

# PERSPECTIVES

## Teaching Legal Research and Writing

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### E-GRADING: THE PROS AND CONS OF PAPERLESS LEGAL WRITING PAPERS

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Over the past two years, we have experimented in our legal writing classes with “paperless” legal writing assignments; in other words, our students have submitted their assignments electronically, we have graded them electronically, and we have returned the graded assignments electronically. While there are some disadvantages to a “paperless” submission and grading system and a host of details that accompany such a system, its convenience, educational advantages, and parallels to trends in law practice far outweigh these concerns. This article does not focus on the mechanics of an e-grading system,<sup>1</sup> but instead describes our experience with the system’s benefits and suggests ways to overcome its drawbacks.

The basics of an electronic submission and grading system are simple. Students submit their papers electronically, either by e-mail (as one of us used) or on a floppy disk (as the other used). The legal writing professor then grades the papers on a computer, using mark-up features such as Microsoft® Word’s “track changes” and “comments” tools.<sup>2</sup> The professor then returns the papers electronically, either by e-mail or by returning the floppy disk.

<sup>1</sup> For excellent discussions of how to implement and use an e-grading system, see Thomas F. Blackwell, *E-Mail: Computer Technology That Makes Teaching Legal Writing Easier*, Second Draft, May 1999, at 12–13; Laurel Currie Oates, *The Paperless Writing Class*, Second Draft, June 2001, at 18–19; Hazel Weiser, *Using the Autotext Feature of Microsoft Word to Create a Catalog of Writing Comments*, Second Draft, Nov. 1999, at 17–18.

<sup>2</sup> WordPerfect® has similar commenting capabilities.

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## Pros

**Convenience and Efficiency.** Hands down, the most persuasive reason to move to a “paperless” grading system is for convenience and efficiency. Instead of stumbling groggily into our offices at 8:30 or 9 a.m. after a night of frantic writing, printing, and copying, our students can spend that time focusing on their writing. When they are ready, they simply attach their papers to an e-mail and send the e-mail. (With floppy disk submissions, the students still stumble in, but at least they have not had to do battle with finicky printers.) Because we receive the papers electronically—and because we use laptop computers—we can take the papers home or to our favorite off-campus grading spots without having to carry around a heavy stack of papers. Finally, when we are done grading, we return the papers without having to make copies for our records and without having to stuff student mailboxes or envelopes for students to retrieve outside our offices.

Each of these three stages—submission,<sup>3</sup> grading, and return—deserves a little more attention. Traditionally, we received numerous extension requests from students who could not get their printers (or printers in the school’s computer labs) to work, who had unsuccessfully battled throngs of peers for printer access minutes before the deadline, or who became stuck in traffic on the way to submit a paper. E-mail submission eliminated these difficulties entirely.<sup>4</sup> It also injected a welcome measure of flexibility. We usually have required students to submit papers in the morning so that they would not be tempted to miss classes to finish papers. In the past, students sometimes finished working late at night, knowing that they still had to get up early and worry about getting to our offices on time with a completed paper. Exhausted from the effort, many of these students still missed classes.<sup>5</sup> With e-mail submission, students

<sup>3</sup> The submission benefits discussed here apply exclusively to an e-mail system. Because floppy disk submission requires a student’s physical presence at the school, it maintains some inconveniences that accompany a paper system.

<sup>4</sup> Laurel Currie Oates reports similar advantages from her e-grading system. Oates, *supra* note 1, at 19.

<sup>5</sup> E-submission’s greater flexibility has an institutional upside. Improved class attendance should strengthen the often delicate relationship between legal writing professors and other first-year faculty.

can send their papers as soon as they are ready.<sup>6</sup> (The author using e-mail submission typically receives the first papers the morning before a deadline and typically gets the bulk of the papers from about 8 p.m. to 1 a.m. the night before the deadline, with a final burst from 7 a.m. the next morning to the deadline itself.)

Students are not the only beneficiaries of the e-submission process. A legal writing professor using e-mail submission need not manage the logistics that accompany paper submissions—creating an “in box” for the papers, imploring her faculty assistant to bring the box into her office at the precise deadline, and traveling to the office to retrieve the elephantine paper stack.

