



Berkman

The Berkman Center for Internet
at Harvard Law School

New Skills, New Learning:

Legal Education & the Promise of Technology

Gene Koo

Supported by:



New Skills, New Learning: legal education and the promise of technology

Executive Summary

A large majority of lawyers perceive critical gaps between what they are taught in law schools and the skills they need in the workplace, and appropriate technologies are not being used to help close this gap. This was the core conclusion of a new study by the Berkman Center for Internet & Society at Harvard Law School, in partnership with LexisNexis, which found:

- More than 75 percent of lawyers surveyed said they lacked critical practice skills after completing their law school education.
- Today's workplace demands skills that the traditional law school curriculum does not cover.
 - Many attorneys work in complex teams distributed across multiple offices: nearly 80 percent of lawyers surveyed belong to one or more work teams, with 19 percent participating in more than five teams. Yet only 12 percent of law students report working in groups on class projects.
 - Smaller firms can stay competitive with larger firms through more nimble deployment of technology tools and by exploiting the exploding amount of data openly available on the Web. Attorneys at these firms need tech-related skills to realize these opportunities.
- Legal educators seriously under-utilize new technologies, even in those settings, such as clinical legal education, that are the most practice-oriented.

Research also suggests a breakdown in post-school workplace training, with smaller firms particularly unable to afford formal professional development.

- Neither law schools nor most workplaces provide new attorneys with a structured transition between school and practice. Only 36 percent of lawyers surveyed report a dedicated training experience during their first year of employment.
- Clients are increasingly unwilling to pay for training of associates, e.g. prohibiting firms from billing for young attorneys' attendance at client-facing meetings. New lawyers' involvement in such meetings has long been an important apprenticeship activity.

Finally, advances in computing and networking offer potential solutions to shortcomings in skills training at law schools.

- Utilizing authentic practice technologies to support law school clinical programs exposes law students to the practical tools they need to succeed in future practice.
- Learning through computer simulation mirrors the technology-based foundation of most legal practice settings today and enables participants to experience non-linear decision making closest to real-world casework.

New Skills, New Learning: legal education and the promise of technology

Part I. Introduction and Methodology

In legal education circles, a common perception holds that American law schools haven't changed much since the late 19th century, when the Dean of Harvard Law School, Christopher Columbus Langdell, established the caselaw method. In fact, law schools *have* evolved in the past century – the arrival of women and minorities as students and professors, the Legal Realism and Critical Legal Studies movements, and the establishment of clinical practice, to name just a few changes. Yet in the critical area of pedagogy, the Langdellian method continues to rule supreme.¹

Computing technology – particularly since the Internet revolution – ranks high among the many profound changes that society has experienced in the past few decades. If the core pedagogical experience of law schools in the United States has not changed significantly since the days of Dean Langdell, then are today's new lawyers prepared to practice in our rapidly evolving world? How is legal practice today different than 100, 50, or even 10 years ago – not just in terms of basic skills like operating a word processor, but also with respect to how lawyers think and interact? How might law schools adapt and evolve to ensure that its teaching matches students' learning needs?

The Berkman Center for Internet & Society, in collaboration with the LexisNexis Group, set out to explore this question starting in October 2006. Our study relies on data gathered from individual interviews, a focus group, a panel discussion, a survey of 142 practicing attorneys, and compilation of other research. Among these other studies, the Carnegie Foundation's forthcoming *Educating Lawyers: Preparation for the Profession of Law* substantially informed the framework and background for the present study's sections on legal education.

This study's primary goal was to explore interesting features of the legal, educational, and technological terrain rather than, for example, laying down concrete foundations to modify that terrain. Accordingly, the following methodology was intended to produce preliminary results to guide and inform by more rigorous and focused research and action.

A. Interviews

The research team conducted a focus group (comprising leading New York attorneys, law school deans, and faculty) and one-to-one interviews with a select group of law school professors, practicing attorneys, clinical educators, training and professional development attorneys at major law firms, continuing legal education providers, and legal technologists. Because this research was intended to survey the field and suggest directions for future in-depth inquiry, the selection criteria for interviewees were iterative.

¹ See William M. Sullivan, Anne Colby, Judith Welch Wegner, Lloyd Bond, Lee S. Shulman, *Educating Lawyers: Preparation for the Practice of Law* (Jossey-Bass) (2007) (chapter 2, in particular, describes the case dialogue as law schools' "signature pedagogy").

B. Survey

Berkman researchers drafted a survey seeking broad information about impacts and opportunities presented by technology in private practice. As with the interviews, the survey was intended to suggest avenues of inquiry rather than offer conclusive data. Attorneys, professors, technologists, and librarians provided input and feedback. The LexisNexis Group conducted the survey using Web-based software and disseminated it via email.

(1) Respondent demographics

A total of 142 attorneys provided valid responses to the survey (hereinafter, the “*New Skills* survey”). The survey was sent to practicing attorneys who have held LexisNexis accounts for under seven years. The intent was to target attorneys with fewer than seven years of experience, recognizing that the match is imprecise, as lawyers can open new LexisNexis accounts at any point in their careers.

Compared with the 5th-year attorneys surveyed in the 2004 installation of the *After the JD* (AJD) study, a comprehensive longitudinal study of legal careers, the *New Skills* survey significantly over-represents the segment of attorneys practicing in large firm (250+ lawyers) settings, with a corresponding under-representation of attorneys in government or nonprofit practice, or who are in business. The *New Skills* survey respondent population does closely match the AJD study across other segments of private firm practice (1-250 lawyers). See Appendix A for a full comparison.

(2) Survey accuracy

The relatively low number of total respondents yielded a fairly high margin of error of $\pm 8\%$.

The survey may contain biases due to the responding population, as described above. In addition, LexisNexis customers cannot be presumed to be representative of the larger population of lawyers. Furthermore, those who respond to an email notice about a Web-based survey may be self-selecting for technological fluency.

Part II. An Evolving Practice Demands New Skills

Today's lawyers practice in a field far more diverse than their predecessors. While the majority of lawyers continue to work in solo and small practices settings, the last few decades have seen the rise of "mega-firms" that comprise hundreds of lawyers located around the world. Smaller firms now have the option to compete as boutiques on the global stage. Technology has facilitated many of these changes, but human skills must also keep pace with this evolution.

A. New skills: Implications

A changing work environment – due both to technological change and evolving business conditions – demands that attorneys master new skills. The skills identified in this research can be generally grouped into three categories: **knowledge-generating**, **techno-social**, and **meta-practice**. Knowledge generation describes the process whereby professionals pan useful information from the silt of data, and then apply that information as actionable knowledge. Techno-social skills enable professionals to work with colleagues through the medium of technology – for example, email. Meta-practice skills involve the translation of one-off practice into systems of practice – for example, by creating automated forms that can be reused in similar situations. In addition to these three advanced practice skills, attorneys responsible for managing practices (whether as solo practitioners or as future leaders of large firms) may also need basic **technology management skills** in the same way as they might require other management skills.

(1) New strategies needed to cope with data overload

Avoiding "information obesity"² in a world oversaturated with data may be one of the greatest challenges facing lawyers today. Sound legal judgment derives from the ability to filter, assess, and act upon good information. Younger professionals who cannot discern valuable information from useless data, or convert information into actionable knowledge, will be at a distinct disadvantage in today's legal workplace.

We identified several ways that **superior information gathering and discernment can generate value for legal practices.** As the overall volume of data available online grows, the amount of information useful to lawyers has also grown, according to experts interviewed for this study, who also assert that the quality and quantity of data available openly already matches that available in most firms' internal KM systems. Thus, **attorneys equipped with superior information-gathering skills can level the playing field for firms with sparser knowledge assets.** Conversely, attorneys lacking those skills would be unable to make efficient use of even the best KM repository.

Our research neither supports nor refutes stereotypes of "Gen Y" lawyers as indiscriminate consumers of information – good or bad – with miniscule attention spans. It is also possible that new lawyers' evolving strategies for managing information overload may offer not just weaknesses but also advantages that are not yet understood.

² A term coined by David Shenk in *Data Smog: Surviving the Information Glut* (1997).

(2) Best practices needed for working together through technology

Techno-social skills – the ability to use technology as a medium of social exchange – are becoming increasingly important to attorneys. For example, most lawyers today work in teams, using email and other information systems to coordinate amongst themselves. In fact, email is the practical tool through which significant legal work occurs – in many ways it is to a lawyer the equivalent of a surgeon’s scalpel. The “iteration” that occurs in legal thinking and writing, the Carnegie study observes, happens through email exchanges: an example of techno-social skills helping to generate and refine knowledge.

Techno-social skills appear to diverge from traditional social skills. In the realm of negotiation, for example, online dispute resolution (ODR) is emerging as a distinct sub-discipline that recognizes how negotiating via an asynchronous, low “emotional bandwidth” medium like email significantly differs from the same activity conducted face-to-face.³ It is likely that other technologically-mediated work activities – for example, collaboratively editing a document across several offices in different time zones – differ substantially from traditional methods of working side-by-side.

Little knowledge exists about techno-social skills: none of the interviewees for this study could identify sources of best practices for their attorneys to follow in using technology to organize their teams. As one attorney responsible for professional development put it, “Most firms have the *capacity* to create technological homes for teams, but in most firms that technology is vastly underutilized.” For example, while most big firms (85%) have access to video conferencing tools, and 65% of those firms report using it “frequently,” the technology appears disfavored by *New Skills* survey respondents (described as “useful” by only 16%).

(3) Future practice leaders need systemic thinking

Sophisticated law offices need managers to oversee the firm’s systems of practice. These are the individuals responsible for creating or identifying exemplar and automated documents, the metadata structure of the case management system, the coding rules of e-discovery processes, the encapsulation of practice for outsourced solutions, and many of the other tasks that make the digital law office possible. These individuals are *not* necessarily responsible for the technical implementation of these systems, but rather for ensuring that they advance the professional standards and business needs of the organization.

Lawyers responsible for managing, automating, or otherwise supporting legal work employ systems-level thinking, or “**meta-lawyering**,” distinct from the kind of thinking needed to work directly with clients. The 70% of LN/G survey respondents who use word processing macros are engaging in a rudimentary version of this practice by recognizing routine tasks and setting up some basic system of automating them. An ideal meta-lawyer, one interviewee suggests, “knows all the resources and can discern the better ones, [and] knows the process and tees it up in a way that makes it accessible.” In today’s environment, successful meta-lawyering often requires familiarity with what technology can accomplish, even if the attorney does not actually implement the technology.

