

PRECISION TEACHING IN LAW SCHOOL. AN ESSAY IN SUPPORT OF STUDENT-CENTERED TEACHING AND ASSESSMENT

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SOME time ago I found myself reading about the information revolution and the effects of information technology on various industries. Most of the examples—the disintermediation of the travel, financial services, and book selling industries—were not surprising. A few—as subsequent events have borne out—seemed quite fanciful, such as home grocery delivery. The example that piqued my attention, however, was one about “precision farming.” Farmers in the Midwest, I read, had begun to attach global positioning satellites (“GPS”) and computer yield monitors to their tractors.¹ The use of the new technology enabled the farmers to recognize site-specific differences within their fields and to adapt their farming techniques accordingly. No longer were they compelled to manage their entire fields based upon a hypothetical average condition that might not actually exist anywhere in their fields. The farmers now were able to determine much more accurately the relationship between crop output and factors such as irrigation and fertilizer on various parts of their fields. Consequently output soared.²

As I read how the farmers were using precision farming techniques to improve their output, I immediately realized how analogous the situation at our law schools is to that of those farmers *before* the farmers had been able to take advantage of the new information technology. We work with our students in much the same way that earlier generations of farmers worked their fields. We do not employ what might be termed “precision teaching”—the use of pedagogical techniques that permit us to focus on the needs and abilities of individual students.³ Instead, we teach to the hypothetical average student who may not mirror the abilities of any of the real students in our rooms. Indeed, being the traditionalists we are, we employ what we might term “average” instructional strategies.

Consider the typical law school course. It reflects a number of assumptions about “average” performance. First, the concept of a *course* itself is based on a notion of

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1. All of this was quite new to me. Bear in mind that at the time I had not yet assumed my current position. I was still billeted in urban Southern California where the only tractors I was likely to see were “semi-tractors” barreling down the freeways and an occasional garden tractor recovering golf balls from the practice range!

2. There are numerous websites that discuss the history and methodology of precision farming. See, e.g., Precision Agriculture, available at www.oznet.ksu.edu/pr_prcag (last updated May 30, 2002).

3. “Precision teaching” is in fact a specialized term used by behavioral scientists to describe a methodology of teaching used with certain categories of children. See, e.g., Precision Teaching Module, available at <http://psych.athabasca.ca/html/387/OpenModules/Lindsay/> (last updated Aug. 8, 2002). I use the term in a more colloquial sense to refer to any form of pedagogy that is student centered.

average—in this instance on the notion of the chunk of “learning” we can expect of the “average” law student in our classes during a fifteen-week semester. While we all recognize that some of our students are capable of learning more—and some perhaps less—we operate on the assumption that the average student in the course should be able to handle just about the amount of “stuff” that composes the subject matter of the course. Individual class assignments, in turn, reflect—at best—an estimate of the amount of work we believe the average student to be able to prepare for a class session.⁴ Likewise we design our examinations to rank our students against the mythical “average” student—and against each other—on the acquisition of that average amount of knowledge we assume they should have learned and the skill sets they should have developed.

Stepping back from individual courses, we can see that other basic concepts in academe similarly embrace notions of average. A *semester*, for example, reflects the period of time for which we expect an average student to be capable of focusing on a particular set of courses. *Course credits* are credentials signaling that the student presumably has mastered—more or less—that average amount of material we identify with a particular course. These are but two examples; I suspect that in virtually every nook and cranny of our curricula we can find that the notion of “average” abounds.

It is not hard to see how we became mired in our current situation. Our options are rather clear. Either we treat our students as individuals, or we treat them as members of a group.⁵ Now, all of us would prefer to treat our students as individuals, and in some ways I am confident we do. But not when it comes to providing our students an education; there—much as we might prefer to treat our students as individuals—we almost invariably go the route of “average.” Teaching individual students is something with which most of us have had little experience. Indeed, trying to teach individual students is likely to seem strange and quite burdensome to those of us trained in more traditional classrooms.⁶

Teaching students as members of a group, on the other hand, necessarily requires us to devise some way of dealing with the individuals within the group. We cannot simply assign a group grade and award a collective degree. We at least must maintain the illusion that we are dealing with individuals. But how? All professors at some time or another have engaged in that perennial argument over which segment of the class we should try to reach—or, as we usually put it, just how high we should set our sights? As a practical matter, however, we rarely try to teach to the brightest student or, for that matter, to the slowest. Rather we establish some notion of the “average student” and then set about trying to teach him or her. We

4. It is at least as likely that the assignments merely reflect the result of dividing the number of class sessions in the semester by the number of topics to be covered.

