional law course experiences? Saying an apple is better than an orange is not that useful, anyway. But describing whether an orange is more difficult to peel than an apple, for example, could provide more useful information in making decisions about how to go about engaging with oranges and apples. The same can be said about asynchronous courses and traditional law courses.

So in Fall 2015, when I designed and taught my law school’s first completely asynchronous doctrinal course, I decided to try to begin to fill the gap of empirical knowledge on e-learning in law schools and to formally conduct an experiment to determine how the asynchronous, e-learning model in legal education compared to “traditional” law courses. It would be the first such study.

The term, traditional law courses, would include courses using the methods prescribed by Langdell, and the tradition of law school courses for more than one hundred years. This comparative data is particularly valuable given the growing criticism of this long-established law teaching method for failing to meet the creative needs to prepare students to be practicing lawyers of today and tomorrow. Some have also noted resistance to changing that method, or simply that nothing has successfully

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11. Id. at 2.
13. Id. at 515–16.

Many reformers agree that the prevailing law school model developed in the nineteenth century does not adequately prepare students to become effective twenty-first century lawyers. Langdell’s case method, designed around private domestic law, appellate cases, and the Socratic method, increasingly fails to teach students “how to think like a lawyer” in the world students will occupy. The curriculum over-empha-
replaced it, writing that “[s]ince Langdell, there has been no systematic effort to realign the theory of law and the concept of the profession with the basic design of the law school as an institution.”

Given this summary of the state of legal education, an empirical study of e-learning as a platform for legal education seemed a gaping hole in information necessary to make decisions about e-learning.

I. DESIGNING THE DOCTRINAL LAW COURSE FOR ASYNCHRONOUS, ONLINE DELIVERY

There is a paucity of literature on designing asynchronous law courses, as well as empirical data about them. One source proved that the literature does exist, a brief, seventy-four page book by Jennifer Camero, Teaching Law Online. Advice ranged from cautionary tales to how to discussion of the common Blackboard® platform for e-learning. Much of the information was drawn from non-law courses, but was very helpful as a starting point.

My objective in designing this course was to develop an online experience for students that was noticeably different from a traditional law class, which might make the experience at least comparable to a traditional course, when factoring in the “tradeoffs” that are inevitable. For example, producing video-lectures utilizing editing and cuts to relevant visuals could be used to break the monotony of the “talking head” video. Another goal toward that objective was to develop more points of contact...
with the student through e-methods, to replace the traditional, two or three times a week face-to-face meetings in a classroom. A third goal toward my objective for the course was to simulate the Socratic method by giving frequent feedback to the student using technology to facilitate that process at a much greater rate and volume using automatic grading on objective tests, which provides faster feedback than one could do using traditional methods of paper or even “scantron” grading. Further, I wanted to test as many of the ABA Standards for online education as possible with this course as part of the experiment’s comparative assessment.

II. RELEVANT GUIDANCE, RULES & REGULATIONS FOR THE DESIGN & ADMINISTRATION OF AN ONLINE COURSE

There are four documents for compliance and conformance purposes that necessarily had to be consulted in designing and administering a course: (1) ABA Standard 306; (2) University e-learning standards; (3) Working Group for Distance Learning for Legal Education (WGDLLLE) draft guidance on best practices in online education, the law professors ad hoc Working Group for online law teaching best practices; and (4) individual law school faculty rules for e-learning. This task requires continual review to ensure all required syllabi language, all rubrics and all standards are met at every point. In some cases, the standards for e-learning were more restrictive than for a traditional course.

For example, where the take-home exam has been a staple of law school testing for decades, ABA Standard 306(f) (previously 306(g)) requires that for an e-learning course a law school, “shall establish an effective process for verifying the identity of students taking distance education courses.” This is a challenge for all disciplines and universities which are hiring costly proctor programs that literally watch students on their laptop camera (some using video for later viewing) while each of them takes the exam. Some simply give up on the idea of asynchronous

22. Id. at 2–3.
23. STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHS. § 306 at 19 (AM. BAR ASS’N 2019).
25. Id.
26. Id.
27. Id.
29. See Anne Eisenberg, Keeping an Eye On Online Test-Takers, N.Y. TIMES, Mar. 2, 2013 at 4.
learning for the examination and they require students to take a final exam in the traditional way, by coming to a controlled, proctored classroom at the appointed time.\textsuperscript{30} However, in this course, another goal was to achieve compliance with ABA Standard 306(g) (now 306(f)) while still keeping the course asynchronous.\textsuperscript{31}