³ See, generally, Colin Rule, *Online Dispute Resolution for Business: B2B, E-Commerce, Consumer, Employment, Insurance, and Other Commercial Conflicts* (Jossey-Bass) (2002), particularly at 44-60 (describing how ODR differs from traditional dispute resolution and the technologies involved).

The diffusion of information and routinization of knowledge-based tasks obligates law practices to generate value in innovative ways. As one legal technologist observed, “Transparency of legal knowledge has turned a lot of our work from 18 years ago into work you can’t charge for any more.” Practice leaders versed in meta-lawyering help ensure that their firms stay ahead of the curve by offloading commodity work down the value chain, automating those tasks, or some combination of both.

(4) Attorneys in smaller practices may also need concrete technology skills

Attorneys in solo and small firm practice settings bear a greater responsibility for maintaining their practices’ technological infrastructure because, as the ABA Technology Survey data shows, they have far less access to technology staff and consultants. Both statistical and anecdotal evidence indicate that many such firms are not using backoffice technology to support their practice, suggesting that a lack of technology resources or know-how is related to lower levels of technology capacity in smaller offices.

B. New skills: Findings

(1) Technology infrastructure and training resources vary across practice size

Small and solo practices may lack dependable access to basic technology infrastructure and support, according to two organizations who work with this market segment. As one noted, “If your [computer] system goes down, you’re out of commission for a week, since support can be so slow.” Data from the 2006 ABA Annual Technology Survey supports these assertions. Most practices of 9 attorneys or fewer do not have technical support staff.⁴ When smaller practices encounter technical problems, they are far more likely than bigger firms to report having no resources to help them. (See table below).

2006 ABA Tech Survey: Attorneys reporting “None” for “Types of tech support to resolve computer related problems”	
Solo	10%
2-9 attorneys	4%
10-49 attorneys	8%
50+ attorneys	0%
All segments	5%

Smaller firms are much less likely to have access to technology training, across all methods of training delivery. For example, only 18% of solo attorneys surveyed by the ABA have at least minimal access to video training resources, compared with 73% of their peers in 100+ lawyers. Solo practices are most likely to have access to tutorials (66% of respondents), but even then big-firm attorneys are still significantly more likely to have access to similar training materials (83%). (See Appendix B(1) for data on other training modes.)

Small offices are much less likely to have backoffice software than larger offices: the percentage of attorneys lacking accounting software were 26% for solos but only 3% for firms above 50 attorneys; for billing software, these percentages were 56% and 2%, respectively. See Appendix B(2) for other types of software. **Smaller firms are more likely to make use of other software specialized to their needs**: some 19% of firms in the 2-9 lawyer size have intake

⁴ 57% of firms sized 1-9 and 78% of solo practitioners do not have technical support staff. American Bar Association Legal Technology Resource Center Survey Report 2006, Volume I.

questionnaires, but only 6% of firms in the 100+ size segment; likewise, 11% of solos have form preparation software, but only 5% of the largest segment. (See Appendix B(3) for details.)

(2) Legal and Factual Research

Attorneys use computers frequently to conduct both “legal” and “factual” research. Historically, computerized research has been the province of litigators in search of caselaw on Lexis and Westlaw, but today almost all lawyers conduct computerized research for many purposes.⁵ Mergers & acquisitions attorneys use the EDGAR database to look up SEC filings; legal aid lawyers “Google” for government agency policies affecting welfare recipients.

Newer lawyers may hold looser standards of quality in research than their predecessors, according to several law firm partners and law librarians interviewed.⁶ In particular, interviewees find them more ready to rely inappropriately on questionable data sources. One law firm partner, for example, complained that his newer associates regularly grab data from the Web without checking their provenance and accuracy. One teacher of legal research observed that today’s law students strongly favor “recall” (comprehensiveness of search results) over “precision” (narrowly tailored search results), often stopping with a satisfactory rather than best answer to the research question.⁷

Digital documents and the Web have revolutionized the practice of factual research, especially formal discovery for litigation. Electronic discovery employs software to sift through millions of digital (or newly-digitized) documents and records. “E-discovery” has spawned a sub-industry of specialist firms and necessitated changes to the federal rules of evidence. The activity exemplifies the proliferation of data in modern practice: complex litigation can generate several terabytes of data requiring special software and thousands of attorneys’ and paralegals’ hours to filter. One partner who manages his firm’s e-discovery practice expressed a strong concern that new associates were becoming overwhelmed by the sheer amount of data, which can obscure the case itself from new attorneys unable to understand the big picture.

Attorneys in smaller firms are more likely to conduct research for themselves, but attorneys in all segments conduct about the same amount of research, according to data from the 2006 ABA Tech Survey. 84% of solo practitioners do their own legal research, compared with 53% of attorneys in the largest (100+ lawyer) segment. Attorneys across all segments spend, on average, about 15% to 20% of their time conducting research. Among sources preferred for legal research, the biggest difference across segments pertained to in-house information: 15% of big-firm

⁵ See, e.g., Connie Crosby, *Law Librarians Debate Student Research Skills*, CCH Law Student eMonthly, October 2006, available at <http://lsp.cch.ca/newsletter/October2006/index.aspx?id=954>; revision of *Students Still Unprepared for Legal Research*, The Lawyers Weekly, 21 Jul. 2006 at 14 (pointing out that a plethora of resources available today requires more extensive training than ever before).

⁶ See, e.g., Crosby (quoting a Canadian law librarian who states that students “don’t know how to use the electronic resources to their full potential”).

⁷ This statement seems to contradict another common complaint of law firms about recent graduates: that they are insensitive to or unaware of the cost of Lexis and Westlaw searches. However, both complaints are aspects of the same issue: novice researchers often pull up too many results and skim through them, each incurring an incremental cost.

attorneys go their internal knowledge base first (see next section), while only 1% of lawyers in the 2-9 attorney segment, and none of the solos, do the same.⁸

Attorneys use new media to stay on top of news and developments: over 95% rely on websites for current events, with smaller numbers using listservs (63%), discussion boards (44%), blogs (38%), and podcasts (10%) at least occasionally. See *Appendix B(4)* for more detailed data.

A minority of attorneys actively contribute information and knowledge to these channels: 15% of *New Skills* respondents report occasionally contributing to a blog, podcast, listserv, or discussion board; 5% do so at least once per month.

(3) Knowledge management

A substantial minority of law practices have a knowledge management (KM) strategy in place,⁹ ranging from 7% of firms with 10-49 attorneys to 35% of firms with over 100 attorneys. About one in ten solo practitioners report having a KM initiative.¹⁰

Among *New Skills* survey respondents, **65% use precedent documents from their firm's internal inventory when drafting documents.** Such re-use of a firm's share of knowledge represents, a key competitive advantage in a knowledge-based industry like law, part of an overall KM strategy in which firms' database of forms and documents serve as a proprietary inventory of collective know-how and competitive advantage.

However, the advantage of KM may be shrinking due to increasing information available freely online. Several analysts question whether some firms have over-invested in KM, given the lack of evidence supporting its benefits. Additionally, several of the legal technologists interviewed predict that the advantages provided by internal KM systems will erode over time because lawyers' work product is increasingly available on the Web. For example, attorneys can search the EDGAR database to find other firms' merger and acquisition filings. One nationally respected technologist even posited that general Web searching is more effective than internal data-mining: "Even in big firms... [attorneys] would rather go to EDGAR and see what Skadden [Arps, Slate, Meagher and Flom] did as an attachment to a filing than see what their own attorneys do..." As soon as a large body of litigation filings is searchable, then whatever advantage a big firm has in mining their internal stuff becomes trivial."

"Even in big firms... [attorneys] would rather go to EDGAR and see what Skadden did as an attachment to a filing than see what their own attorneys do."

⁸ ABA Technology Survey 2006, Volume IV.

⁹ "Knowledge management is the leveraging of your firm's collective wisdom by creating systems and processes to support and facilitate the identification, capture, dissemination and use of your firm's knowledge to meet your business objectives." Gretta Rusanow, *Knowledge Management and the Smarter Lawyer*, at 7 (ALM Publishing) (2003).

¹⁰ ABA Technology Survey 2006, Volume I.

(4) Communication and Teamwork

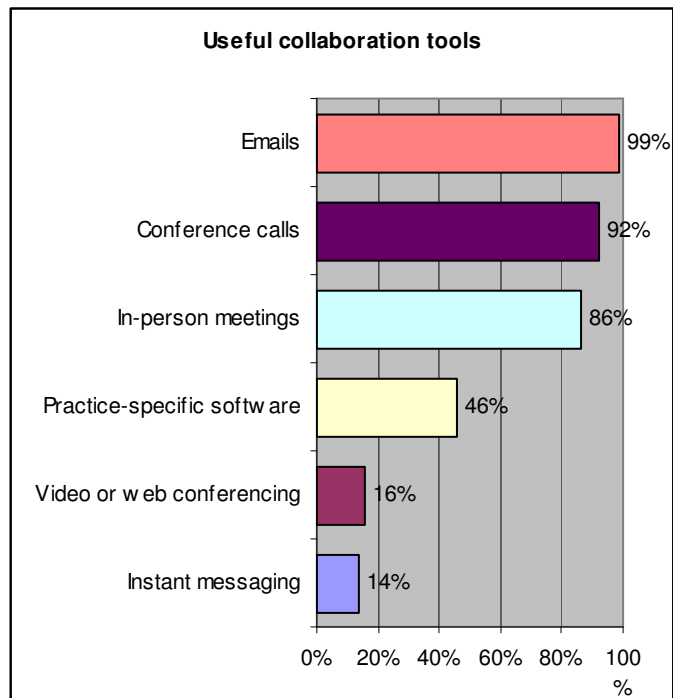
Attorneys use technology heavily to communicate. Among survey respondents, 87% indicated that they use technology for “efficient communication” – particularly email, whether on a computer or personal digital assistant (e.g. Blackberry). In fact, email has become so ubiquitous that some interviewees question whether attorneys have become less efficient, using email to communicate when a phone call or office visit would produce better and faster results. On the other hand, many attorneys complain that pressure from clients, colleagues, and supervisors to respond to email promptly – interviewees agreed that 15 minutes is the standard response window – at all hours, any day of the week, have seriously impinged on attorneys’ quality of life.