5. I do not mean to imply that by focusing on the individual student we need to engage exclusively in one-on-one teaching. There are numerous strategies we might employ. Indeed, some of the most effective teaching methods involve group learning.

6. And teaching individual students may tend to shed just a little too much light on who is failing whom! I can recall one instance in which a colleague of mine taught a seminar of ONE. He and his student met weekly in a standard classroom using the regular syllabus for the course. The student wrote a final paper for the course. My colleague read it, found it wanting, and failed the student. I doubt I would have enjoyed the experience—either as the professor or the student!

rarely try to match our teaching to the needs of particular students. We employ techniques that are a far cry from those that would qualify as “precision teaching.”

At this point, it is fair to ask, “So what? What does it matter if legal education (actually, most of higher education) employs ‘average teaching’ methodology rather than ‘precision teaching’ methodology?” The question almost answers itself. By employing “average teaching” methodology, we inevitably fail to maximize the educational experience of those students in our classes who are capable of achieving more than we ask of them. Likewise we fail those who somehow fall short of the average and struggle with the material. We even fail to teach the students in the middle because we ignore the fact that each of them somehow came to be in the middle with a different set of strengths and weaknesses. Instead, because we are dealing with a class of hypothetical “average” students, we soon come to accept the premise that our students’ performance will fit some “normal curve.”⁷

That premise is pernicious. It keeps us from maximizing the students’ learning and provides us a built-in rationalization for failing to do so. By focusing only on the hypothetical average student—however we define that term—we lose sight of our actual students. We forget that if we could somehow individualize the learning experience, we could do better with those students who excel at the particular subject matter. And, equally importantly, we forget that we could surely do more for those students who need additional attention. Were we to employ precision teaching techniques, we would likely discover that each of our students would experience more success and, I suspect, each would find law school a more satisfying—indeed an enjoyable—experience.

Most law schools, of course, do provide some individualized instruction in some courses. Perhaps the most notable examples occur in clinical education. There, faculty and students work more or less in individualized settings. The primary pedagogical goal in clinical education is to assist the student in acquiring solid lawyering skills; acquiring knowledge of a particular substantive field is generally less important. In my experience, clinical faculty members expend a great deal of time and energy diagnosing the strengths and weaknesses of the individual students they teach. They then try to implement a curricular plan to shore up those weaknesses and to build on the strengths—while at the same time trying to provide high-quality legal services to the clinic’s clients.

There are other pockets of individualized instruction. We find some in our academic support programs. Likewise in some legal writing programs, faculty try to devise individualized instruction, although there it is more likely that “average” methodology will take over. Law review service is yet another example of an individualized experience, as is participation on moot court competition teams and the like. Individualized instruction, on the whole, remains uncommon; group instruction is the norm.

Why is individualized instruction so rare? It seems obvious that we would be more satisfied with the quality of our educational programs if we placed more

7. I once was asked how I could explain that after benefitting from my teaching for an entire semester my students still graded out on a normal bell curve. Shouldn’t I, my questioner asked, have been able at least to bring the bottom of the class up to the point at which their grades were not normally distributed below the median? I did not have an answer at the time. I still don’t.

emphasis on individualized instruction and less on “average” instruction. The examples of “individualized” instruction I mentioned above, however, make it equally obvious why the “average” approach dominates in legal education. Individualized instruction—at least as we now tend to provide it—is extraordinarily costly to provide.