Grading electronically is also easier. We typically grade papers in concentrated bursts so that we can return papers to students as soon as possible. During these bursts, we frequently work at home or somewhere else off-campus where we will not be disturbed. By grading electronically, we can easily carry a class’s worth of papers on a laptop hard drive. For those who type faster (or more legibly) than they write, electronic grading goes faster than our traditional grading style, which involved handwritten comments in margins and significant typed or handwritten comments at the end of a paper. Using Word’s “autotext” feature, we have become even more efficient by creating a set of uniform comments—both margin and end—for recurring student problems.<sup>7</sup> Instead of courting writer’s cramp by repeatedly writing

<sup>6</sup> Laurel Currie Oates builds even more flexibility into the e-submission process: She receives student submissions on a rolling basis, then critiques and returns each paper as she completes it; for graded papers, she modifies the system, waiting to begin returning papers until after the assignment’s final due date. Oates, *supra* note 1, at 18. She reports that students greatly appreciate the quick feedback, and that she benefits by avoiding a daunting pile of papers. *Id.* at 18, 19.

<sup>7</sup> In their respective writings, Laurel Currie Oates and Hazel Weiser describe how they use the autotext feature. See Oates, *supra* note 1, at 19; Weiser, *supra* note 1, at 17–18. Hazel Weiser aptly points out that autotext does not necessarily save time because electronic comments tend to be more detailed and developed than their handwritten counterparts. Weiser, *supra* note 1, at 18. Nevertheless, autotext does promote more efficient use of time because the grader’s effort is directed toward typing a single, more informative comment for use on many papers instead of repeatedly hand-writing the same, less effective comment. See Lucia Ann Silecchia, *Of Painters, Sculptors, Quill Pens, and Microchips: Teaching Legal Writers in the Electronic Age*, 75 Neb. L. Rev. 802, 830 (1996) (observing the benefits of efficiency, consistency, and neatness that accompany e-comments). Of course, given e-grading’s endless commenting potential, self-discipline is paramount in retaining its efficiencies.

out the same comment on how rules differ from holdings, for example, we use autotext to produce full-blown explanations from just a few typed characters. This feature also eliminates the need to sift through previous papers to recall exactly how we phrased similar comments to other students.

Even policing paper formatting is a simpler task with electronic grading; it eliminates the guesswork. The electronic file leaves no doubt about whether a student has engaged in such mischief as narrowing the line spacing to 1.5, exceeding word limits, or tightening the letter spacing.

Electronic delivery of graded papers to students is also more convenient. With an e-mail system, returning papers is as easy as replying to the e-mails students originally used to submit their papers, attaching the graded papers to the replies, and writing a brief e-mail containing the grades. (The author who uses e-mail pastes a standard e-mail message into each reply, varying only the grade itself. The author who uses floppy disks usually e-mails papers back to students via her course Web page, returning the disks themselves when students come to office conferences.) Even with a floppy disk system, we do not need to copy graded papers for our files. We have thus reclaimed, as additional grading or planning time, the typical day needed to copy the graded papers and check the copies.<sup>8</sup> Students likewise recoup the time they would have spent traveling to the school and traipsing up to our offices or their mailboxes to get their papers.

**Longer, More Precise Comments That Maximize Student Learning.** With paper grading, we always felt limited in our ability to write intelligent comments in the margins of papers.<sup>9</sup> As a result, we often wrote short comments in the margins and tried to elaborate on those comments in notes at the ends of papers, with pages separating important explanations from corresponding writing problems. Electronic “margin notes” present our comments with more context and

<sup>8</sup> For cash-strapped legal writing departments, the copy costs eliminated by an electronic grading system can be substantial. E-grading is also a more ecologically sound approach, perhaps reducing the likelihood of students’ guilt-inducing inquiry into how many trees have been destroyed in furtherance of the course.