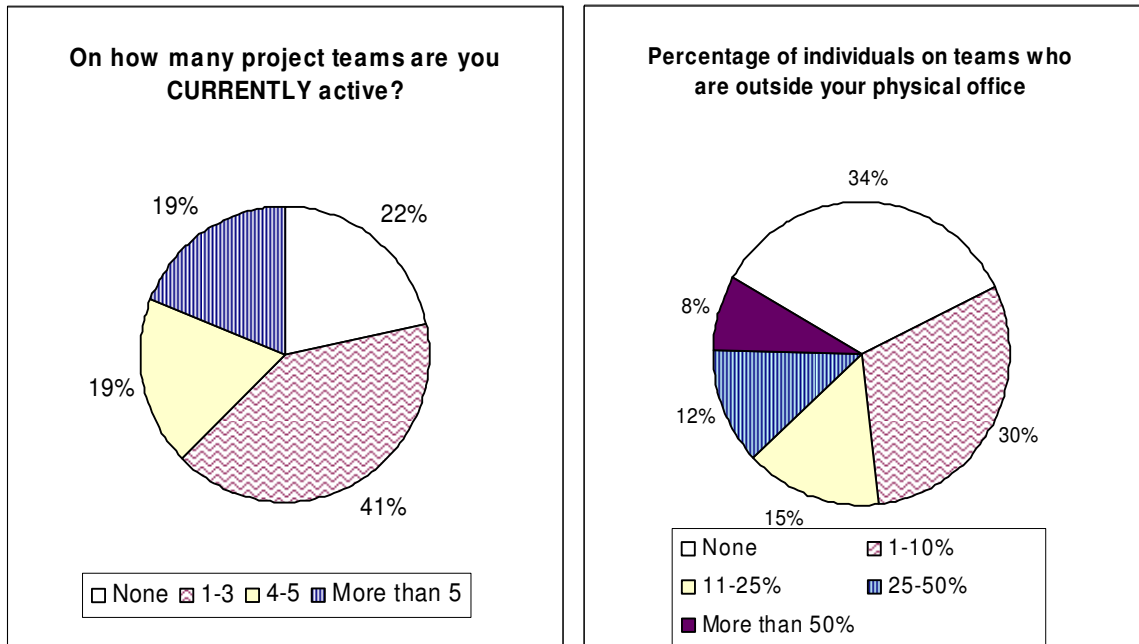
<i>New Skills Survey Results: For what purposes are you currently using technology within your firm?</i>	
Efficient communication	87%
Analyze and group documents	70%
Document retention, preservation practices and data sampling	68%
Improve business processes associated with electronic discovery	57%
Help clients reduce costs and risks	57%

Most lawyers work in teams. Among *New Skills* survey respondents, 78% belonged to one or more teams at the time of the survey, and 19% participated in more than 5 teams. Unsurprisingly, team participation correlated strongly with the size of the firm, but even 53% of respondents (19 of 36) in firms of 2-20 lawyers report belonging to at least one team.

Teams involve multiple office and organizations. Of survey respondents who participate in teams, 66% report that these teams involve at least one member located elsewhere than the respondent’s office. 21% of the teams had at least ¼ of the team located outside of the office. 57% of these teams include attorneys from another firm or organization. 17% of the teams had at least ¼ of the team attorneys from another firm or organization.

Teams primarily organize through email, phone calls, and meetings. Respondents almost universally found email “useful” as a means of team collaboration (99%), followed closely by conference calls (92%) and in-person meetings (85%). While the apparent preference for email over face-to-face meetings is suggestive, the difference falls within the survey’s margin of error. Practice-specific software such as litigation support or document management systems represents another significant means of collaboration (46%).





Only a minority found video conferencing and instant messaging useful for collaborating with project teams (17% and 14%, respectively). By comparison, a recent survey of large firms by American Lawyer Media found that 90% of the firms report that their lawyers use videoconferencing at least “occasionally” (1 / month) and 60% use it “frequently” (4+ / month). Of these, 62% and 17% report that “communication with colleagues in U.S. offices” and “communication with colleagues in non-U.S. offices” are among the top three uses of the technology.¹¹

Smaller offices have less robust communications software. As with other elements of a technology infrastructure, the presence of software for contact management, customer relationship management, and groupware correlate directly with firm size, according to the 2006 ABA Tech Survey.¹² In the case of video conferencing, 85% of attorneys at large (100+) firms have access to the technology, compared with only 6% of solos and 4% of attorneys at firms of 2-9 lawyers. Only 14% of attorneys in practices of fewer than 10 attorneys have used Web conferencing, compared with 20% of the largest and 28% of the second-largest (50-99 lawyers) segments.¹³

(5) New lawyers appear to have adequate technology skills

Today’s lawyers possess skills adequate to practice, according to the vast majority of people contacted for this study, including law school deans and managing partners. Many, in fact, marvel at students’ and newer attorneys’ technology skills. Some legal technologists dissented, asserting that while new attorneys may indeed display high levels of proficiency by their predecessors’ standards, they may not match the skill of their peers in other sectors.

¹¹ American Lawyer Media, 2006 Technology History survey data.

¹² ABA Tech Survey 2006, Volume I.

¹³ ABA Tech Survey 2006, Volume III.

New lawyers' technology skills and law offices' support infrastructures may not match.

Law offices may be geared to the needs of older attorneys who rely on secretaries to type their handwritten or dictated materials – assistance that younger attorneys used to doing their own word processing do

not need. Thus, one *New Skills* survey respondent complained, “Everyone wants you to dictate, but to tell the truth, with technology the way it is I don't actually feel it's faster after all.” On the other hand, several firms' professional development staff fretted that attorneys' independence in one realm – word processing – has led them to overlook the value of support staff in other areas such as arranging meetings and other logistical matters.

American Lawyers' 2006 Midlevel Associates Survey			
Rating (1 to 5) of:	Mean	Low	High
Technology overall	3.71	2.67	4.67
Technology training	3.65	2.75	4.62
Technology support	3.69	2.31	4.62

Associates seem somewhat satisfied with their firms' technology infrastructure, as well as training and support for that technology, according to the American Lawyer's 2006 Midlevel Associates Survey.¹⁴ On a scale of 1 to 5, they rated their firms an average of 3.71 on technology overall. Ratings were similar for technology training and support.

C. New skills: Recommendations

Technology has changed legal practice, but more research is needed to substantiate exactly what those changes mean for lawyers at a practical level. More investigation is also required to specify how lawyers can exploit these changes to maximize value for themselves and their clients.

(1) Identify best practices around technology-related skills

Any substantial effort to teach attorneys the skills described in this section must first identify the best practices to be taught. Otherwise, the training project will merely reflect current practice, which could include counterproductive habits and behaviors. A rigorous effort to substantiate best practices should entail the following steps:

- **Study superior attorneys' use of technology.** High-functioning attorneys likely share certain habits, behaviors, and attitudes. An in-depth ethnography examining how, for example, they manage a geographically dispersed team through email and other communication channels can make explicit their tacit knowledge and skills.
- **Study the contrast between expert and novice practitioners.** By the same token, less-skilled attorneys lack successful habits, behaviors, and attitudes. An expert/novice study can pinpoint the specific areas where new attorneys are commonly deficient and thereby serve as the basis for designing effective interventions.

¹⁴ Calculated using data from the 2006 annual Midlevel Associates Survey, conducted through The American Lawyer. Because of the way the data was presented, it was not possible to calculate median responses for each category. Methodology of this survey available at www.law.com/jsp/tal/PubArticleTAL.jsp?id=1154349329020.

- **Import best practices from other professions.** The basic skills of legal practice often resemble those in other fields. Studying superior practice in doctors, accountants, and other professionals will likely yield strong practices for attorneys.

Both of these efforts presume that expertise already exists among the legal community in the various skill domains identified. Of course, it is also possible that existing practices fall short of potential. It is for this reason that centers of innovation may also be necessary; see §III.C.(4), below.

(2) **Conduct further research to substantiate and specify skills gaps**

This study raises the following questions that may constitute a future research agenda:

- **What are the actual strengths and deficiencies of new lawyers' technology skills, as measured by value to their employers?** The present study assumes that new lawyers possess adequate technology skills, relying on self-reporting and anecdotal evidence. A more relevant question, however, is how well attorneys measure up to an objective standard of technology proficiency.
 - What specific knowledge and skills do new attorneys actually need during their first few years of practice?
 - How do these needs change at different stages of an evolving career?
- **How are small and solo practices using technology to accomplish their business objectives?** Our analysis of available data gathered by the ABA show that smaller practices have, on the whole, less access to basic technology infrastructure and training – sometimes by a significant margin.
 - What accounts for these differences – less need, fewer resources to acquire needed tools, lack of expertise, lack of relevant products?
 - If there is a technology gap between law firm segments, do they affect firms' performance and productivity in a significant and measurable way?
- **In what ways, if any, does a new generation of lawyers think differently? How does any difference affect the way they learn and work?** A popular trope holds that “Gen Y” (also called the “digital natives” or the “millennial generation”) think and behave differently than their predecessors.¹⁵ More evidence is needed to back up these claims, substantiate how they actually manifest in the workplace, and design interventions to address weaknesses and leverage strengths – perhaps including helping previous generations of lawyers exploit technology more effectively.

¹⁵ See, e.g., Diane Thielholdt and Devon Scheef, *Generation X and the Millennials: What You Need to Know About Mentoring the New Generations*, Law Practice Today, Nov. 2005 (noting that Millennials “assume” rather than “use” technology and “multitask fast”); available at www.abanet.org/lpm/lpt/articles/mgt08044.html.

Part III. Teaching New Skills to New Lawyers

If today's technology-infused world demands new skills of lawyers, who should be teaching them? The American Bar Association's 1992 study, *Legal Education and Professional Development* (commonly called the "MacCrate Report"), described the transition between law school and the profession as a "continuum." In other words, the ABA proposed that schools and employers share the responsibility of ensuring that new lawyers have the skills they need to succeed in modern practice.

A discussion of teaching *new* legal skills begins with a survey of the mechanisms that exist for learning *any* skills, whether technology-related or not. Thus, this section examines lawyers' opportunities to develop general practice expertise to gain insight into how attorneys can acquire the new domains of knowledge promised by emerging technology. It will also explore how technology can help realize some of the unaddressed goals put forth by prior reformers.

A. Teaching new skills: Implications

A preliminary survey of training opportunities that support law students' transition to professional practice suggests that the "gap" that motivated the MacCrate Report¹⁶ is actually growing, not shrinking. Although technology-related skills are the main focus of our research, these skills are part of an overall body of knowledge about practice that seems to elude capture in a reliable educational format. As it turns out, technology can also play a role in bridging the gap.