Each university, with a law school, has standards for language for the syllabus that includes such issues as items to be purchased by the student, like a laptop camera.\textsuperscript{32} These best practices rules may also require that students write a computer emergency plan for participating in the course.\textsuperscript{33} In addition, every state where online education is offered has its own regulatory approval process, which is important if you are recruiting students for e-learning, nationwide.\textsuperscript{34} In addition, compliance issues with the Americans with Disabilities Act specific to e-learning are also part of the university guidance.\textsuperscript{35} There are potentially other requirements which e-learning must comply with, including the Digital Millennium Copyright Act.\textsuperscript{36}

The law school ad hoc working group, Work Group for Distance Learning for Legal Education (WGDLLE), worked from 2011-2015 to establish the first “best practices” document which is immensely helpful in designing a law course and the online tools that can be utilized.\textsuperscript{37} For example, the report recommends lectures being divided into five to seven minute sessions.\textsuperscript{38} Technology has made some of its conclusions obsolete, like the lack of interactivity with online pre-recorded lectures.\textsuperscript{39} Newer technology has made interactivity with pre-recorded lectures possible.\textsuperscript{40}

Finally, your own law school faculty rules may not yet have rules for

\textsuperscript{30} Id.
\textsuperscript{31} Sutton, supra note 10, at 3.
\textsuperscript{32} Id.
\textsuperscript{33} Id.
\textsuperscript{34} Id.
\textsuperscript{35} Id.
\textsuperscript{38} Id. at 14.
\textsuperscript{39} Id. at 21.
\textsuperscript{40} Id. at 28. An example of a relatively new platform that allows inserting questions into a pre-recorded video to make it interactive during the lecture is edpuzzle. See Make any video your lesson, EDPUZZLE, http://edpuzzle.com (last visited Sept. 28, 2019).
Asynchronous, E-Learning in Legal Education

41. Sutton, supra note 10, at 3.

42. STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHS. § 310 at 21 (AM. BAR ASS’N 2019).

43. Id. at § 310(b)(2).

44. See id. at § 310. ABA Standard 310, Interpretation 310-1 “[f]or purposes of this Standard, fifty minutes suffices for one hour of classroom or direct faculty instruction.” Id.

45. Id. at § 310(b) at 21.

46. STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHS. § 310(b)(2) at 21 (AM. BAR ASS’N 2019).

47. Sutton, supra note 10, at 3.

48. Id. at 3–4.
activities that tend to replace the Socratic exchange of ideas in a classroom.\textsuperscript{49} Using the fifty-minute lecture option in ABA Standard 310(b)(1), from my own anecdotal observation, will inevitably result in the equivalent of a four-hour course, rather than a three-hour course.\textsuperscript{50} Thus, the use of ABA Standard 310(b)(2) as adopted to your own law school standards fits the needs of online courses much better than the ABA Standard 310(b)(1) requirement.\textsuperscript{51}

III. DESIGNING THE ONLINE COURSE

One of the objectives in designing this course was to create an interactive or modified Socratic method online. A standard approach that could be repeated each week was also important to allow students to focus on the substance of the course, rather than navigating an unpredictable weekly format.

With those design objectives in mind, the design of the course had a weekly, repeating routine of assignments.\textsuperscript{52} The basic work for the week looked like Figure 1.\textsuperscript{53} Figure 2 shows the cyclical weekly pattern of assignments with additional assessments.\textsuperscript{54}

The ABA Standard 314 requires assessment methods for all courses, including formative and summative assessments, but does not require that all of them be used in every course.\textsuperscript{55} This relatively new standard requires additional assessment beyond the one final exam, which has been