<sup>9</sup> See Weiser, *supra* note 1, at 18 (reporting that with e-grading, “my intelligence does not get twisted into shorthanding what should be a more comprehensive response to a student’s effort. Instead I get to use my intelligence to craft effective analysis and concise explanations.”).

precision, because the computer associates each electronic margin note (written as Microsoft Word “comments”) with a precise place in the document.<sup>10</sup>

These electronic margin notes are also more extensive and easier to comprehend. Scrawled quickly and cramped, our handwritten margin comments could be, at worst, cryptic, illegible, or both, especially near the end of a full day’s grading. At best, our handwritten comments were incomplete.<sup>11</sup> Unfettered by poor handwriting or scarce margins, our electronic margin notes can neatly provide more detailed illustrations and clarify the “why” behind our comments.<sup>12</sup> In conferences,

<sup>10</sup> Scholarship on the rhetoric of teacher commenting stresses the importance of clear, particularized marginal comments to maximize student learning. See, e.g., Linda L. Berger, *A Reflective Rhetorical Model: The Legal Writing Teacher As Reader and Writer*, 6 J. Legal Writing 57, 83–84 & nn.114–17 (2000). For example, marginal comments placed at the site of the problem can “pry open” the student text by challenging its completeness and asking for clarification, amplification, and investigation,” *id.* at 84 & n.115 (quoting Janet Gebhart Auten, *A Rhetoric of Teacher Commentary: The Complexity of Response to Student Writing*, 4 Focuses 3, 8–9 (1991)), and can target more precisely areas that are particularly effective, *id.* at 84 & n.116 (citing Chris M. Anson, *Response Styles & Ways of Knowing, in Writing and Response: Theory, Practice, and Research* 353–54 (Chris M. Anson ed., 1989)), or that are confusing or unsubstantiated, *id.* at 83–84.

<sup>11</sup> See Weiser, *supra* note 1, at 17–18 (explaining that e-comments are “fuller,” allowing the author to “provide context, draw inferences, and refer to cases, lectures, or reading to fully inform the student,” and ultimately to “model good writing. ...”). Hazel Weiser mentions that she “might show [students] how to analyze one element of a three element proof so that they can see, by way of a present illustration, how to construct a logical argument.” *Id.* at 18. But see Suzanne Ehrenberg, *Legal Writing Unplugged: Evaluating the Role of Computer Technology in Legal Writing Pedagogy*, 4 J. Legal Writing 1, 4 & nn.6–7, 9 (1998) (noting that although many legal writing professors who have used e-grading believe that it saves time, enhances feedback, and is “indispensable” for those “whose handwriting is virtually illegible,” it could become more time-consuming because it indulges limitless comments).

<sup>12</sup> This is especially important since the students we are encountering now, i.e., those from Generations X and Y (the latter also called “Millennials”), are increasingly concerned with gleanung more intricate information about their performance and the rationale driving our comments and edits. See Tracey L. McGaugh, *Generation X in Law School: The Dying of the Light or the Dawn of a New Day?*, 8 J. Legal Writing (forthcoming 2003) (manuscript at 30, on file with author) (Generation X students respond best to generous, detailed, specific feedback because it recognizes “that their effort was substantial and worthwhile”). To maximize student interest and improvement, Tracy McGaugh urges professors to explain to Generation X students *why* they are being asked or taught to perform a given skill, and to tailor written feedback on assignments as closely as possible to concrete, previously defined goals. *Id.* (manuscript at 26–27); see also Bruce Tulgan, *Managing Generation X: How to Bring out the Best in Young Talent* 125–34, 145–51, 207–27 (2000) (Generation Xers place high value on feedback that is frequent, accurate, specific, and timely, and “need abundant information to learn effectively”). This level of detail and explanation is far easier to achieve with e-comments.

“With paper grading, we always felt limited in our ability to write intelligent comments in the margins of papers.”

“With e-mail return, students receive their graded papers in the privacy of their homes, dorm rooms, or study carrels, without other students hovering.”

we notice that students understand our comments better; instead of spending time deciphering them, we are able to focus conference time on devising strategies for addressing the comments.