Beyond thinking like a lawyer, "learning professional knowledge and skill 'in role' is a distinct pedagogical genre."

(1) Law schools are not ensuring that *all* new lawyers possess necessary practice skills

New lawyers who do not learn practice skills in school risk having no formal support at all, if on-the-job training is as inconsistent as our data suggest. Yet the Carnegie Foundation's 2006 research reinforces the 1992 MacCrate Report findings: schools do not provide adequate skills instruction. Socratic dialogue is crucial to developing the foundations of legal thinking,¹⁷ but one pedagogical method cannot provide everything new lawyers should know. One law school dean interviewed for our study points out that this reliance on one teaching method can trigger boredom and disengagement; once students have learned to think like lawyers, "learning doctrines of different areas is not hard."¹⁸

¹⁶ While the MacCrate Report rhetorically refutes the idea of a "gap," the commission's findings and recommendations in fact confirmed the disconnect between academy and practice. The Carnegie study demonstrated that the gap still remains today in 2007.

¹⁷ Sullivan, et.al. describe the Socratic dialogue as law schools' "signature pedagogy" worthy of emulation in other educational settings.

¹⁸ Kuh, et.al. find that 31% of third year students spend less than 11 hours per week reading and preparing for class (at 9). An old saw about legal education likewise concludes: "First year they scare you to death; second year they work you to death; third year they bore you to death."

All schools have some interest in providing students with practice skills, even though different schools tend to propel their students onto different career paths.¹⁹ Regional and local schools place a substantial proportion of their students in mid- and small-sized local firms – the ones that the Pace study found reluctant to train new lawyers – and have particularly strong reasons to pay attention to this need. But even “top-tier” schools whose graduates often start out in large firms²⁰ have an interest in ensuring some grounding in practice and practice-management skills for at least two reasons: professional development programs remain variable in quality, and many have not yet grasped the new skills described in Part III of this study.

The development of skills demands its own pedagogy, distinct from the Socratic method relied upon to convey the basics of “thinking like a lawyer.” As the Carnegie study observes, “learning professional knowledge and skill ‘in role’ is a distinct pedagogical genre and needs the same care and attention” as traditional techniques.²¹ Law schools today employ two main methods of developing students’ skills: clinical practice and simulation. Our preliminary data suggests that schools are not optimizing their use of technology to accomplish the goals of either.

a. LAW SCHOOL CLINICALS MAY NOT BE PROVIDING AUTHENTIC TECHNOLOGY ENVIRONMENTS

The law school clinical environment seems ideal for future attorneys to develop a full set of practice skills through authentic practice, that is, representation of real clients. Among the skills that students could be learning during that experience are the ones identified in Part II of this study.

However, **not all clinical programs have robust technology infrastructures**, meaning that students may not in fact be experiencing fully authentic practice. The fact that LexisNexis offers *Time Matters* to law schools at no charge does not mean that the clinical program pays nothing in terms of setup and maintenance of the software. At one top-tier school with several clinical programs, for example, only the largest clinical projects actively use *Time Matters*; the others apparently lack the resources necessary to customize the product to their needs. As the product manager of *Time Matters* acknowledges, “The biggest challenge we experience with getting any of our software properly installed, implemented, and used as intended is having the resource available to properly scope, then drive, the project.”

b. SOME LAW STUDENTS MAY NEED TECHNOLOGY MANAGEMENT SKILLS

Attorneys entering smaller practices may need more extensive and specific training than their big-firm counterparts. If our conclusions at §II.B.4, above, are correct, lawyers in these practices will need more practice and technology management. Even attorneys who start out in big firms will still need these skills if they move into smaller settings, especially since big-firm

¹⁹ Mary Daly, *The Structure of Legal Education and the Legal Profession, Multidisciplinary Practice, Competition, and Globalization*, 52 J. Legal Educ. 180 (2002) (wondering whether, presently, “the graduates of national law schools will have any meaningful contact with those from the regional and local law schools”).

²⁰ The American Lawyer Media 2006 “NLJ 250” survey finds that 12 law schools place over half of their graduates in the largest 250 firms, with Columbia Law School placing the largest percentage of its students (70%, or 313 of 450 J.D.s) in these firms.

²¹ Kuh, et.al. at 124

practice would be unlikely to expose them to opportunities to develop those skills through experience.

(2) Few new lawyers have access to high-quality training supporting the transition to practice

Data from this study suggest that **access to training programs that support the transition from law school to practice is spotty**. Among *New Skills* survey respondents, only a third claim to have received formal training at their first place of employment. Some evidence also hints that those programs which do exist are generally of questionable value; *New Skills* survey respondents offered a fairly extensive list of topics that they wished they had learned before the close of their first year of practice but did not.²²

Our survey data are insufficiently robust to compare across different practice settings, but trends described by experts point to market failure around transitional training in several segments of the legal services industry. Mid- and small-sized firms are largely looking to other practice segments to train their attorneys, but not all lawyers begin their careers in settings that offer such training.²³ Inevitably, some attorneys fall through the cracks of a system where responsibility for training is passed like a hot potato rather than treated as a shared responsibility.

Our findings are reinforced by findings of *The American Lawyer's* 2006 Midlevel Associates Survey (covering attorneys with 3-5 years of experience). That survey found that associates are often under too much time pressure to attend training events when those events cannot be billed. They also lament the loss of personal mentoring; only one-third of the respondents to that survey reported having a mentor, with many complaining that establishing personal relationships at huge firms is daunting.²⁴

Without the equivalent of a hospital residency or a structured (and accountable) apprenticeship for the legal profession, in-practice skills development will likely remain fragmented and unequal. If clients increasingly refuse to underwrite associate training, professional development may become even scarcer for associates at smaller firms lacking the capital to absorb its cost. Indeed, some study interviewees speculate that large firms' recent investment in in-house training capacity may even undermine their financial support of broader CLE efforts that also benefit small and solo-practice lawyers.²⁵

²² Note, however, that the survey did not ask whether the support was adequate to their first-year needs. This omission should be corrected in future research in this area.

²³ Among *After the JD* 5th-year study subjects, only 20% of the attorneys practice in firms of 251+ lawyers and 8% in firms of 101-250 lawyers. Another 31% practice in government and other settings, which have different financial incentives than private practices. Ronit Dinovitzer, Bryant Garth, Richard Sander, Joyce Sterling, Gita Wilder, *After the JD: First Results of a National Study of Legal Careers* (NALP Foundation for Law Career Research and American Bar Foundation) (2004).

²⁴ Elizabeth Goldberg, *Midlevel Blues*, *The American Lawyer*, 1 August 2006, available at www.law.com/jsp/tal/PubArticleTAL.jsp?id=1154077531591.

²⁵ CLE providers themselves do not seem to share this pessimism. Indeed, the ABA model standards for continuing legal education suggest that no more than half of an attorney's mandated CLE credits may come from an employer, which ensures that in jurisdictions that follow these guidelines, "insourcing"

B. Teaching new skills: Findings

(1) Lawyers desire skills training early in their careers

Among *New Skills* survey respondents, attorneys who identify missed learning opportunities focus on skills and business-related issues. Of the 104 valid free-text responses to the question, “What **one** topic or skill did you wish you had learned **before** or **during** your first year of practice but did **not**?” close to half (42%) identified a legal practice skill such as “how to draft a motion,” the business of law (e.g. “client development”) and general skills (“time management”) tied for second at about 18% each. Technology-related issues (“document review software”) came in a distant fourth at 9%. Only 6 individuals named substantive legal topics (“a course on the UCC”).

(2) No clear consensus exists on who should teach desired knowledge or skills

Among *New Skills* survey respondents who named something they wished to have learned before the end of their first year of practice, no clear preference emerged as to who should have taught that knowledge or skill. Less than half identified formal training, whether from school, employer, or CLE provider. Another 27% preferred informal learning from mentors or colleagues, and the remainder believed that experience was the best teacher.

With respect to the ability of law schools to offer skills-oriented education, several interviewees expressed skepticism that law school professors, who may lack significant practice experience, could teach such skills competently or keep up with the state of the art.

(3) Law schools largely isolate skills-oriented learning to specialty programs

Both the MacCrate Report of 1992 and the Carnegie Foundation study of 2007 identify law schools’ reluctance to teach practice. We did not attempt to reassess ground already covered thoroughly by these other efforts; however, the data we gathered for the present study seem consonant with these general observations.

a. GENERAL SKILLS IN THE LAW SCHOOL CURRICULUM

Law schools underemphasize skills-oriented education, according to Carnegie’s *Educating Lawyers*. In “pay[ing] relatively little attention to direct training in professional practice,” the Carnegie researchers find, law schools “prolong and reinforce the habits of thinking like a student rather than an apprentice practitioner.”²⁶

Within certain domains, law schools do teach skills. Negotiations and trial skills, for example, are largely taught through practice. Indeed, the moot court – a chance to exercise basic research, writing, and argumentation skills – remains a seminal experience for most law students. Other pockets of practice-oriented educational efforts exist; last year, for example, a conference on

of CLE can never do away with external providers – unless law firms enter consortia with each other, swapping attorneys among their internally-run programs.

²⁶ Sullivan, et.al. at 240.

teaching interviewing, counseling, and other client-relationship skills attracted over 80 legal instructors.

b. LAW SCHOOLS AND OPPORTUNITIES FOR LEARNING TECHNOLOGY-RELATED SKILLS

Traditional law school classes rarely promote teamwork, much less technologically-mediated teamwork. The dominant pedagogical technique in law schools – Socratic dialogue between professor and student²⁷ – emphasizes and rewards individual work and thinking. The Law School Survey of Student Engagement (LSSSE), covering 24,000 students at 64 schools, found that 88% of law students do not frequently work together with other students on projects during class.²⁸ Collaborative experiences, the study continues, “prepare students for what they must be able to do effectively – practice law.”²⁹

Law students do have opportunities to develop authentic practice skills through clinical programs, specialized classes, externships, and summer job placements. Each of these venues presents possibilities to convey technology-related skills in appropriate ways.

Clinical programs may lack the resources to offer a full practice environment with the same technological infrastructure as comparable law offices. For example, LexisNexis reports that some 200 law schools – that is, almost all of them – have taken advantage of free installations of its *Time Matters* case management software system. Yet a spot survey of smaller clinical offices shows that not all of them are using that system to capacity, or even at all, because of inadequate staffing and support.