\textsuperscript{49} Id. at 4.
\textsuperscript{50} Standards and Rules of Procedure for Approval of Law Schs. § 310(b)(1) at 21.
\textsuperscript{51} Id. at § 310(b) at 21.
\textsuperscript{52} Sutton, supra note 10, at 4.
\textsuperscript{53} Id.
\textsuperscript{54} Id.
\textsuperscript{55} Standards and Rules of Procedure for Approval of Law Schs. § 314 at 23 (Am. Bar Ass’n 2019).
the traditional legal teaching assessment method for decades. E-learning is organically designed to meet this criteria because continuing assessment of students is important in an asynchronous course. For purposes of this research several assessment methods were used that were not traditional. The video-project was probably the least traditional of all the assessment methods, followed by the more standard Discussion Board, and a weekly E-Journal for recording observations about the week’s lectures, reading, or assignments. The Discussion Board allowed sharing thoughts with the entire class while the E-Journal allowed sharing only between the student and the professor. There were several writing assignments including one group, memorandum writing assignment. The traditional mid-term and final examination were also included as assessment tools. During the course of the semester, lectures were ten to fifteen minutes long each followed by a short, five question multiple choice quiz, timed for twenty minutes. Each quiz was to be taken at the end of each corresponding video-lecture. A numbered, indexing system was used to match the quizzes with the video-lectures.

The organization of the materials on the Blackboard® platform utilized this numbered index system to organize video-lecture, reading, and quizzes. Each reading assignment, video-lecture, and quiz all shared the same index number, developed for the course to keep the vast amount of material organized on the online platform for the students as well as for the professor. The index system worked as follows. An index number was designed based on a three-hour course that would meet three times a week for fifty minutes. The week would be designated by the first number (one to fifteen weeks for the semester). The second number would

57. Best Prac., supra note 38, at 26–27.
59. Id.
60. Id.
61. Id.
62. Id.
64. Id.
65. Id.
66. Id.
67. Id.
69. Id.
designate the day of the week (1, 2, or 3).\textsuperscript{70} The “day” was divided into three parts so the third number designated what part of the class day (1, 2, or 3).\textsuperscript{71} Here is an example of the three parts of one equivalent class period: the second week, second day of the three day class week, and the first part of that day would be indexed as 2.2.1; the second part of that day would be 2.2.2 and then, the last third of that class day would be 2.2.3.\textsuperscript{72} Each of these parts would identify a folder that contained three items: reading, video-lecture, and quiz.\textsuperscript{73}

The distribution for course credit was divided as follows: Quizzes (30%); E-Journal (10%); Class and group exercises (10%); Midterm (10%) and Final examination (25%); and the Video project (15%).\textsuperscript{74} The objective for this division of credit was to include a number of different assessment methods,\textsuperscript{75} compare them to a traditional course and to ensure that no one assessment method would dominate the points available for the course, like a traditional law course where all or most of the credit is based on a final examination or a final paper.\textsuperscript{76}

IV. DESIGNING A SURVEY TO ANSWER THE COMPARATIVE QUESTIONS

Online courses are typically in three categories: synchronous, asynchronous, or hybrid.\textsuperscript{77} These terms are not defined in the ABA Standards and hybrid does not appear at all.\textsuperscript{78} First, the design of the course was asynchronous, making the video-lectures available on-demand, throughout the course.\textsuperscript{79} The quizzes that correspond with the video-lectures were open only one week at a time.\textsuperscript{80} This is essential to keep the class at the same point in the course in order to participate meaningfully in discuss boards and group exercises. It also ensures that students do not fall behind in an online course. This process was administered by opening the week at midnight each week, on Sunday, and closing the last week’s work assignments at the same time.\textsuperscript{81} This ensured that no one would fall behind,

\textsuperscript{70} Id.
\textsuperscript{71} Id.
\textsuperscript{72} Id.
\textsuperscript{73} Sutton, supra note 11, at 4.
\textsuperscript{74} Id. at 5.
\textsuperscript{75} STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHS. § 314 at 23 (Am. Bar Ass’n 2019).
\textsuperscript{76} Sutton, supra note 11, at 5.
\textsuperscript{77} STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHS. § 306 at 19 (Am. Bar Ass’n 2019).
\textsuperscript{78} Id.
\textsuperscript{79} Sutton, supra note 11, at 5.
\textsuperscript{80} Id.
\textsuperscript{81} Id.
and discussion board exercises could be done where everyone had completed the same work during the week. Second, the course was designed for students located anywhere, so no face-to-face sessions or even online, interactive sessions were conducted during the course. This absence of face-to-face contact with the professor was intentionally designed into the study to test the comparative aspects of a course with absolutely no face-to-face contact with the professor compared to the traditional, in class experience. So no meetings were held in-person with students for purposes of this research.