*Matching Student Learning Styles.* Much more so than when we went to law school (which we like to think was not that long ago), our students today are used to sending and receiving information electronically.<sup>13</sup> Feedback from students on the electronic submission and grading system has been overwhelmingly positive, with many students asking why all of their professors do not grade electronically. Students process the electronic comments differently: some students print out the graded papers they receive, while others simply read our edits and comments on their computer screens. Either way, the vast majority of students seem to prefer typed comments presented electronically to handwritten comments scrawled in the margins of papers.<sup>14</sup> As a result, we suspect that, to a modest degree, electronic grading makes it more likely that students attend to our comments, rather than simply reading the grade at the bottom of the paper and paying little attention to the comments.<sup>15</sup>

Electronic grading also dovetails nicely with our students' drafting practices. In the weeks before a paper is due, students often e-mail us short (usually limited to one page) excerpts, using electronic margin comments to pose focused questions.<sup>16</sup> We are able to respond to those questions in the same manner. On collaborative

writing assignments, we see many students modeling our e-commenting process: they pass electronic drafts back and forth with their partners using Word's "track changes" function to line-edit and its "comments" function to engage in ongoing dialog about ways to improve the paper.<sup>17</sup>

*More Privacy for Students.* When we graded on paper, we often met a crowd of apprehensive students waiting at their mailboxes or huddled outside our offices for papers to be returned. Students grabbed papers from mailboxes or from the return boxes outside our offices as soon as they were available, opening them up to read their grades. With e-mail return, students receive their graded papers in the privacy of their homes, dorm rooms, or study carrels, without other students hovering. When students view their grades free of these public, anxiety-inducing circumstances, they tend to approach the grades in a more professional manner, "cooling off" before discussing them with us.

*Convenient Storage.* With electronic grading, we now have a year's worth of assignments—both graded and ungraded—on a single CD or Zip drive. We can also put all of our other materials from the year (such as the original assignments and our lecture notes) in the same place.

*Matching Current Law Firm Practice.* The pedagogical benefits of adopting an electronic submission and grading system extend outside the classroom and translate directly into vital law practice skills. Collaboration on documents is a hallmark of modern law firm (and corporate) practice, and most lawyers are increasingly comfortable exchanging drafts of important documents by e-mail and marking up electronic documents. Indeed, lawyer proficiency in the commenting and editing functions of a variety of software programs, including Word, WordPerfect, and Adobe Acrobat, is integral to communications with both clients and adversaries.<sup>18</sup> Corporate

<sup>13</sup> See, e.g., McGaugh, *supra* note 12 (manuscript at 9, 35) (discussing the computer-infused environment in which Generations X and Y are accustomed to operating, and the implications for law teaching); Silecchia, *supra* note 7, at 808, 841 & nn.23–27, 190 (discussing the proliferation of computer technology at all levels of education and incoming law students' resulting sophistication); see also Tulgan, *supra* note 12, at 68 ("Xers are the children of ... computers," having long relied on them for word processing, communication, and research).

<sup>14</sup> Oates, *supra* note 1, at 19 (noting that although a handful of her students opted for written feedback, "the rest of my students have given electronic critiquing and grading high marks" because it is more convenient and produces higher-quality comments); Weiser, *supra* note 1, at 18 (reporting that her students value electronic grading because they perceive a greater appreciation for their work from more developed, detailed, and legible comments).

<sup>15</sup> Hazel Weiser reports that her students "all agree that they use these [electronic] comments to help rewrite portions [of a paper], and some students even use [them] to help them prepare future assignments." Weiser, *supra* note 1, at 18.

<sup>16</sup> Similarly, Laurel Currie Oates observes that "on drafts, [students] have begun inserting their own comments, asking me questions or explaining why they did what they did." Oates, *supra* note 1, at 19.

<sup>17</sup> Each of us learned this when, separately, we had the experience of opening a collaboratively submitted paper to find a few stray e-comments obviously written from one student to another. This, of course, is a risk of e-grading: students should be reminded to remove all e-comments—either their own or the professor's—before submitting papers electronically.