For example, compare the costs of clinical education with traditional classroom instruction. The average clinical faculty member may supervise seven to ten students for five or six credits a semester, resulting in thirty-five to sixty student credit-hours per semester. The average classroom instructor, on the other hand, may teach as many as two courses with upwards of one hundred or more students total for three or four credits each, with a resulting three hundred or more student-credit hours per semester.⁸ A law school seeking to provide the same amount of instruction by full time faculty while employing the clinical teaching model would need five times as many faculty members or more, all other things being equal.⁹ Much the same is true of the other forms of individualized instruction one is likely to find in today’s law schools.

Is there a way out of this cost bind? This is the point at which the story of the farmers using GPS, yield monitors, and other technological marvels really strikes home. The main points in that story are several. Just as we law professors still do, the farmers had traditionally gone about their work employing concepts of average. Lacking information about particular plots of land, they had chosen the crops that on average grew best in their fields. They had applied the amount of fertilizer that worked best on average. Then they had monitored their success (or failure) with their entire fields. While they knew that some portions of their fields were not as productive as others, they generally did not attempt to break down their farming into smaller acreages. The costs of determining with any degree of precision how to farm specific portions of their fields made it economically impossible for them to do so. That was so even when they knew they could improve yield by varying fertilizer, mixing crops, and taking other measures if they were to work with more discrete chunks of land. Sound familiar?

What changed in the story is that the adoption of new technology dramatically lowered the costs to the farmers of breaking down their fields from high acreage plots into more precise plots. With the use of the GPS systems and yield monitors they now can more carefully tailor their cultivation techniques at a cost sufficiently low to make the endeavor worthwhile. Suddenly they are no longer farming large fields using average techniques. They can now think in terms of maximizing the

8. In my experience, the actual student credit-hours per clinical faculty member is likely to be fewer than sixty per semester, while the average for the classroom teacher will often exceed three hundred and may reach as many as six hundred or more.

9. And, of course, all other things are not equal. The problem of “burn-out” among clinical faculty is widely known, as is the problem of providing clinical faculty adequate time for scholarship and committee work. Admittedly, to some degree these problems are a product of the requirement that clinical faculty assure high-quality service for clients in addition to teaching their students, and to that degree the problem may be unique to the clinical setting, but it seems unlikely that these problems would dissipate entirely even were clinical faculty somehow magically relieved of all client responsibility. Consider, for example, how difficult it is to find faculty members willing to commit their professional careers to teaching legal writing.

output of smaller sections of their fields. In effect, the way they view their land has shifted entirely because modern technology has dramatically reduced the costs of treating their fields as discrete plots.

Can we in legal education do the same? I think so. There are ways we can more effectively monitor individual student learning. And there are methods available to us to provide additional learning opportunities to those students who need them (dare I say “more fertilizer”?) while allowing students who excel to move on to more challenges. Were we to adopt those measures, we would create a far more successful educational program that would more likely engage all of our students. As the farmers have done, we would improve our output!

Getting there will not be as easy as it was for the farmers. We will need to undergo a shift in focus that the farmers in the story did not. Farmers have always been concerned about their output; the market for agricultural goods sees to that. Low yields lead to low income. Farmers who fail to produce fall to the wayside.¹⁰

Not so with law professors. For as long as I can remember, we have avoided dealing with outcomes. Notwithstanding the increased attention given to assessment in higher education, we law professors have had little incentive to increase the outcomes—at least as measured by student learning—in our classes. Indeed, many have criticized us for establishing incentives that minimize the importance of student learning. In theory, of course, we all have a three-part duty: to teach, to write, and to serve our community. Off the record, however, we all admit that tenure, salary, academic rank, and professional mobility depend much more on scholarship than on effectiveness of teaching. Indeed, I would surmise that so long as a faculty member falls within the norm for teaching at her law school,¹¹ even her service to the law school, the university, and the profession likely will have more impact on her career than the success of her teaching.¹² We are not likely to move towards adopting techniques that maximize student learning if teaching remains undervalued.