V. PROCESS OF CONDUCTING THE RESEARCH

The survey was approved for human subject testing by my University’s Institutional Review Board. Students were asked to complete the survey after the course work had been completed for the course. They were offered a link to another free, online course, if they completed the survey. Three follow-up reminders were sent to non-respondents, and at the end of the survey period of four days, 100% of those surveyed responded. Not all surveys were completed, with only thirty to thirty-two respondents completing almost all of the questions, resulting in 75% substantial completion. Because the cohort was so small (thirty to thirty-two), primary data and qualitative measurements were collected to indicate trends rather than conclusive findings of their perceptions.

The survey methods used ranking on a scale of one to five, one being the lowest; and five being the highest when asked comparative questions about traditional courses compared to this asynchronous e-learning course. Questions were asked about format, time spent learning, comprehension, learning styles, assessment methods, feedback to the learner, convenience, and learning habits. In addition, demographic questions as well as indirect interest questions about course interests were used to

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82. Id.
83. Id.
84. Sutton, supra note 11, at 5.
85. Id.
86. Id.
87. Id.
88. Id.
89. Id.
90. Sutton, supra note 11, at 5.
91. Id.
92. Id.
93. Id.
identify any biases in self-selection for the e-learning course.94

VI. THE FINDINGS OF THE STUDY

A. Demographics

Demographically, the students were in their second and third years of law school, all were in the first semester of each of those years, since we have a traditional program and it was the fall semester (2015).95 There were also four graduate engineering students in the course.96 There was a relatively equal balance in gender with 49.7% female and 51.3% male, which reflects law school enrollment.97 The age distribution was typical of law school and graduate school.98 There were 38.7% in the eighteen to twenty-four age category; 58.06% in the twenty-five to thirty-four age category; and 3.23% in the forty-five to fifty-four age category.99 Only thirty-one of the forty-two respondents completed the age question.100 This was the first time any of the students had taken an online, asynchronous course in law school.101 I retested the students in the course in fall 2016, and only a year later, 16.7% had previously taken an online course in law school.

B. Comparisons to a Traditional Law Course

The students were asked a series of comparative questions: “How would you rank this course in comparison to other law courses you have taken? Answer with one being the least or lowest and five being more or most. If the comparison is the same, then you would rank it, three.”102 For most of the responses, there was a close to normal distribution, bell-curve, from one to five.103 The following comparisons elicited responses with a normal distribution: Level of difficulty; time required to do the quizzes; time to prepare for class; your percentage of “attendance”; and your understanding of the material.104 This indicated for these factors, most students found no significant difference between the e-learning

94. Sutton, supra note 11 at 5.
95. Id. at 6.
96. Id.
97. Id.
98. Id.
100. Id.
101. Id.
102. Sutton, supra note 11 at 6.
103. Id.
104. Id.
course and the traditional course.\textsuperscript{105}

There were two questions designed with a predicted distribution skewed to the low end, but the results for this comparison were surprising: “How regular was the interaction with the professor compared to other courses?”\textsuperscript{106} Considering the students did not once meet with the professor, it was predictable that this would result in a distribution solidly on the one to two end of the distribution, but it was surprisingly distributed with almost half of the respondents ranking this response with a three to five.\textsuperscript{107} One of the tradeoffs with an e-learning course is frequent e-contact through the E-Journal with a weekly response from the professor in addition to graded written assignments, and responses to other assignments.\textsuperscript{108} Also, email contact was available “24/7” with a promised response within twenty-four hours.\textsuperscript{109} At least half of the respondents found “regular interaction with the professor” to be equivalent, and this may have been one of the most surprising findings, given they were never face-to-face with the professor.\textsuperscript{110} This suggests students consider online contact to be equivalent to face-to-face contact at least in defining “interaction.”

The second question, which follows the first, “[h]ow was the quality of the interaction with your professor compared to other courses?” also yielded a surprising result, where 56% of the students ranked this question between three to five.\textsuperscript{111} This was a surprisingly high ranking of the quality of the “interaction with your professor compared to other law courses” considering that the interaction was completely online.\textsuperscript{112} This may also reflect a shift in student perception of interaction finding online interaction to be equivalent to face-to-face interaction.\textsuperscript{113}