<sup>18</sup> See David Kiefer & Marc Lauritsen, *Recent Developments in Automating Legal Documents*, 52 *Syracuse L. Rev.* 1091, 1096 (2002) (detailing common e-commenting use in law practice); Rebecca Porter, *Easy Chair Rider*, *Trial*, Jan. 2003, at 24, 25–28 (same); Janet Sylanski, *Top Five Word Processing Training and Help Desk Questions (and Their Answers)*, *Law. J.*, Aug. 23, 2002, at 6 (same).

clients, many of whom have been “Gateded,”<sup>19</sup> expect their attorneys to comment electronically on documents such as draft pleadings, agreements, and corporate policies, usually using Word. In transactions, parties are using electronic commenting functions to conduct negotiations and shape agreements.<sup>20</sup>

The undeniable trend in many courts and administrative agencies is toward a paperless system.<sup>21</sup> A growing number of federal district, bankruptcy, and appellate courts are allowing electronic submission of court filings, as well as electronic service of process.<sup>22</sup> These are major advancements in law practice, hailed by many bar members as “a change in the basic infrastructure used by citizens and the government to deal with

one another,”<sup>23</sup> and “a paradigm shift equivalent to court rules that required all filings to be typewritten or printed.”<sup>24</sup> We serve students well by preparing them for this procedural sea change<sup>25</sup>—just as lawyers are becoming accustomed to sending documents electronically to a court to arrive by a firm deadline, it makes sense to train law students to do the same. Conversely, we risk losing credibility if we require students to follow procedures that are, or soon will be, outmoded in law practice.

### Cons

Despite all of these advantages, we both quickly thought of potential drawbacks when we first considered switching to electronic submission and grading. Fortunately, most of these disadvantages failed to materialize or were manageable.

Nonetheless, any professor considering electronic submission and grading should keep them in mind.

“*Didn’t You Get My E-Mail?*” While electronic submission ends extension requests based on printers and traffic, we worried it would cause no end of claims that students had e-mailed papers we had not received (or had not received on time). For that matter, some students initially had concerns about how they would know that we had received their e-mails. In practice, we observed few problems. E-mail applications such as Microsoft Outlook can request delivery receipts to verify that we received our students’ e-mails. We have yet to hear a student claim that he or she really did send an e-mail we had not received, perhaps in part because students and faculty at our school share a small group of e-mail servers and it is easy to tell when a server is down.

“The undeniable trend in many courts and administrative agencies is toward a paperless system.”

<sup>19</sup> This term refers to widespread corporate reliance on Microsoft products. Sylanski, *supra* note 18, at 6 (discussing the importance clients place on electronic attorney-client document exchange, particularly in Word format); see Maria Perez Crist, *Technology in the LRW Curriculum—High Tech, Low Tech, or No Tech*, 5 J. Legal Writing 93, 96 (1999) (“The pervasiveness of information technology has ‘raised the bar’ on the level of technological competence clients expect from their attorneys.”).

<sup>20</sup> Kiefer & Lauritsen, *supra* note 18, at 1096.

<sup>21</sup> William A. Fenwick & Robert D. Brownstone, *Electronic Filing: What Is It? What Are Its Implications?*, 19 Santa Clara Computer & High Tech L.J. 181, 186 (2002) (noting that the “trend line” of e-filing in courts and government agencies has inclined steeply, and predicting that e-filing “will be pervasive ... by the end of this decade.”), *id.* at 191–201 (cataloguing federal and state courts and administrative agencies that have adopted e-filing procedures); David L. Masters, *Electronic Filing: Beyond the Basics*, 31 Colo. Law., June 2002, at 61.