But even if we assume that we can make educational output more important to law professors, we still face the challenge of measuring student learning. The common measures of output available to the farmer—bushels per acre and the like—have no counterparts in education. Grades in a particular course surely do not measure educational output. Most grading in law schools is relative. Despite assertions that we know an “A” or a “D” when we see one, there is little evidence to support that claim.¹³ For the most part, we simply compare students in our courses to one another rather than to an absolute standard. To do the latter, we would first need to establish learning goals, something we have little experience

10. Yes, farm subsidies alter the story, but not enough to undercut my point. At least not yet!

11. By the phrase “meeting the norm” I mean teaching at least at the level that keeps a faculty member’s students from clamoring in the associate dean’s office every day. Staying off the associate dean’s radar screen will usually result in being considered at least an acceptable teacher between promotion and tenure review periods.

12. Recognizing the relative unimportance we assign to effective teaching is far easier than bringing about a change. I leave that issue for the subject matter of another essay.

13. Indeed, the evidence suggests that we may be quite inconsistent in our grading. Professor Gregory Sergienko, a former colleague of mine, points out the problem of inconsistent grading in his article, *New Modes of Assessment*, 38 SAN DIEGO L. REV. 463 (2001).

doing.¹⁴ To do so could be quite unsettling also; imagine our reaction if all of our students achieved the learning goals, or, more horrifying, none of them achieved the goals. Sticking with comparative grading is much safer.¹⁵ And even if we might try to employ some absolute standard, we often are subject to mandated grade-point averages and even mandated curves.¹⁶ As a result, grades in a course prove little. Indeed, given the prevalence of grading norms in law schools, the grades in one section of a particular course are likely to mirror the grades in another regardless of the quality of the teaching!

Is there an effective proxy for measuring student learning? Not surprisingly, we legal educators opt for an approach that focuses on the teaching process itself. We assume good teaching leads to good student learning. And how do we evaluate teaching? We rely mostly on peer evaluation—at least when we really care to look. Peer evaluation of teaching, however, is as seriously flawed as a measuring device for determining educational output as is the use of grades. I doubt peer evaluators actually can identify high quality teaching. They often spend too little time to be accurate in their assessment. Moreover, there is little common agreement as to what constitutes “good teaching.” “Good teaching,” as we tend to think of it, often is a faculty-centered performance in which the faculty member being evaluated impresses the evaluators with the depth of his or her knowledge of the subject matter and his or her ability to tease highly nuanced connections from apparently unrelated portions of the subject. Doing so with humor is a big plus. And, of course, “rigor” is always desirable.¹⁷ All of this makes for good theater, but it reveals little about the learning going on in the classroom. I suspect that what most evaluators of law school teaching deem to be “good teaching” is really entertaining teaching that is likely to appeal more to the evaluators than to the students.¹⁸

There is another, more fundamental flaw inherent in using teaching performance as a proxy for measuring student learning. Even if we could accurately identify

14. Another former colleague of mine, Professor Michael Schwartz, presents a critique of the current state of our awareness of the tenets of curriculum design. See Michael Hunter Schwartz, *Teaching Law By Design: How Learning Theory and Instructional Design Can Inform and Reform Law Teaching*, 38 SAN DIEGO L. REV. 347 (2001). In his article, Professor Schwartz also provides a thoughtful description of how law professors might use curriculum design principles to improve the quality of their teaching.

15. We somehow have convinced ourselves that comparative grading is acceptable. Imagine, however, the reception our farmer would receive were he to deliver his crop to the buyer with only an assessment that output from this field was better than that of another!

16. That the typical law school grade curve is becoming quite high does not result from the Lake Wobegone-like fantasy that all of our students are somehow above average; we simply do not worry that they are not.

17. When we champion the use of “rigor” in the classroom, we often mean confrontation or at least insistence that the students perform on the spot. As my former colleague, Michael Schwartz, has pointed out to me repeatedly, neither form of “rigor” is pedagogically sound for most students.

