The Chicago-Kent Laptop Section - 1995-96

Introduction and Background

In 1994-95, the Chicago-Kent first year program included an experimental electronic casebook section of 32 students.   This year, 1995-96, it expanded the program to a full first year section of 100.   Like the year before this subset of the full first year class was self-selected in the sense that only students who elected to be in the computer section (which entailed paying the $2,000 to $3,000 for a laptop or notebook computer meeting the school's specifications) were chosen.   However, not all those who wished to be in the section could be accommodated.

The plan for the section (hereafter referred to as the "laptop section") included: electronic versions of as many of their coursebooks as possible, an organized suite of applications and information labeled the "Law Student Desktop" held within the Folio VIEWS software platform, training in the use of these tools, and follow-up support.   All of these elements were surrounded by an environment and school culture that affirmed the use of computers as essential professional tools.   E-mail use is pervasive among faculty and students at Chicago-Kent.   Students are allowed to take exams on computers.   The classrooms include power and network connections at all student seats.   In short, the laptop section was an extension of well established commitment to the integration of computer technology and legal education at Chicago-Kent that dates from the eighties.

The background and aims of the electronic casebook initiative have been well detailed by its leaders.[1]

This report, prepared primarily for the Chicago-Kent faculty, assumes a familiarity with the school and its emphasis on technology.   It also assumes basic familiarity with the current generation of word-processing software and Folio VIEWS.   (The latter is well documented in the articles noted above and in handouts of the Chicago-Kent Center for Law and Computers.)

As a visiting faculty member at Chicago-Kent during the 1995-96 academic year I devoted much of my time to learning from this program that is at once unique but also a forerunner of changes soon to occur in most U.S. law schools, more or less inevitably.   At least once a month through the year I visited classes for which the students had electronic casebooks -- Criminal Law (Rudstein) and Justice (Sowle) in the fall, Contracts (Warner) and Property (Deutsch) in the spring.   I interviewed most of the faculty who taught them, members of the Center for Law and Computers, and many of the veterans of last year's experimental section.   Finally, I prepared two questionnaires that were distributed to the section that I shall hereafter refer to simply as the laptop section.   The first, given in January, dealt with the fall semester; the second, given in late April, covered the entire year.

The essence of my inquiry was straightforward: Does such a substantial shift in the technology used by students to perform the standard range of tasks put before them in the first year of law study make a difference?   If so, in what ways?   What are the gains, tradeoffs, surprises and problems associated with the pervasive use of computers that, significantly, hold a comprehensive set of course materials?

This report is a first cut attempt to lay out what I've learned.   It is divided in two parts.   Part I provides my tentative conclusions about a wide range of questions or effects drawing on the full set of data I gathered.   Part II lays out in greater detail, source by source, what I heard, read, and saw.   Needless to say, its more complete picture is more complex and therefore more contradictory than the one drawn in Part I.   There are some fundamental points, though, that emerge consistently from all sources that deserve headline treatment at the outset.

First, the students in the section used their computers throughout the year.   Although admitted to the section, nothing forced them to follow through.   Laptop attendance was never taken.   Every major law student task they were assigned in their substantive courses, they could perform using print materials.   Indeed, a small fraction of the students read their assignments in print, took notes, made their final outline, and took the exam by hand, but probably no more than 10%.   Between 80 and 90% of the students used their laptops in class more or less on a daily basis from August through April.

Second, the students of the laptop section ended up strongly persuaded of the value of many of the elements that made up their "electronic first year".   Among these elements the one about which they are most enthusiastic is use of the computer for notetaking, outlining, organizing research materials, and writing.   But the electronic course materials themselves were seen as sufficiently useful that roughly half the group would if confronted with a "section

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[1]   The most recent accounts are: Richard A. Matasar & Rosemary Shiels, Electronic Law Students: Repercussions on Legal Education, 29 Valparaiso Univ. L Rev. 909 (1995) and Rosemary Shiels, Hypertext Electronic Law Books: Progress Report, in Intellectual Property Rights and New Technologies: Proceedings of the KnowRight'95 Conference, at 67 (1995).

of a course that had electronic course materials and one that had only print materials, all else equal" select the former.   Only 10% or so would affirmatively avoid the electronic casebook section, the rest being "indifferent." Third, neither students nor faculty perceive there to be significant adverse effects.