<sup>22</sup> Most notably, Federal Rule of Appellate Procedure 25(a)(2)(D) provides that appellate courts can, by local rule, “permit papers to be filed, signed, or verified by electronic means . . .”, and allows service by electronic means “if the party being served consents in writing,” Fed. R. App. P. 25(c)(1)(D). To date, the First, Fifth, Eighth, and Eleventh Circuits permit some form of electronic filing by local rule. 1st Cir. R. 32.1; 5th Cir. R. 25.2; 8th Cir. R. 25A(a); 11th Cir. R. 31-5. A host of federal district courts and bankruptcy courts have also adopted rules permitting e-filing, see <[www.uscourts.gov/cmecf/cmecf\\_about.html](http://www.uscourts.gov/cmecf/cmecf_about.html)> (Sept. 2003) (federal courts Web page listing courts currently accepting electronic filings), as have several state appellate courts, see <[www.seidenlaw.com/courtcd/statecourtrules.html](http://www.seidenlaw.com/courtcd/statecourtrules.html)> (last visited Oct. 7, 2003) (providing link to chart with state court e-filing rules). The Northern District of Illinois’ electronic case filing system, originally slated for implementation in September 2003, will be up and running in the coming months. N.D. Ill. Notice of Proposed General Order on Electronic Case Filing (Apr. 24, 2003); see News Release, United States District Court for the Northern District of Illinois, Court Continues Work on Electronic Case Filing (Aug. 7, 2003), at <[www.ilnd.uscourts.gov/PRESS/prframe\\_page5.html](http://www.ilnd.uscourts.gov/PRESS/prframe_page5.html)>. And the U.S. Bankruptcy Court for the Southern District of Illinois has required electronic filing for many documents since March 1, 2002. Bankr. S.D. Ill. Standing Order 02-1 (Feb. 20, 2002).

<sup>23</sup> Fenwick & Brownstone, *supra* note 21, at 226–27.

<sup>24</sup> Masters, *supra* note 21, at 61.

<sup>25</sup> See Silecchia, *supra* note 7, at 825 (“[I]t behooves legal writing programs to be aggressive in teaching students how to recognize the benefits that can come with new technology and prepare them to use this technology advantageously both as students and in practice.”); see also Crist, *supra* note 19, at 97 (arguing that integrating technology into legal research and writing programs better prepares students for law practice); Richard A. Matasar & Rosemary Shiels, *Electronic Law Students: Repercussions on Legal Education*, 29 Val. U. L. Rev. 909, 910 (1995) (legal educators must teach and embrace up-and-coming technologies because “law schools will [not only] be pulled to change by the emerging technological changes within legal practice, they will be pushed to the same place by their students.”).

“To realize the convenience of an electronic grading system, a professor has to standardize the software in which students submit their papers.”

One worry the author using e-mail submission had when she started was that students would cheat the deadline by resetting their computer clocks to show an earlier time, so that e-mails sent after the deadline would appear to have been sent before the deadline. In theory, this type of cheating was possible, as the deadline was based on the time an e-mail was sent, rather than the time it was received. However, she never saw a gap of more than a minute or two between the time an e-mail was sent and the time it was received, suggesting that no students reset their clocks to give themselves any significant extra period of time. Another alternative to prevent this kind of manipulation is to set the deadline as the time the professor receives the e-mailed paper. This has the additional advantage of mirroring the procedures of courts that allow exclusive e-filing.<sup>26</sup>

We did have isolated instances of students sending the wrong document (an earlier version), a corrupt or unreadable file,<sup>27</sup> or no document at all. In general, we had little sympathy for these problems. Lawyers who eventually will file papers electronically with courts or exchange draft agreements with opposing counsel need to learn to take care when they send important e-mails. Even so, we were able to minimize this problem by giving e-mails and disks a quick scan within a few hours of their arrival to see whether attachments were missing or obviously wrong. In the few cases where we encountered document problems, we worked with students to avoid giving unwarranted grading penalties. We did not feel that students took advantage of our flexibility.

*Maintaining Blind Grading.* Our school uses a blind grading system, and electronic submission does pose challenges for blind grading. The author using e-mail submission used a disinterested person to separate students' e-mails (which had their names on them) from the attached papers (which did not). Students had four-digit numbers to identify them, and were instructed to make sure their four-digit numbers were part of the names of their documents. Beyond this process, we both had to make sure that the papers themselves had

no identifying information. Microsoft Word creates a document summary for each document; the summary generally includes the name of the author. As a result, the author using e-mail submission asked her disinterested person to open the documents and remove the author's name from each document. The author using disk submission provided her students with instructions on how to remove identifying information from the document summary. (Alternatively, we might have tried simply not to look at any summary information, but this is hard to do in Windows XP, which shows author information when a user lets the mouse pointer hover over a document icon.) The need to have a third person's help was not ideal, but the overall convenience of the system far outweighed any hassle. Some schools, moreover, may employ technology that allows students to submit electronic documents anonymously, eliminating the need for a disinterested third person.