Predictably, when asked about the, “[c]onvenience compared to other law courses?” 94% ranked this question between three to five.\textsuperscript{114} This was not surprising, since the flexibility and asynchronous aspects of the course are designed to make it as convenient as possible in ways that traditional courses cannot be.\textsuperscript{115}
A question which was designed to reflect the exact wording of ABA Standard 306(d)(2)\textsuperscript{116}, “[h]ow well do you feel regular monitoring of student effort and communication about that effort was achieved in this course compared to other law courses?” was a measure of whether this standard was met in this course format.\textsuperscript{117} The result was a skewed distribution to the upper end (36.7% ranking this question four; and 73% ranking this question three to five).\textsuperscript{118} Technologically, it is possible for professors to follow the progress of students, get instantaneous feedback on quiz performance and monitor when and for how long they view the video-lectures.\textsuperscript{119} Also, if a student did not achieve a minimal score on a quiz, they were blocked from going to the next one without contacting the professor to discuss the reasons for the low score.\textsuperscript{120} The skewed positive distribution could be attributed to this technologically increased monitoring and contact.\textsuperscript{121}

The question, “[h]ow satisfied were you with this course compared to other law courses”, surprisingly resulted in a normal distribution, suggesting that the respondents were just as satisfied with this course as they were with any traditional law course.\textsuperscript{122}

C. Study Behaviors with Asynchronous Law E-Learning

The next series of questions explore the comparative learning behaviors with asynchronous, e-learning in law with that of studying in traditional courses.\textsuperscript{123} The questions were as follows: how they studied, where they studied, whether they studied alone or with others, and whether they studied with noise or with quiet, and what devices did they use to access the course as well as self-assessment of their learning styles.\textsuperscript{124}

When asked where they studied (Figure 3)\textsuperscript{125}, the choices were: in complete silence with no one around and no interruptions; in a relatively quiet place with some interruptions; in a noisy place, like a coffee shop; while babysitting my children or others’ children; in the library; with

\begin{itemize}
  \item \textsuperscript{116} Standards and Rules of Procedure for Approval of Law Schs. § 306(d)(2) at 19 (Am. Bar Ass’n 2019). ABA Standard 306(d) is still equivalent to the language used in this survey. See id.
  \item \textsuperscript{117} Sutton, supra note 11 at 7.
  \item \textsuperscript{118} Id.
  \item \textsuperscript{119} Id.
  \item \textsuperscript{120} Id.
  \item \textsuperscript{121} Id.
  \item \textsuperscript{122} Sutton, supra note 11 at 7.
  \item \textsuperscript{123} Id.
  \item \textsuperscript{124} Id.
  \item \textsuperscript{125} Id.
\end{itemize}
headphones, earbuds, etc. The students were asked to identify where they studied based on a continuum of always, sometimes or rarely. The surprising result was that 90% studied in complete silence with no one around and no interruptions, always or sometimes; and 80% responded that they studied in a relatively quiet place with some interruptions, always or sometimes. The most surprising result from this set of questions was that 93% said they rarely study in a noisy place, like a coffeeshop. It is notable that 13.8% sometimes do coursework while babysitting.

This raises other possibilities: Could the use of the library for study be declining, with 56% saying they rarely do their coursework in the library? Yet, 40% responded that they sometimes did their coursework in the library.

In designing the course, the recommended process for completing the week’s work, for each of the nine, weekly video-lectures is as follows: first, read the assignment; second, watch the video-lecture; and third, take the quiz. Repeat for all nine video-lectures. This order was merely recommended, and there was no technological way to force this order,
given the limitations of the Blackboard® platform. So after receiving some indications from the data reflecting their online activity, that students were watching the video-lectures while at the same time, answering the quiz questions, a question was formulated, with some surprising results. Self-reporting, 70% of students said that they “watched the video lecture while taking the quiz.” While this is not exactly the design plan for the course, it did result in active watching and listening to the video-lectures. Here is the resulting table in Figure 4.

Whether they studied alone or with others was also a study behavior explored in this survey. When asked if they had ever worked together with another person in this course, 43% said never; 43% said once and 13% said twice, while no one said more than twice. The question included the caveat that none of these answers were wrong or contrary to any course instructions.

There is also folk psychology that suggests students do their work on their phone or tablet, which this survey sought to prove or disprove. The question asked what device they used. The result showed that 93.7% used a laptop to complete their coursework in this course. Only 3% used

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135. Id.
136. Id.
137. Sutton, supra note 11, at 8.
138. Id.
139. Id.
140. Id.
141. Id.
142. Sutton, supra note 11, at 8.
143. Id.
144. Id.
a smartpad, and 3% used “other”. This may be due to the fact that Blackboard® did not yet have quizzes available to be taken on a smartphone. There were some anecdotal remarks that some students “mirrored” their device on a larger television screen to watch the video-lectures. Indirect data was also collected from the use of YouTube viewing with regard to the device used to watch the video-lectures collected from YouTube and was consistent with this self-report.