Finally, students responded very positively to one teacher's use of the electronic casebook in the classroom, along with related uses of a laptop in presenting and emphasizing elements of the classroom exchange.

I. How the Students (and One Faculty Member) Used Their Laptops and Electronic Casebooks and Perceived Effects on Classroom Exchange

A. The Implicit Paradigm

During the fall term the laptop cohort took two courses for which there were full electronic materials -- Justice and Criminal Law.   A large portion of the group made up Steve Sowle's Justice section.   A subset numbering about 75 made up Dave Rudstein's Criminal Law section.   In both cases, the full basic text for the course had been prepared in infobase form and installed on the hard-drives of each student's laptop.   Neither instructor was sufficiently forewarned of their distinctive assignment to organize the conversion of any supplemental readings -- a significant feature in Sowle's class.   The students all received training in the use of their electronic casebooks and the underlying software platform, Folio VIEWS.   They were offered tutorials and support sessions with a group of second-year students who had been members of the school's first laptop section.

Spring term the section had full electronic casebooks for Property and Contracts.

While introduction to these electronic tools was heavily laced with caveats that there was no single "right way" to use them, the structure of   the electronic casebooks and the instruction of the prior year's power users both pointed toward having the electronic casebook, surrounded by a set of features prepared in VIEWS, at the center of each student's work.   Built into the course "infobases" were highlighters for "Facts" and "Key Quotes" -- designed for use both before and during class.   Students were instructed on how they could create additional highlighters to discriminate among key passages.   A "Notes" level was built into the electronic books.   This design allows students to enter notes at points throughout a case and was specifically created as an alternative to or supplement for the notes feature already built in to Folio VIEWS.   The advantage it offers is the capacity to collect all notes for a case into a single "view" with a click on the "Student Case Notes" link that was placed following each case heading. The training in use of VIEWS pointed out that this collection of elements allowed automatic generation of an initial course outline.   As the article by Matasar and Shiels explains:

> With a click of the mouse button, a query link draws up the entire structure of the course as an outline with the students' personal notes inserted at the proper course chapter and section.   Students can print their outlines to study for exams or export them to a wordprocessor for further formatting, a feature that is available automatically because of the integration of the reading and notetaking material in electronic hypertext medium.[2]

At the beginning of each set of course materials, a preset group of four "query links" allows a student to extract: the books table of contents alone, the table of contents with all highlighted portions of the text (in context of chapter and section headings), the table of contents with all student notes embedded in their proper place, or all of the above.   In short, the structure of the materials and advice about their use carried a strong suggestion that students might use the casebook not simply as a searchable text from which portions could be extracted to notes, but as the framework for their accumulating ideas on and condensation of both readings and class discussion and a generator of their utlimate course outline.

B. Actual Student Use of the Laptops in Substantive Classes

Only about ten percent of the laptop group practiced that paradigm in near pure form.   Those that did brought no print materials to class so long as they had the material on their laptop.   (Students in all electronic casebook classes had print versions of the course materials available to them.   In some cases, e.g., the Justice book, they were required to buy the print version -- a condition laid down when the publisher permitted creation of the digital version, but even without a mandate, e.g., criminal law,   virtually all purchased the print version of their electronic casebooks.)   Students adhering to this model referred to their electronic casebooks when class discussion dealt with a particular passage in the day's reading, highlighted key passages, and placed their notes directly in the infobase

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[2] Richard A. Matasar & Rosemary Shiels, Electronic Law Students: Repercussions on Legal Education, 29 Valparaiso Univ. L Rev. 909, 925 (1995).

using the notes "level." Presumably they also used their electronic casebook centered notes, highlighted passages, and book headings and subheadings in pulling together a final course outline. Indeed, in several of their electronic casebook courses, the exam was an open book, that is to say, open laptop exam, and they could work directly from those VIEWS based notes right through the final exam.