*Standardizing Software and Versions.* To realize the convenience of an electronic grading system, a professor has to standardize the software in which students submit their papers. We required Microsoft Word, because it has become the dominant word processor for Windows® computers, and nearly every computer manufacturer offers it.<sup>28</sup> (This is increasingly true even in the legal profession, which is one of the last bastions of significant WordPerfect use.<sup>29</sup>) We made clear to students up front that it was their responsibility to work with the school's information technology staff, if necessary, to ensure compatibility with a Windows computer using Word. Even with standardizing on Word, however, we did encounter a few glitches. One student used a Macintosh®, and it took him a few tries to learn how to send his papers in a form that a Windows-using professor could grade. Another glitch involved students using older version of Word, which did not display Word's track changes and comments features in the same way as Word 2000 or Word 2002. We advise professors to tell students clearly up front what they should look for in e-graded

<sup>26</sup> Although many courts allow simultaneous paper and e-filing, some permit attorneys to forgo paper copies entirely. These courts typically set the filing deadline as the time of e-mail receipt by the clerk's database. See, e.g., 5th Cir. R. 25.2; 8th Cir. R. 25A(a).

<sup>27</sup> Reliable antivirus software is a must for any professor who adopts an electronic grading system.

<sup>28</sup> We have had only a single student (a former paralegal) tell us that she prefers WordPerfect, and even she was also proficient in Word.

<sup>29</sup> Sylanski, *supra* note 18, at 6.

papers: (1) edited text, using track changes; (2) comments in the margins, using Word comments; and (3) typed notes at the end of the document.

*Addressing Reading Speed and Comprehension.*

Reading from a computer screen, as professors must and students may do with e-graded papers, can focus the reader more intently on small-scale problems to the neglect of larger-scale issues, and can hamper the visual sense needed to judge the paper's overall effectiveness.<sup>30</sup> In addition, research indicates that people process writing on a screen differently than writing in hard copy—generally, at a slower rate.<sup>31</sup> Although the e-grader must be aware of these potential drawbacks, we believe they are quite manageable.

A professor concerned that e-grading might mask global structural problems can require students to hand in hard copies at or shortly after the e-submission deadline. She also has the option of printing out any paper whose structure merits special attention, reading the hard copy, and then commenting electronically on the paper's structure. These alternatives allow a bird's-eye view of the paper, while retaining the clarity, precision, and legibility benefits of e-comments. The professor can also keep students focused on the big picture by spending class and conference time on outlining and large-scale organization, and by tailoring her e-comments to require global editing. Finally, the professor should encourage students periodically to print and edit their work in hard copy form to draw attention to large-scale structural and organizational issues.<sup>32</sup>

Having had experience with both paper and e-grading, we do not believe e-grading has compromised either our speed or our comprehension. To the contrary, we believe that zeroing in on sections of screen text enhances our ability to diagnose writing problems quickly and to write more perceptive comments. Moreover, screen reading speed and comprehension seem

more affected by the reader's familiarity with the material<sup>33</sup> and practice at screen reading.<sup>34</sup> These factors are of less concern for legal writing professors—especially as they become more adept at e-grading—because the professors are intimately familiar with the subject matter and concepts in the assignments they are grading. Likewise, from their readings, conferences, and classes, students should be familiar with the concepts and terminology in the professor's comments. Indeed, the students entering our classrooms are increasingly technology dependent, so they may be even more practiced and efficient at reading computer screens than they are at processing words on hard copy.<sup>35</sup> And students always have the option of printing out their graded papers if they can better process e-comments in hard copy form.

### The Devil Is in the Details

While an electronic grading system does have its challenges, we believe the advantages prevail. To get those advantages and surmount the challenges, we recommend that professors think through the details before starting electronic grading. Our recommendations, borne of good and bad experiences, follow.

*Don't Rewrite Student Papers.* When grading on paper, it is impossible to make every necessary change in the text. If a student makes the same mistake repeatedly, a professor does not usually correct it each time. The same should be true when grading electronically. Rather than fix repeated errors in the text each time they arise, we fix the error once to show the student the issue and comment that the student needs to correct it

<sup>33</sup> See Crist, *supra* note 19, at 106 (“[W]hen students are reading unfamiliar text with abstract concepts and perhaps new forms of reasoning, scanning the material [into the computer for screen reading] is not in their best interests and may have a negative effect on their comprehension. ... [W]hen they read new and difficult material, they are better off reading the material in hard copy first.”).