Simulations provide highly-structured opportunities for students to develop skills through focused practice and coaching. Unlike clinical practice – or professional practice, for that matter – simulations let instructors isolate specific aspects of legal work and concentrate on learning in those areas. Negotiations and trial advocacy are two areas where simulation has been the primary pedagogy employed. Client interviewing and counseling are emerging subjects of rigorous study to make possible future simulation-based teaching.³⁰

However, **existing methods of running simulations are difficult and expensive.** Most of the common forms of simulation – mock trials and negotiations – are conducted in person, with a low student: faculty ratio and therefore low scalability. Instructors often need to set up the simulation themselves, recruit a supporting team (for example, judges for a trial), and evaluate either through direct observation or student self-reporting. As one law school dean identified, law school economics do not allow him to “put the kind of resources that will produce 8:1 or 9:1 or 10:1 teaching situations, which are what you really need if you’re going to effectively teach [these] skills” using hands-on techniques.

²⁷ Sullivan, et.al. identify this method as law schools’ “signature pedagogy.”

²⁸ George Kuh, et.al., *Engaging Legal Education: Moving Beyond the Status Quo*, Law School Survey of Student Engagement Annual Survey Results 15 (2006). 84% do collaborate with peers at least “occasionally” (at 10). The report is available online at http://nsse.iub.edu/lssse/2006_Annual_Report.

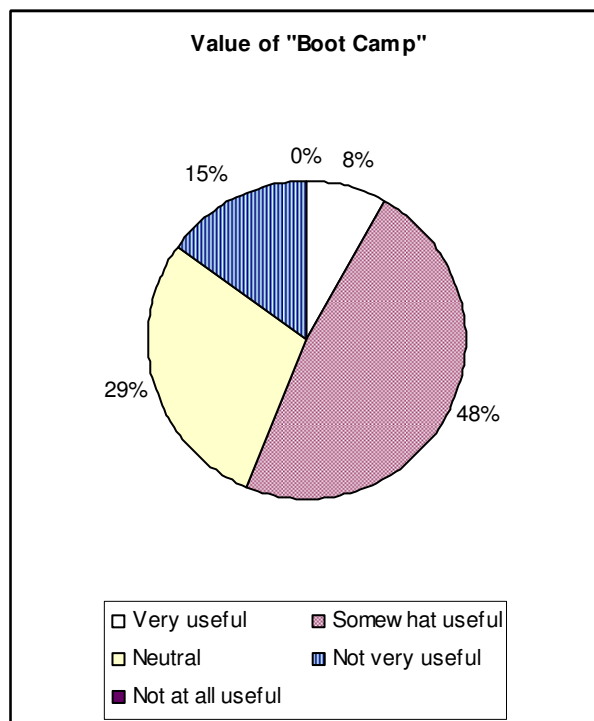
²⁹ Kuh, et.al. at 12. Further, the study finds that teamwork is also linked to gains in knowledge and skills in areas such as writing and analytical thinking.

³⁰ See, generally, Sullivan, et.al. at 117-8 (interviewing), 12-134 (negotiations).

Additionally, **simulations lack a supporting infrastructure for creation and distribution.** Whereas publishers advertise, disseminate and ensure the quality of casebooks, simulations lack a similar infrastructure. The area of negotiations is a significant exception: Harvard's Program on Negotiations, for example, operates a clearinghouse that sells simulation materials, including teaching guides.

(4) In-practice training opportunities are becoming scarce, except in large firms

Only 36% of *New Skills* survey respondents report receiving “boot camp” training in their first year of practice, that is, “formal training on fundamental skills and knowledge [they] need to start practicing in [their] particular field.” The bulk of these individuals who did participate in such training report receiving them directly from their employer rather than an outside source.



Recipients of formal transitional training are lukewarm about their benefits. Half felt the training was “Somewhat useful,” with another 29% giving a “Neutral” evaluation.³¹ One senior attorney at a major firm expressed skepticism of in-house professional development programs, remarking, “A small law firm that used the resources of West Legal Ed Center or PLI would be just as well-off as a firm that did this in-house.” However, in gathering feedback about training quality, the *New Skills* survey did not differentiate between different training providers.

Sophisticated clients are refusing to pay for associate training, according to several interview subjects.³² Historically, law practices have relied on apprenticeships that often include having associates attend client meetings. Clients’ increased vigilance, perhaps due to in-house counsels’ oversight and growing sophistication, has led to firms either cutting back training opportunities or shouldering the cost of apprenticeship-type training directly.

Large law firms are formalizing training and professional development functions to achieve quality control, strategic advantage, and cost savings; they are also responding to diminishing opportunities to engage in *ad hoc* training and mentoring. A recent study reports that US law firms currently spend about \$1 billion per year on training and professional development, with

³¹ Note that the total number of respondents at this level are too small to be statistically significant (N=52).

³² See also Hildebrandt Institute, *Changing Approaches to Lawyer Training: the Latest Battleground in the Growing War for Talent* (March 2006), http://www.hildebrandt.com/PublicDocs/Doc_ID_2438_6152006161831.pdf.

large firms spending the most – about \$3,000 per lawyer annually.³³ As a director of one such program observed, “One of the reasons large firms invested so much money in training programs is they were no longer able to provide the apprentice-style training, both because the leverage and the workload increased.” These programs seem to be moving away from simple knowledge transfer on substantive topics and towards more elaborate, structured, multi-year programs to provide professional development, mentoring, and evaluation opportunities.³⁴ The best of these programs are also adopting more sophisticated pedagogical approaches such as simulation and other active learning techniques.³⁵

Small- and mid-sized firms avoid hiring new graduates to avoid training costs, according to a recent study commissioned by Pace University School of Law. Only 9% of firms of 51-100 attorneys, and 7% of firms under 50 attorneys, fill their recruitment needs primarily by hiring law school graduates.³⁶ The top reason for filling positions with experienced attorneys was “Eliminate the need for training” (45%), trailed by the tautological “We need experienced attorneys” (21%).³⁷ As one respondent commented, “Training is expensive for a small firm.”³⁸

C. Teaching new skills: Recommendations

Both the ABA MacCrate Report and the Carnegie Foundation’s *Educating Lawyers* provide a powerful foundation for action. The present study will not reiterate their recommendations, but rather suggest specific means of realizing their aims within our research scope, technology. The following section examines both how to convey technology-related skills as well as how new technology can help teach legal skills, whether technological or not, more effectively.

(1) Law schools should leverage technology more effectively to accomplish the goal of skills transmission

Almost universally, the people we contacted for this study agreed that law schools should not “teach technology.” That opinion need not be in tension with the real need, identified in Part II, for lawyers to develop new skills, nor even the possibility that new lawyers lack the basic technology skills they need to excel in practice. “Teaching technology,” in isolation from other

³³ Hildebrandt at 4 (citing market research studies undertaken by Thomson Legal & Regulatory Global Strategies).

³⁴ Clifford Chance, for example, has a seven-year program comprising two full days of training per year, personalized development plans, and career benchmarking. Topics generally range within the soft skills: business, communication, client development, and presentation. At the other end of the economic spectrum, the Center for Legal Aid Education recently began to provide an analogous program for poverty lawyers around the United States.

³⁵ Hildebrandt at 8. At least one director of professional development of a major firm regularly teaches colleagues how to conduct programs based on active learning rather than talking heads.

³⁶ CommunitasOnline, *Pace School of Law: Law Firm Hiring Practices Survey* at 24 (2006) (unpublished presentation) (on file with author). Of course, such firms could fulfill their recruitment partially by hiring directly from law schools. The survey did not ask what proportion of each firm’s hiring needs were met by hiring directly from school versus through lateral channels.

³⁷ CommunitasOnline at 26.

³⁸ CommunitasOnline at 28.

objectives, will not be as effective as teaching students to accomplish substantive goals related to their daily work while also providing the technology appropriate to meeting those goals.

“The win-win-win situation,” states one partner in a major firm, “is thinking about technology... not as an end in and of itself, [but] to train students in law.” Likewise, the Carnegie study warns against the “additive” approach to new skills – that is, simply tacking them on as additional and isolated courses – arguing instead for an “integrative” approach – linking skills to cognitive and ethical/social dimensions of legal education. Thus, rather than abstractly teaching law students to use wikis,³⁹ for example, a professor can instead ask students to work in teams to assemble knowledge about an area of law and provide a wiki for them to accomplish that task.

a. SUPPORT AUTHENTIC LEARNING ENVIRONMENTS WITH UP-TO-DATE TECHNOLOGY INFRASTRUCTURE FOR CLINICS

In areas where they do focus on skills, law schools should ensure that students have a full and authentic experience, including full technological support. **Clinical programs should have up-to-date technology infrastructures.** Clinical practice provides the ideal setting for students to experience how, for example, case management systems help track cases and case outcomes; or how a repository of forms and documents convey institutional memory across generations of lawyers – particularly given the rapid turnover of clinical students. Such settings may even spur students to develop new technologies to solve pressing problems of lawyers or clients.⁴⁰ Yet this potential cannot be realized if programs lack the resources to establish and support this technological environment.

- Developing techno-social skills: Clinical programs can focus on opportunities for students to work in teams and be conscious of how they organize themselves through email, case management systems, collaborative document editing, etc. The short-term, limited-commitment nature of most clinical experiences can make clinical teamwork a challenge for instructors to implement; at the same time, using technology to overcome those challenges would mimic the reality of working on asynchronous, sometimes globe-spanning teams.
- Meta-lawyering: Where possible, clinical programs should involve students in the implementation and customization of technology systems that require sophisticated practice. For example, setting up a system to evaluate case outcomes gives participants a chance to analyze and formally describe what constitutes good or bad results, applying rigorous analysis to everyday practice.

“The win-win-win situation is thinking about technology not as an end in and of itself, [but] to train new students in law.”

³⁹ Wikis are Web pages that users can easily edit in groups. Wikipedia (www.wikipedia.org) is the most well-known use of wiki technology.

⁴⁰ For example, New York Law School offers a Certificate of Mastery in Law Practice Technology in which students may develop new practice tools, some with potential commercial viability. Chicago-Kent’s Access to Justice Project had professors and students from the disciplines of law and design work together with the Illinois court system to simplify access by self-represented litigants. See Staudt, Ronald. *Technology for justice customers: bridging the digital divide facing self-represented litigants*, 5 U. of Md. L.J. of Race, Religion, Gender & Class 71 (2005).

b. ENRICH EXISTING ACTIVITIES WITH APPROPRIATE TECHNOLOGY LEARNING OPPORTUNITIES

Provide technology platforms for student organizations where possible. Student-run activities, whether law journals or interest groups, provide leadership opportunities for students and also another venue for learning to use technology to accomplish tasks. Even at the mundane level of financial management, giving the student treasurer of an organization a good small business accounting package would be invaluable if that student goes on to run her own small or solo practice. Providing formal or even informal groups with low-cost project management and communication tools may also promote the development of techno-social skills through one of the few instances where teamwork happens in a setting that otherwise favors individualism.