Further study behavior data was collected from indirect measurements from group video-lecture watching. The average time for watching a video-lecture for courses in all disciplines is six minutes. The average time for watching video-lectures in this course was nine minutes. Indications from this data show that only one student (not specifically identified) turned on closed-captioning most of the time.

Another notable observation with the video-lecture watching was a spike in watching, creating a peak time for watching pattern. Each week, the course material changed at 11:59 p.m., each Sunday, at midnight, and all the previous week’s material closing and the next week’s material would become available. The peak work time was always on Sunday, several hours before the deadline for the week. This underscores the importance of requiring short periods of time, e.g., a week, for completion of the week’s work to avoid situations where students might otherwise fall behind and try to catch up with an entire course in the last days of the semester, which is simply technically impossible to do. This constraint, designed into the course, on a week by week basis, ensures that a student is never more than seven days behind the rest of the class, at most. The video-lecture viewing minutes timeline screenshot, shown in Figure 5, demonstrates the consistent peaks of activity each Sunday before the deadline for the first four weeks of the semester, which continued in the same pattern throughout the course.

145. Id.
146. Id.
147. Sutton, supra note 11, at 8.
148. Id. at 9.
149. Id.
150. Id.
151. Id.
152. Sutton, supra note 11, at 9.
153. Id.
154. Id.
155. Id.
156. Id.
Finally, a combination of indirect data and self-reported data was used to examine whether there was an expected correlation between minutes watching the video-lectures with scores on the quizzes. The prediction was that the number of minutes watched will correlate positively with the quiz score. The indirect data showed only whether the video had been opened (not the number of minutes watched), but correlating that data with the average quiz score data through “eye-balling” the graphic (not a statistically significant correlation) below shows there is a correlation with at least opening the video and the score on the quiz. Without better data on number of minutes watched, this is only an indication that this hypothesis warrants further testing.

158. See fig. 6. Id. at 10.
159. Id.
160. Id.
Finally, in another self-report question, when asked to describe whether they had learning styles that were auditory, visual or kinesthetic, the results were that 56.25% said they were visual learners; 21.88% said they were auditory learners and 21.88% said they were kinesthetic learners. This might encourage the use of resources for all of these learning styles, which can all be done with an e-learning, asynchronous format.

**D. Evaluating Assessment Methods**

As previously stated, one of the goals of this course was to use many assessment methods in order to evaluate as many as possible for e-learning. The use of several forms of assessments is also required to meet the ABA Standard 314 for using formative assessment methods, as well as summative assessment methods.

In this series of questions, students were asked which assessment methods they found the most useful in this course. They were asked to rank their usefulness on a continuum, with five different values: useless (1), had some use (2), acceptably useful (3), very useful (4), extremely useful (5). Predictably, there was a normal distribution around most of the assessment methods, and each discussion board, each project was specifically named in the survey. Figure 7 shows how similarly they rated the assessment methods, but there were some notable differences.

Interestingly, the 115 quizzes throughout the course, received a weighted average of 3.00, a higher score than I had predicted. The E-Journal was the lowest weighted average of 2.00, which I had not predicted. I later learned that feedback for the E-Journal was hidden in a way that made it difficult for students to see it, and thus many students did not receive feedback. This may have attributed to the lower score for the E-Journal. The video-project scored the highest weighted average at 3.16.

The video-project was an interactive tool for developing an idea.

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161. *Id.*
162. Sutton, supra note 11, at 10.
163. **STANDARDS AND RULES OF PROCEDURE FOR APPROVAL OF LAW SCHS.** § 314 at 23 (AM. BAR ASS’N 2019).
164. See fig.7. Sutton, supra note 11, at 10.
165. *Id.*
166. *Id.*
167. *Id.*
168. *Id.*
169. Sutton, supra note 11, at 10–11.
throughout the semester and then making a six-minute video of the student explaining legal issues around the student’s self-selected (but approved) topic.\footnote{Id.} The assignment was to select an emerging technology in the first weeks of the course and apply areas of law covered in the course throughout the semester, culminating in a video analysis.\footnote{Id.} This is comparable to the traditional oral presentation or legal topic in-class presentation. The other part of the project is that once the videos are all posted, every student watches and comments on the video presentation of each student in the class.\footnote{Id.} The watching time for forty-two student-videos was equivalent to about one week of class time. Although only by a small amount, the video-project was ranked as the most valuable assessment tool by the students.\footnote{Id.}