As already noted, another slightly smaller group ended up on the other extreme, rejecting the pattern of work reflected in the above paradigm altogether. Nothing required students to use a laptop. Students could, and some did, leave their computers and the electronic casebooks they held backstage, even on the shelf. (In some cases this was after serious computer failure.) Throughout the term at least ten percent of the students in electronic casebook classes operated without laptops in the classroom, referring to a print version of the casebook (or the day's portion of it) and taking notes using paper and pen or pencil. Some few of these later redid their notes on a computer. Ten percent of the group responding to the spring survey indicated they would choose a print only section of an upper class course over one that offered an electronic version of the casebook.

The bulk of the class fell between these two extremes, affirming the computer as a tool but deviating in significant ways from the pattern of use for which the electronic casebooks were designed. It is instructive to consider the ways in which students' actual use departed from that paradigm and possible reasons for it.

To begin, a majority of laptop users read their course assignments in print. This is not startling since most people would prefer to read a preset sequence of essays, stories, or opinions in print. Several students distinguished between this type of reading and the exploration of preliminary research results drawn from an online session, indicating a preference for the computer's navigation and manipulation capacity in the latter. Students in Richard Warner's contracts session were also drawn to use their computers in preparing for class because the tutorials that are part of his course materials have no print counterpart. The capacity to search, link, and annotate, alone, however, seemed for most to be insufficient reason to choose the screen over a more familiar interface. One can imagine a next generation casebook where the authorities cited in an assigned opinion or subsequent problem or note are all but a "point and click" away, a interactive casebook with built in tutorials, exercises, and problems, but electronic casebooks that simply place a carbon copy of what is essentially flat book material in even a very sophisticated software environment will by habit and experience, but probably for more enduring reasons as well, be put aside by many for the print equivalent.

The preference for print carries into the classroom. When class discussion focuses on a particular passage in a statute or opinion, most of those who have their laptop (and its electronic version of the casebook) in class turn to the passage in print.

For most the the section, the laptops are in class not as electronic casebooks but as notetaking tools. And most students choose not to place those notes within the framework of the casebook. A slight majority of the laptop users (in a proportion that seems to have grown through the year) used word-processing software for their course notes. But even among the other large group, those using Folio VIEWS for their notes, only a handful put them within the structure of the electronic casebook. Most instead worked in a separate notes infobase.

Does all this mean that the electronic casebook was not used? No. Recall that half the group view having an electronic version of course materials as important enough that, all things equal, they would prefer a section that had materials in that form (along side) over one that had only a book. Those who did their course notes in VIEWS, though not within the casebook, did so in part because of the capacity to link those notes to the book. Indeed, that is the principal advantage of using VIEWS rather than WordPerfect or Word for daily notes. Notes on a particular case can be linked to the case or even a particular passage in it. That is presumably why so many students used VIEWS for their class notes even though they ultimately switched to word-processing software for their course outline. And a very high percentage of those doing their notes with word-processing software right along brought extracts from the electronic casebook into their notes and read from it directly on occasion.

Whether the students used VIEWS or word-processing software there were two classroom situations where those working with paper and pen or pencil had a slight edge. The first are those where pictures or diagrams work better than mere words. VIEWS like word-processing software is predominantly a word tool and to the extent that it enables information structuring its dominant structural model is that of a linear hierarchy. One more than one occasion I observed a teacher working to getting the class to visualize information graphically. Stuart Deutsch asked his class, one day, as many property teachers will, to instruct him in the creation of a map of the neighborhood of a property dispute which the assigned case had "sketched" using only words. He pressed for the location of the streets and key buildings. On other occasions he constructed simple flowcharts and diagrams. Confronted with such non-textual presentation many of the laptop notetakers attempted to pack the information back into words. Very few (4 out of 68 responding to the April questionnaire) were sufficiently comfortable using the graphic tools on their laptop (built into the wordprocessing software or bundled with Windows) to turn to them under these circumstances. A slightly larger number set their computer assign and used paper and pen. My classroom

observations suggest that students who rejected computers for in class notes included a fair percentage who make extensive use of their own diagrams or conceptual "maps" -- often as simple as a web of words or phrases circled or boxed and linked by lines -- in them.   The other situation where the paper notebook has advantages over its electronic equivalent is when the teacher distributes something only in paper, not supplementary reading so much as a piece of the class -- a problem for discussion, the key section of a statute.   The dominant approach of the laptop group to such print lumps was "to keep the material along with other odds and ends apart" from the course notes.   Those faculty members who transmitting such "handouts" in digital form provided a path around this problem.