(2) Include emerging skills in professional development efforts

The MacCrate Report describes the training of new lawyers as, ideally, a “continuum” shared between schools and practice, but as a practical matter, schools’ slow pace of change obligates law firms and professional development organizations to fill in gaps.

In considering the skills we have identified – knowledge-generating, techno-social, and meta-lawyering – these organizations should, like law schools, avoid the “additive” approach to curricula. Merely teaching a course on using spreadsheets, for example, is significantly less valuable (and thus less educational, by definition) than showing attorneys how to use spreadsheets to gain an advantage in negotiation.

Likewise, teaching attorneys to “use email” is, for most new attorneys, probably silly, but teaching them how to compose email in a professional manner, or to manage information flow through their inboxes, would be a tremendous benefit. However, as noted in §II.B.(2) above, best practices for accomplishing these goals may not exist or be commonly known. Thus, a need for some research into the practice is also necessary, as will be addressed in Recommendation (4), below.

(3) Utilize technology to create more effective simulations

Simulations are an important component of sophisticated educational programs, whether in law school, professional development, or CLE. **Computer-based simulations can lower the cost of capturing and conveying skills in a dependable, high-quality manner.** The interviewing and counseling simulations recently developed at Brigham Young University Law School, for example, make use of custom-developed video-recording and annotation software to capture law student performances for distributed evaluation by trained alumni. (The actual interviews are conducted face-to-face and not mediated by computer).

Simulations or games are already widely used by the military, medical schools, and business schools because of the following capabilities:

- **Facilitating:** The computer serves as a conduit through which participants communicate with each other, whether through actual text or by some other action, and either exclusively or supplementing face-to-face communication.
- **Sequencing:** The computer scaffolds a set of interactions and choices, whether among human players or between the players and the computer itself.

- **Modeling:** The computer animates the world itself within which the players make choices, relieving instructors of the burden of calculating outcomes to students actions.
- **Data-gathering:** By capturing actions, transactions, and communications, the computer system also generates a “transcript” that students and instructors can later review for evaluation purposes.

Thus, in the case of the BYU video-recorded interviewing and counseling simulations, technology makes it possible to capture performances (data-gathering) and distribute them to alumni for evaluation (facilitation).

These four capabilities of computer-based simulations listed above enables learning experiences to be captured in a replicable, stable and reliable medium. In so doing, software-based simulations offer the following benefits to supplement a formal legal education program:

- **Reliability.** Real practice – whether in a clinical or law office setting – cannot guarantee a student or lawyer any specific experience in any particular order. Simulations can ensure that every student encounters the desired set of challenges and opportunities.
- **Rigor.** Because most computer simulations require explicit programming of the experience and outcomes, it is harder for designers to shirk the need to understand actual practice. Adherence to an explicit learning framework and insuring opportunities to deploy specific skills distinguishes simulation-based learning from *ad hoc* mentoring.
- **Scalability.** Clinical and mentoring programs are personnel-intensive. While instructors still need to be involved in most simulations, the automation of a significant portion of the teaching enables them to focus on more nuanced instruction rather than managing logistics.

(4) Establish centers for research and innovation

Some understanding of best practices and desired outcomes must precede any credible educational or training program. Unfortunately, our research did not uncover a ready source of wisdom or knowledge about the critical skills we have identified, indicating the need for some basic research in that area (see Recommendation (5), below).

The need for an “American Institute for the Practice of Law” that can produce such knowledge, as recommended by the MacCrate Report,⁴¹ remains unfulfilled today. Yet the absence of such an institution should not obstruct serious research efforts by professors. The Carnegie study recounts the history of how the negotiations came to achieve credibility in the academy “when new legal theory was developed by entrepreneurial professors.”⁴² Today, Harvard Law School is home to one of the world’s leading institutions studying the science and art of negotiations. There may well be a nascent movement underway elevate the skill of interviewing and counseling simulations because of the work of other pioneering faculty.⁴³ Legal education awaits similar

⁴¹ at 337 (Recommendation F).

⁴² 129-132

⁴³ As described earlier, professors at BYU have drawn from over eight years of observing practicing attorneys interview and counsel clients to create a “deliberate practice” framework using methods first

entrepreneurs to establish a center to study technologically-mediated skills in law practice and/or technological means of conveying those skills.

Law schools, with their tremendous capacity for research, neutral position among competing private actors, and extensive contacts with both the industry and with peers at other professional schools, are a natural setting for research efforts.⁴⁴ Well-funded CLE providers that operate among a large base of customers may also be a viable center for similar research.⁴⁵ With the interconnectedness that the Internet offers, particularly “Web 2.0” tools for collaboration, loose affiliations of like-minded researchers and educators are increasingly viable.⁴⁶

Any research center should not only study best practices, but also develop innovative solutions to chronic problems facing legal practice. Perhaps no good solution exists to the problem of email overload, or perhaps the right technologies or techniques have yet to be invented. Chicago-Kent Law School’s Access To Justice project, for example, recently developed new technologies to help unrepresented litigants gain access to court, providing students with a unique chance to problem-solve not just as lawyers, but as consultants to the legal system. New York Law School’s Certificate of Mastery in Law Practice Technology likewise intends to give students a chance to develop innovative solutions to lawyers’ and clients’ problems. Such efforts not only advance the legal profession but also help bring justice to vastly underserved low- and middle-income Americans through smart use of cutting-edge technology.

Centers for practice research and innovation recognize that practicing attorneys are not mere mechanics, and that intellectually interesting problems exist not just among academics but also among practitioners. It is in such centers that the best skills of both lawyers and academics can be put to use in understanding and mastering the challenges that face the legal profession today.

(5) Further research

We suggest a research agenda that focuses on confirming and pursuing opportunities for action by answering the following questions:

- **How do attorneys who begin their legal careers in settings other than large law firms make the transition to practice?**

developed for sports performance. *See also* Sullivan, et.al. at 116-119 (describing the development of a parallel framework by faculty at UCLA).

⁴⁴ In 2004 Harvard Law School established the Program on Lawyers and the Professional Services Industry to conduct empirical research on issues facing the legal industry to better inform training of new lawyers and leaders. Stanford Law School has recently focused several fellowships on empirical research to back the development of cross-disciplinary simulations.

⁴⁵ ALI-ABA, for example, studies “bridge-the-gap” transition training for newly-admitted lawyers. Generally, any good CLE program requires thoughtful exploration and research of the topic to be taught; however, the vast majority of CLE courses focus on substantive topics, not skills. Practicing Law Institute, the National Institute for Trial Advocacy, the American College of Trial Lawyers, and the Center for Legal Aid Education are all notable exceptions to this generalization.

⁴⁶ For example, Computer Assisted Legal Instruction (CALI) is planning to cultivate a national network of legal instructors by offering them the ability to create and share e-casebooks. Several legal blogs discuss legal pedagogy, most notably Law School Innovations at lsi.typepad.com/lsi.

- Given the findings that most small- and mid-size firms disfavor hiring straight from law schools because of the cost of training, how do the new attorneys who in fact start in such settings learn to practice?
- How do government and nonprofit legal offices, comparatively unburdened by market forces, provide adequate transitional training to new attorneys?
- To what extent do third-party CLE programs meet the need for transitional training and support? What are barriers that stand in the way of utilizing these resources?
- **In practice settings that underutilize technology, how do newer attorneys fit in?** This question should be examined with respect to both tech-savvy and technophobic new attorneys.
 - Are more savvy attorneys teaching their superiors to use technology more effectively, or rather being forced to use existing, inefficient systems (as in the case of the associate pressured to dictate his memos)?
 - Are attorneys who are less comfortable with technology receiving the support they need to integrate necessary tools into their practice?
- **Do law school clinical programs have a robust technology infrastructure?** This question should be answered at the individual clinical office level, not general schoolwide basis. It should also consider the various types of systems appropriate to that office's work, e.g. case management, document management, expert systems, etc.
 - In offices that do not have robust technology infrastructures, why not? Is there no perceived need for it, inadequate support to sustain it, or some other factor?
 - If the actual costs of maintaining technology for clinical programs is too high, is there a way to lower those costs by, for example, pooling support resources across clinical programs or schools?
- **What are best practices related to the skills identified in this study?** Our preliminary research shows that managers and educational professionals do not have a ready or explicit answer to this question, but this does not mean that awareness of best practices do not exist – rather, some work may help excavate implicit or intuitive understanding, or arbitrage standards from other professions. See also Recommendation (4), above.
 - Do we know enough about a practice to develop interventions to help novices develop the appropriate skill or attitude?
 - Is it sufficiently robust to serve as a basis for evaluating performance?

Part IV. Concluding thoughts

Technology transforms society and economy; in the corner of the world that law represents, we have found that the Internet is changing the way that lawyers practice and relate with peers and clients. As a knowledge-based service industry, law is sensitive to changes in the information environment, and lawyers who find ways to exploit technology to manage that environment – whether to gather knowledge, manage teams, automate their practice, or some other opportunity as yet unidentified – will see tremendous gains. Tomorrow’s lawyers will be plucking increasingly valuable data from exponentially-growing fields of information; working with colleagues and clients spanning the globe, and establishing automated systems to leverage scarce legal resources more efficiently. In schools around the United States, students are already at work laying the foundations of a future legal system that assumes the use of new technologies – some by intentionally developing new tools, others simply by expecting more of future employers.

Law firms, continuing legal education providers, technology providers, and law schools all have a role to play in ensuring that attorneys are prepared for a technologically-mediated world. To meet this challenge, these organizations must understand *what* to teach and *how* to teach it. In many ways the opportunity demands an entrepreneurial approach: relentless experimentation to sharpen both practice and the pedagogy of practice. It also requires institutional awareness: understanding not just the divide between academy and practice and the divergent challenges facing global mega-firms versus local community lawyers, but also how to bridge those differences when necessary.