Overall, as demonstrated in Figure 7, the differences between the rankings of the assessment tools were not large ones.\footnote{Id.}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure7.png}
\caption{Figure 7}
\end{figure}

\textbf{E. Anecdotal Observations}

One opportunity for purely anecdotal observation was where students sought technical support from the research librarian faculty.\footnote{Id.} In my discussions with the research librarian faculty who assisted these students, they reported that a recurring comment was that their perception was that an online course would be easier than a traditional course, but the

\begin{itemize}
\item Id.
\item Id.
\item Id.
\item Id.
\item Id.
\item Sutton, supra note 11, at 11.
\end{itemize}
work was as much or more than a traditional course.\textsuperscript{177} The survey elicited a normal distribution for the “Level of Difficulty” question compared to other law courses.\textsuperscript{178} One possible explanation might be that the anecdotal responses indicate the students needing technical support may have found it more difficult simply because of the technology.

\textit{F. Biases}

Demographically, the near equal gender distribution should avoid any gender bias.\textsuperscript{179} By self-selection of this course, Emerging Technologies Law, it is possible that only the students with an interest in technology or skilled in the use of online technologies, might have biased the positive responses to the course.\textsuperscript{180} To answer that question, the survey included a question that was designed to determine if the students were interested in primarily technology type courses or was there a mix of students who were not particularly interested in technology law courses.\textsuperscript{181} The question that was asked was whether the respondent had an interest in any of the other technology-related courses, without identifying the instructor, whether it was online or traditional, time it was taught, or any other information that would alter their response to anything other than the subject matter indicated by the course title.\textsuperscript{182} They were asked, “[a]re you interested in taking any of these emerging technology courses, as traditional or e-learning courses? Check all that apply.”\textsuperscript{183} The choices were: Law and Biotechnology; Nanotechnology Law and Policy; Cybersecurity Law and Policy; Space Law; Intellectual Property Law; Patent Law; and Global Biosecurity Law.\textsuperscript{184} The highest response was 57\% on any one course, and all courses fell between 33–57\% responding that they would be interested.\textsuperscript{185}

This suggests that not more than half of the class was generally interested in technology and law courses; in fact, it probably represents a normal distribution, and so technology-savvy or technology-interested students were not over-represented, so no bias is indicated for this factor.

\begin{itemize}
\item[177.] Id.
\item[178.] Id. at 11–12.
\item[179.] Id. at 12.
\item[180.] Sutton, \textit{supra} note 11, at 12.
\item[181.] Id.
\item[182.] Id.
\item[183.] Id.
\item[184.] Id.
\item[185.] Sutton, \textit{supra} note 11, at 12.
\end{itemize}
CONCLUSION

The need for data in this area of teaching law in an asynchronous, e-learning format is great, given the interest in all disciplines and among all universities to make more teaching content available online. Despite the overwhelming majority of law schools still cautiously watching, but with a trend toward increasing online learning, more data could accelerate the development of this activity for law schools, if there was empirical data regarding the efficacy of the methods in comparison to traditional law courses.\footnote{186} I wrote in 2016, that I hoped that this study can be the start of opening inquiry in this field and exploring more questions as well as those that have been raised by this study.\footnote{187} I am pleased to report that another study is forthcoming regarding online learning for law students.\footnote{188}

The findings in this study are promising for asynchronous law e-learning, and should replace folk psychology regarding some of the findings. Compliance with the ABA Standards tested here, 314 and 306 were found to have been met with this asynchronous, e-learning platform. Positive aspects of asynchronous, law e-learning, tested here showed that understanding the material, preparation time, level of difficulty; and surprisingly, contact with the professor and meaningful contact with the professor were only slightly skewed toward less than the traditional course, but close to a normal distribution for “comparable” to traditional courses.\footnote{189} Convenience, compared to traditional courses was strongly indicated as “more so” by 94% in the comparison to traditional courses.\footnote{190}