<sup>34</sup> Cf. Matasar & Shiels, *supra* note 25, at 928 (in experimenting with “e-booking,” which allows students to read and make notes in online textbooks, the authors found that students who had initially resisted screen reading reported later in the semester that they had mastered this skill, and even found it “easier to read small sections of dense material on a computer screen than on a book page”).

<sup>35</sup> McGaugh, *supra* note 12 (manuscript at 35) (Millennials, who will enter law schools in fall 2004, “will be far less accustomed than Generation X to print resources and non-computerized activities”).

“Having had experience with both paper and e-grading, we do not believe e-grading has compromised either our speed or our comprehension.”

<sup>30</sup> Ehrenberg, *supra* note 11, at 5, 7; Silecchia, *supra* note 7, at 817.

<sup>31</sup> Crist, *supra* note 19, at 106; Ehrenberg, *supra* note 11, at 7.

<sup>32</sup> Silecchia, *supra* note 7, at 817.

“After two years of using electronic grading, we would never go back to paper grading.”

throughout the paper. This makes grading more efficient and prevents students from blindly “accepting all changes” to their papers without focusing on what changes we made and why we made those changes. (Of course, even with electronic grading, a professor must still explain macro-problems in a paper in a more general fashion, leaving students to work on those issues, often after discussing them in student-professor conferences.)

*Tell Students What to Expect and When to Expect It.* As noted above, we tell students exactly which features of Word we use in grading papers so that students will not miss important comments. We also have explicit policies on deadlines, requests for extensions of time, and penalties for late submission. Finally, we try to reduce anxiety about graded papers by telling students when we expect to e-mail graded papers.

*Make Your Life Simple by Resolving Administrative Issues Up Front.* Floppy disks, if used, must be uniform in color and appearance to avoid identifying the author.<sup>36</sup> We also insist that students follow a convention for naming their documents. In particular, document names should contain the student’s four-digit identifying number or other pseudonym and a standard description of the assignment (e.g., “Memo 1”). This is important because we store all of the papers to be graded in a single folder on our hard drives. In addition, we discipline ourselves to follow some simple rules in organizing documents on our computers. For instance, each assignment has its own folder; sub-folders within this folder separate graded and ungraded assignments. At the end of the year, we create folders for each student, with all of that student’s work in the appropriate folder.

*Back Up Files Religiously.* It goes without saying that computer hard drives can fail and laptops can be lost or stolen. If you grade electronically, a stolen laptop equates to a fire

in your office. Fortunately, it is easy to back up papers electronically. An entire year’s work can fit on a CD or a Zip drive. Other places to store backup copies include secure server space on a network (if available), external hard drives, or Web sites that offer secure, password-protected backup space. The important thing is to remember to back up frequently.

*Candidly Assess Your Preferences and the School’s Technological Capabilities.* While we firmly believe in the benefits of e-grading, it may not be the ideal system for everyone. Notwithstanding its many virtues, an e-grading system will not be effective if the professor personally dislikes it or finds it inconvenient. We realize that many legal writing professors may work with school technologies that do not support efficient e-grading, may enjoy handwriting comments and find them more personal, or may have mastered a paper-grading system that works well for them. Nonetheless, we encourage any professor who has become discouraged with paper grading to give serious thought to experimenting with an electronic system.

## Conclusion

After two years of using electronic grading, we would never go back to paper grading. The convenience makes students happier and gives us more time to focus on substance, rather than the logistics of getting papers, carrying them around, marking them up, and getting them back to students. While an electronic grading system takes planning and does raise some issues that paper grading does not, we find that the advantages far outweigh the challenges.

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<sup>36</sup> One student consistently submitted papers on a hot pink floppy disk, effectively revealing the student’s identity since no others submitted disks in that color. Since then, the author using disk submissions has required students to submit black disks, bearing in blue or black pen the student’s pseudonym and the assignment name.