Law plays a foundational role in American society, and increasingly in articulating our global community. To teach the knowledge, skills, and values of legal practice is fundamentally to transmit the essence of justice to a new generation. We hope that this study will spark a new conversation about how every person responsible for educating attorneys – whether a professor at a national law school or a mentor at a local partnership – can meet that duty in an ever-changing world. We look forward to continuing the dialogue.⁴⁷

⁴⁷ To this end, we are putting this study on a wiki that will enable anyone to correct, add, and change its contents. Please join us in this endeavor at <http://cyber.law.harvard.edu/LegalEd>.

Part V. Appendix

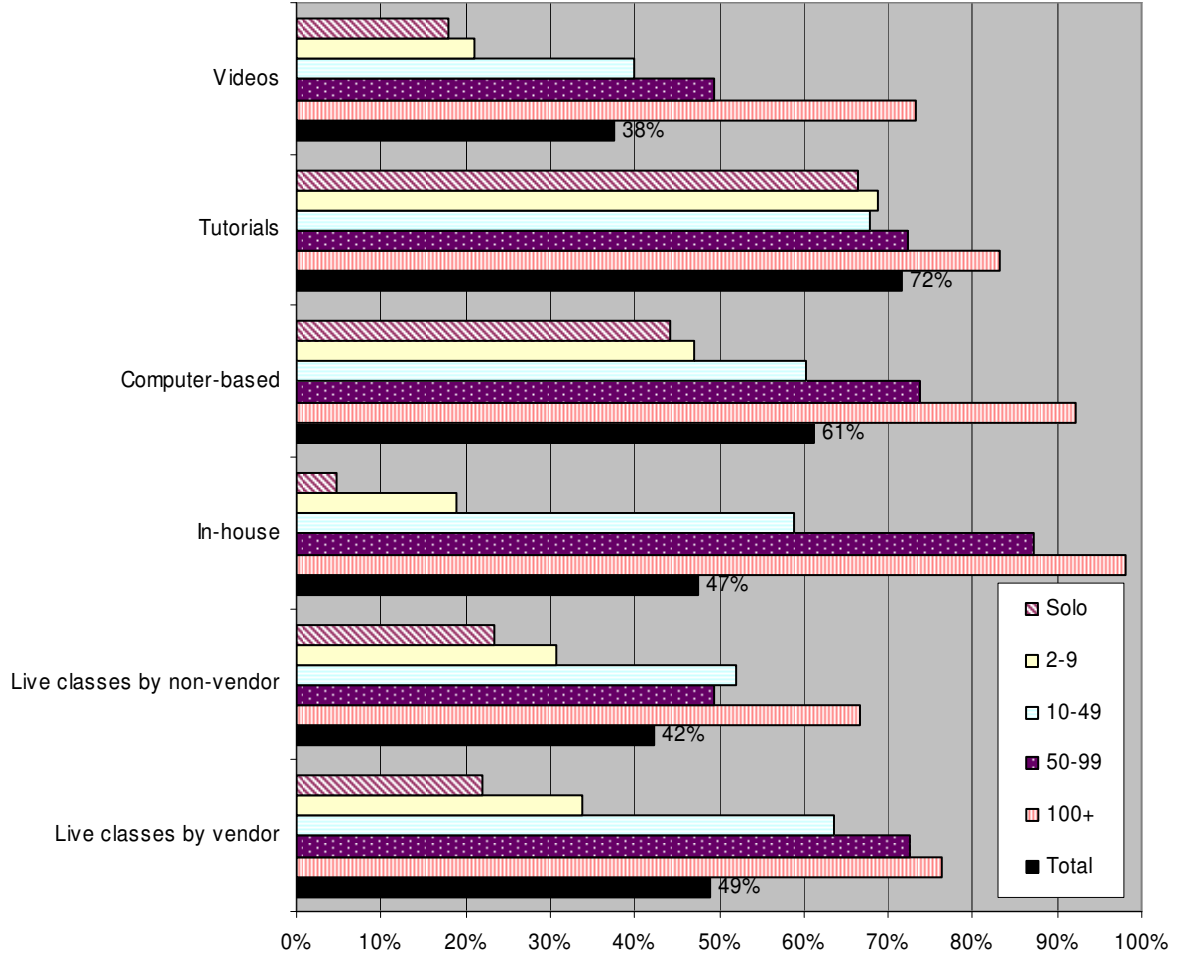
A. *New Skills Survey* respondents: demographic comparisons

Setting	<i>New Skills Survey</i>	After the JD Study	All Lawyers*
Solo	3%	5%	36%
Private firm: 2-20 lawyers	25%	25%	21%
Private firm: 21-100	17%	13%	7%
Private firm: 101-250	9%	8%	10%
Private firm: 251+	45%	20%	
Government, legal services, public interest, business, other	1%	31%	26%

* American Bar Foundation, *The Lawyer Statistical Report*, 2004 edition, available at www.abanet.org/marketresearch/lawyerdem2004.pdf (data reflects count in 2000).

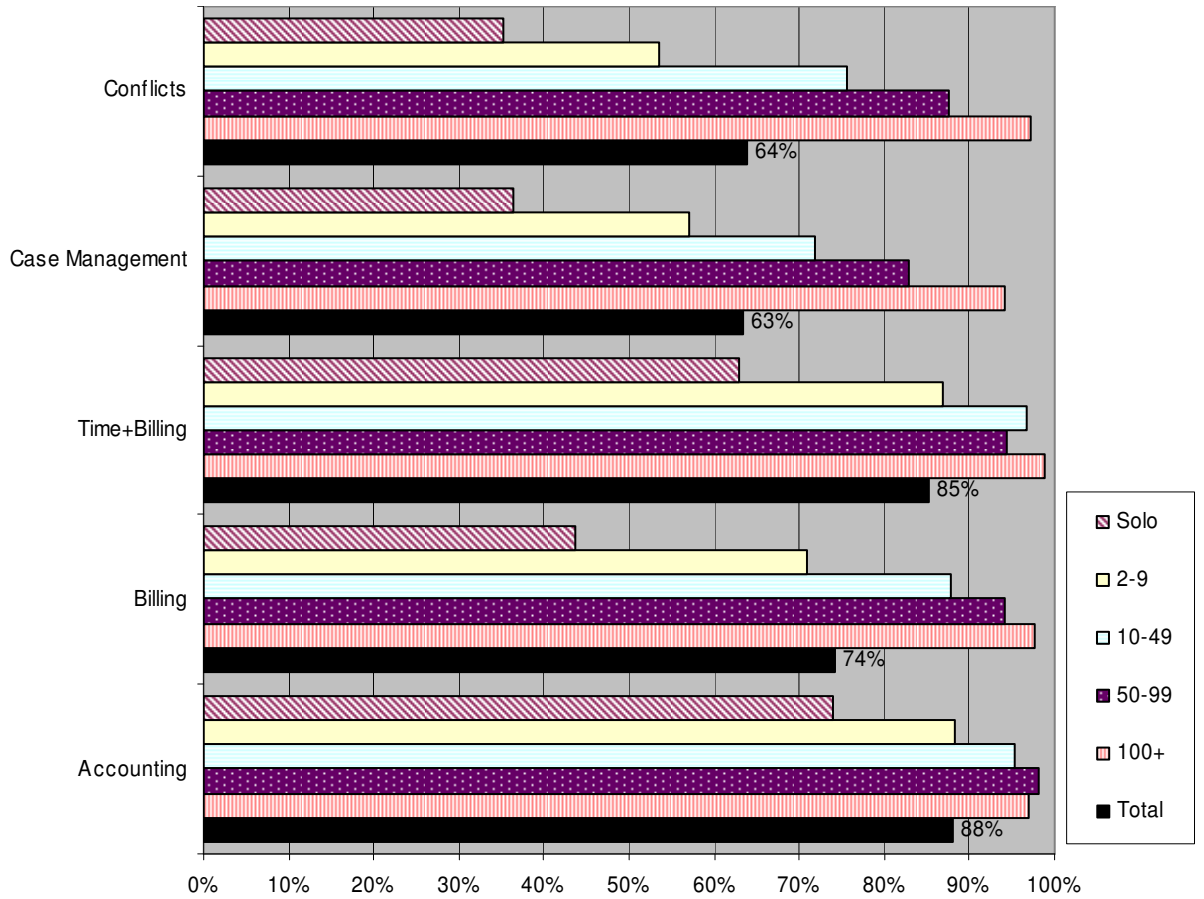
B. ABA Tech Survey 2006 data

(1) Access to training, by practice segment



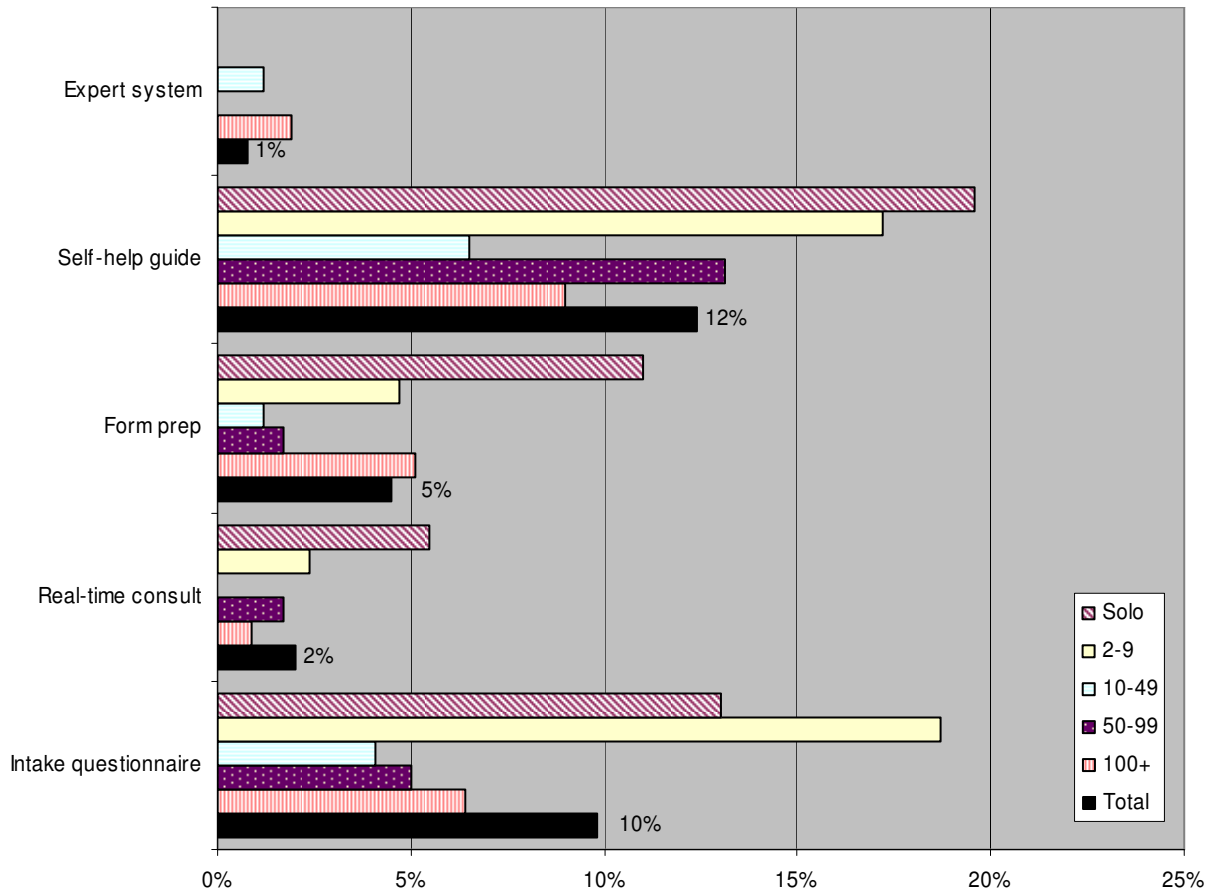
Source: American Bar Association Legal Technology Resource Center Survey Report 2006, Volume I. Compiled by totaling all respondents reporting at least minimal access to each identified training resource.