B. How Students, in Fact, Created Their Final Course Outlines

As already noted a majority of students preferred to do their notes in WordPerfect or Word from the start.   And significantly, a majority of those who did notes in VIEWS transferred to word-processing software for their course outlines.

There is a sense in which at least some students do not want an "automatically generated" outline.   Many seem to operate on the belief, very likely sound, that the process of making a course outline is at least as important as the product.   For some this process includes not only filtering, ordering, and reconceptualizing the course content but "handling" it in some more literal way.   At least one student in the laptop group prepared the fall term course outline by hand from computer based notes.   Others rekeyed their outlines from materials they read from printed out versions of their laptop-prepared notes.

C. Classroom and Other Secondary Effects

Since nearly 90 of the students in these two courses brought their laptops to class and used them at least for taking notes, these were classes beyond the experience of most law professors.   How do 60 to 90 laptops affect the classroom environment?   Before reporting the more specific impressions of those who had this experience this past fall at Kent as well as my own observations, I can summarize them succinctly with the phrase "more the same than different."   None of those who had this novel teaching experience would shy away from another like it, indeed some would volunteer.   None thought the computers had a measurable negative impact on the kind of teaching they try to do.

D. Legal Research and Writing

There is widespread enthusiasm for Folio VIEWS as a tool for holding and working with research results.   The laptop section made extensive use of VIEWS for these purposes in their legal writing course.   And signficant numbers of students who made little or no use of the electronic versions of their casebooks embraced VIEWS in this other work situation.   To the lawyer (or law student) researching a specific problem using a commercial CD-ROM product holding a relevant collection the search and cross-reference linking capabilities of VIEWS and its software competitors offer great attraction.   The highlighting, linking, and annotation capabilities of VIEWS are uniquely useful in working with scattered materials gathered from an on-line source.

E. Teacher Use of Computer Technology

Of the faculty members teaching the laptop section in a classroom-focused course, Richard Warner, made use of a laptop, himself.   Warner largely, though not completely, substituted a laptop with projecting monitor for the chalkbook and used it to do several things that the chalk board does not all, at least to the same degree.   The student reponse was overwhelming affirmative.   My observations this spring lead me to ask the students in the section about three distinct uses of this kind:

> 1) drawing attention to key passages of the materials, under discussion, in "real time," that is as they became the subject of discussion, not just as Richard introduced them;
> 2) putting a problem or hypothetical before the class for discussion; and
> 3) recording, in outline form, the several responses to such a problem.

Well over 80% of the students responding valued all three to the level of checking them off as "particularly effective."   Number 1 received that rating from 66 of 68 filling out the questionnaire.   Over half the group were so uncritically pleased they had no constructive criticism to offer on how to improve on these uses.   Those that had advice stressed points bearing on visibility -- larger font size, leaving particular passages on the screen a bit longer, use of a pointing device.

An even higher percentage of students made extensive use of the interactive tutorials that Richard Warner assigned.   Only one student responding to the April questionnaire indicated she or he did not.   This means among other things

that students rejecting the electronic casebook and computer use for notes, nonetheless, used the tutorials.   Since they included material not available in a precisely equivalent form this alone is not surprising.   What is striking is how affirmatively the students characterized them.   An index of the value they placed on the tutorials was the recurring suggestion that they be set up so that students could copy material directly from them into their notes.

F. Some Overall Conclusions

The casebook as framework for student notes is fundamentally flawed -- most teachers filter, reorder, add.   The teacher's course outline or syllabus is probably a more useful starting framework for student notes.   What students want is a smooth path to move material from course materials to their notes (and if possible linking between the two).

In the emerging multi-platform law school environment, student are probably well advised to position their general course work tools and skills between VIEWS and PREMISE rather than within them.

Casebooks in their current form offer relatively low yield in the move to a searchable hypertext linked electronic workspace.   That is not true of complicated codes like those published by the LII or research collections or teaching materials designed for this interactive environment (see above).