Methods of working on coursework yielded some surprising results that crack the myth that students are working on smartpads and smartphones, finding that 90% of the students used their laptop for coursework.\footnote{191} Further, perhaps surprisingly, 90% of students “almost always” and “sometimes” study in quiet places with no interruptions, as opposed to noisy places like coffee shops where a smaller percentage of the students responded that they rarely used these places to do coursework.\footnote{192} The majority of students “rarely” used the library, perhaps indicating a need to reconfigure libraries for private e-learning spaces.\footnote{193}

\footnote{186. Id.}
\footnote{187. Id.}
\footnote{188. Yvonne M. Dutton, Margaret Ryznar & Kayleigh Long, Assessing Online Learning in Law Schools: Students Say Online Classes Deliver, DENVER L. REV. (forthcoming 2019).}
\footnote{189. Sutton, supra note 10, at 12–13.}
\footnote{190. Id. at 13.}
\footnote{191. Id.}
\footnote{192. Id.}
\footnote{193. Id.}
2020] Asynchronous, E-Learning in Legal Education 165

In terms of the value students placed on various assessment methods in the course, the students most enjoyed the interactive assessment methods, like the video project which they created and then watched and then commented on other student videos, online. The discussion board topics were also favored with a slightly higher ranking.

With regard to learning styles, they self-identified approximately two to one, as visual learners; whereas the remainder were equally split as self-identified auditory or kinesthetic learners. This is useful in planning a combination of assessment methods throughout the course.

A. Hybrid Courses Compared to Asynchronous Courses

There is a great interest in hybrid courses, and one of the questions I received about this research when it was first made available was from a law school interested in hybrid courses and how they compare to asynchronous courses. Based on this question, I used the small sample of students who had taken both an asynchronous course followed by a hybrid course. The three students took the same asynchronous course and the same hybrid course. These questions were asked in the Spring 2016 semester, and because of the small sample size, are purely anecdotal but contain some interesting insights that are useful.

Demographically, three students identified as male and one student identified as female. Three out of four of the students preferred the hybrid course format. Those that liked the hybrid form more cited more collaboration, accountability, contact with the professor, and discussion time as the reasons for their preference.

They were asked questions comparing the workload and the experience. Here are a few of the comments:

I like cyber security because you see the professor and you are held accountable.

If you do not know the material, people will know.

Much more student collaboration and application of material.

There was more interaction with the professor in Cybersecurity Law [hybrid], since we were able to meet with her weekly. . . . Online students often expect the professor to be available much more often via email and to provide quick feedback/answers, as they lack the face-to-face classes and interaction.

This was my favorite thing about cybersecurity [hybrid course]. We got

195. Id.
196. Id.
to listen to the lectures and get a full understanding of the law at a time that fit within our schedule. Then we got to go to class and apply that law and hear other people’s view on how they would apply the law. For me, the hybrid e-learning classes are basically the best of both worlds. I got the flexibility of the asynchronous course without sacrificing the discussion and interaction that you get with a face-to-face course.

The hybrid e-learning course, may offer the best of all worlds, and the combination of online lectures with face-to-face discussions may indicate this is the optimum way to use e-learning in law schools. The recent approval of the hybrid J.D. degree in a growing number of law schools could offer that combination that is the best of both worlds. More study is needed for the hybrid courses and the hybrid J.D. degree.

B. Recommendations

For future asynchronous, law e-learning courses, which are planned, this research yields the first empirical insights that might be used in the design of these courses for optimum benefit to the student, as well as satisfaction with meeting the learning objectives and compliance with ABA Standards.

For assessment tools, incorporating more interactive assessment tools like the video-project which scored highest as a valuable assessment tool is another recommendation for course design. Finding new and creative ways to add more interactive elements to the course design, is another possible indication.

The hybrid e-course is also emerging as a favored form of teaching law, and data collected in this study of asynchronous course design and teaching can also be equally useful in the design of the hybrid course.

Finally, the course used in this study was designed to be tested as an asynchronous, law e-learning course with no face-to-face contact with the students, only online contact, asynchronously. But for communication, the use of synchronous meetings online, could provide an opportunity for resolution of any questions, while making the rest of the course asynchronous. While this 100% asynchronous law, e-learning course, proved to be comparable to a traditional course, overall; for future courses that are predominately asynchronous, it might make for a better transition for faculty and students into the world of asynchrony, to use synchronous online meetings, perhaps monthly or bi-weekly, to ensure broader opportunities to include synchronous communication with students. But as more students become accustomed to online learning, the face-to-face meeting or synchronous meeting may become unnecessary.