(2) Access to backoffice technology, by practice segment



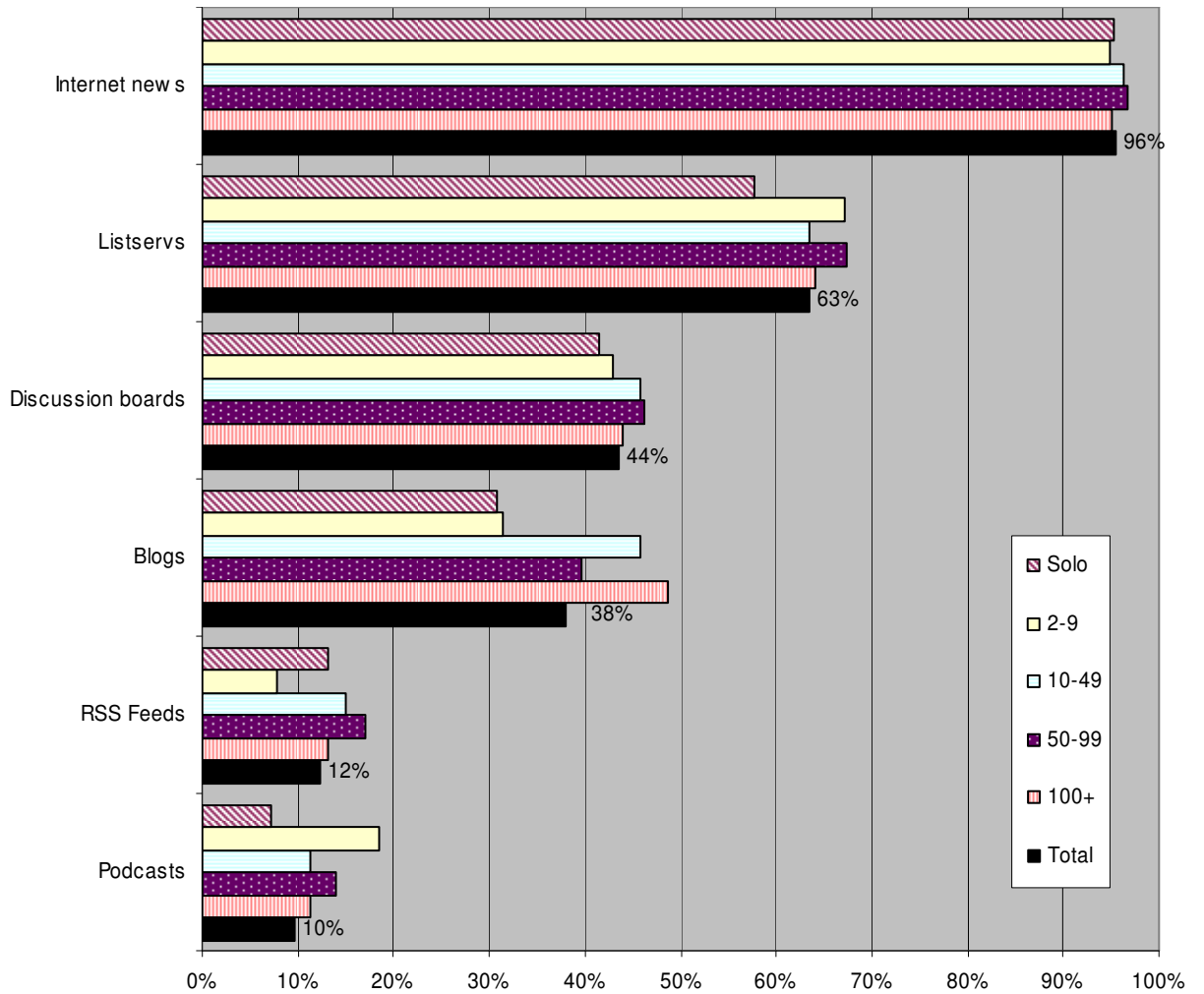
Source: American Bar Association Legal Technology Resource Center Survey Report 2006, Volume I. Compiled by totaling all respondents reporting at least minimal access to each identified technology.

(3) Access to other technology, by practice segment



Source: American Bar Association Legal Technology Resource Center Survey Report 2006, Volume III. Compiled by totaling all respondents reporting at least minimal access to each identified technology.

(4) Use of technology for “current awareness” by practice segment



Source: American Bar Association Legal Technology Resource Center Survey Report 2006, Volume IV. Compiled by totaling all respondents reporting at least minimal use of each identified channel of information.

C. Individuals interviewed

The following individuals provided data and feedback throughout the process of researching and writing this white paper:

- Colin Maclay, Managing Director, Berkman Center for Internet & Society at Harvard Law School
- Charles Nesson, Professor, Harvard Law School
- John Palfrey, Executive Director, Berkman Center for Internet & Society at Harvard Law School
- Ron Staudt, Professor, Chicago-Kent School of Law
- Jonathan Zittrain, Professor, Harvard Law School

The following individuals participated in the LexisNexis salon dinner on 4 October 2006:

- Susan Blount, General Counsel, Prudential Financial
- Richard Clary, Head of Litigation, Cravath, Swaine & Moore
- Nigel Cooper, Non-executive director, RightMove
- Matthew D'Amore, Partner, Morrison & Forrester
- Patrick Hobbs, Dean, Seton Hall Law School
- Jamie Hutchinson, Partner, Alston & Bird
- Blythe Lovinger, Partner, Kasowitz, Benson, Torres & Friedman LLP
- Richard Matasar, Dean, New York Law School
- John Palfrey
- Roger Parloff
- Fernando Pombo, President, International Bar Association
- Andrew Prozes, CEO, LexisNexis Group
- Steven Reiss, Partner, Weil, Gotshal & Manges
- Nancy Sanborn, Partner, Davis Polk
- Jeffrey Toobin (moderator), lawyer, writer, and analyst
- Mike Walsh, US CEO, LexisNexis Group

The following individuals participated in the Berkman/LexisNexis panel discussion on 7 December 2007:

- Sandra Geller, Executive Vice-President, Practicing Law Institute
- Patrick Hobbs
- Andy Prozes
- Jonathan Sablone, Partner, Nixon & Peabody
- Ron Staudt
- Martha Stone Wiske, Lecturer, Harvard Graduate School of Education
- Charles Nesson (moderator)

The following individuals were interviewed throughout the course of this research:

- Stephen Armstrong, Director of Career Development, WilmerHale, 1 December 2006.
- Carolyn Bortner, Director of Professional Development, Clifford Chance, 10 November 2006.

- Marybeth Corbin, Director of Library Services, WilmerHale, 13 December 2007.
- David Cruickshank, Director of Professional Development, Paul Weiss, 10 October 2006.
- Lisa Deane, Director of Continuing Legal Education, Arizona Bar Association, 29 November 2007.
- Lisa Dealy, Director of Clinical Programs, Harvard Law School, 20 November 2007.
- Lovely Dhillon, Executive Director, The Law School Consortium, 21 October 2006.
- Heather Edes, Sullivan & Worcester, 2 November 2006.
- Larry Farmer, Professor, Brigham Young School of Law, 16 February 2007.
- Peter Fitzgerald, Professor, Stetson Law School, 12 January 2007.
- Stephen Friedman, Dean, Pace Law School, 17 October 2006.
- Bryant Garth, Dean, Southwestern Law School, 30 January 2007.
- Sandra Geller, 9 November 2006.
- Daniel K. Gelb, Attorney, Gelb & Gelb LLP, 12 January 2007.
- Kevin Gildea, Simulation Technologies Product Manager, Aptima, 26 January 2007.
- Phyllis Weiss Haserot, Practice Development Counsel, 17 October 2007.
- Luz Herrera, Founder, Community Lawyers Inc., 8 November 2007.
- Andrea Johnson, Professor, California Western School of Law, 13 December 2006.
- David Johnson, Professor, New York Law School, 20 October 2007.
- Mark Kelman, Vice-Dean, Stanford Law School, 5 January 2007.
- Larry Kramer, Dean, Stanford Law School, 20 December 2006.
- Bill Lee, Managing Partner, WilmerHale, 22 November 2007.
- Melissa Manwaring, Director of Curriculum Development, Harvard Program on Negotiations at Harvard Law School, 23 January 2007.
- Martha Minow, Professor, Harvard Law School, 4 & 12 October 2006.
- Adam Neufeld, Attorney, U.S. Department of Labor, 17 November 2007.
- Jack Reilly, Executive Director, Massachusetts Continuing Legal Education, 26 October 2007.
- Jeffrey Rovner, Managing Director for Information, O'Melveny & Myers LLP, 28 November 2006.
- Jonathan Sablone, 8 January 2007.
- David Wilkins, Professor, Harvard Law School, 3 October 2006.
- Jane Williamson, Director of Professional Development, WilmerHale, 28 October 2007.
- Virginia Wise, Lecturer, Harvard Law School, 18 October 2006

23 Everett Street, 2nd Floor, Cambridge, Massachusetts 02138

<http://cyber.law.harvard.edu>



Berkman

The Berkman Center for Internet & Society
at Harvard Law School