18. I recall being told that much the same criticism has been made of some popular television programming aimed at children. Programs that were wildly applauded by adult viewers turned out—I understand—to have been far too clever and cute to be effective in educating the young children to whom they were directed. Programming that is simpler, repetitive, and somewhat boring to the adult viewer appears to be more educational for children. The first generation of children’s programming, however, was perfect for fund raising! Fancy that. For a general assessment of first generation children’s television programming, see MALCOLM GLADWELL, *THE TIPPING POINT* 89-132 (2000).

high quality teaching as measured by an input measure, there is no hard evidence that good teaching—at least as an abstract concept—actually leads to high quality learning. The use of “good teaching” as a proxy for effective student learning reflects an essential belief that there is an automatic link between input and outcome. Despite the initial intuitive appeal of that belief, however, one is likely to note quickly that it ignores the reality that we are not working with hypothetical students. The real students in our classes differ. A teaching technique that works well for some individuals may work poorly for others. What may be “good teaching” in some situations with some students may be grossly ineffective teaching in other situations with other students.¹⁹ Our reliance on peer evaluation tends to cause us to overlook that simple point. Our farmers know better. Try telling them that a “one crop—one fertilizer” regime is the best technique for maximizing output in all of their fields.

What are we to do? If we are to abandon our attraction to the concept of “average,” we—as professors—must begin to determine whether our students are actually learning in our classrooms. We must focus on individual student outcomes, not on faculty inputs. Fortunately, there are ways to assess teaching success. There has been a great deal of good work done in the field of learning assessment.²⁰ We law professors tend to be unaware of much of that work, however, because as a group we lack any serious training in curriculum design and education theory.²¹ By creating evaluation instruments that measure student competence in a particular field, i.e. criterion-based tests, rather than tests that merely compare students within their class, i.e. norm-based tests, we actually might begin to measure our effectiveness as teachers.²² At the very least the old joke about surgeons—“The operation was a success; too bad the patient died”—might not strike so eerily close to home.

Assuming we can get beyond the two initial hurdles—creating incentives that make teaching output a priority for law professors and devising a method of assessing education output in a measurable objective fashion—we can then tackle the task of converting from “average”-based education to individual student-based education. To do so, we must overcome the cost hurdle. Here I think we can take a lesson from the farmers.

The farmers solved their dilemma by employing computer technology to reduce the cost of assessing output. We legal educators can do so as well. In most courses there are areas that lend themselves well to on-line learning and assessment. In my Business Organizations course, for example, I have never been comfortable using precious class time going over the mechanical application of the various dividend rules. But I find two things to be true. First, students find applying the rules to be more difficult than I would first guess they would. Second, students who cannot

19. For a good discussion of this point, see the forthcoming work of my colleague, Professor Rogelio Lasso, *From the Paper Chase to the Digital Chase: Technology and the Challenge of Teaching 21st Century Law Students*, 43 SANTA CLARA L. REV. (forthcoming 2002).

20. I highly recommend Professor Gregory Munro’s book, *OUTCOMES ASSESSMENTS FOR LAW SCHOOLS* (2000), to anyone interested in exploring the subject in detail.

21. See generally Schwartz, *supra* note 14.

22. See generally Gregory Sergienko, *supra* note 13 (discussing the difference between criterion-based and norm-based testing).

apply the rules seem not to grasp their real significance or the parties' maneuvering that is central in some of the cases we discuss. Consequently, I have usually ended up using some class time boring those students who catch on quickly while still failing to reach others. The "average student" in my class might think the time well spent but there are few—if any—of those average students in the room. There certainly are not any pleased students!

That need not be the case. For example, following the lead of the farmers, I could create a few computer-based interactive learning lessons on the subject to allow the students to study the material. I could administer a short on-line objective test to assess students' mastery of the rules.²³ I then might assign those students who were still experiencing difficulty additional study materials, provide them a teaching assistant, or personally tutor them. I might direct the students who have mastered the rules to more sophisticated problems. The point here is that rather than simply hoping for some success in this basic area and taking up precious classroom time when the students become hopelessly lost, I could employ computer technology to work with students individually to assure that they learned the material before they came to class and began to discuss the cases.

This is just one example of where I might use more individualized teaching to improve the learning in my class. There are countless other opportunities for on-line education in my course and in my colleagues' courses. One need only look to available CALI materials for a number of examples.

I believe that computer technology eventually will prove the tool for alleviating the cost problem that limits individualized education in law school. Not every form of teaching or assessment associated with individualized learning, however, need be high technology-based. We can achieve some success in moving to "precision teaching" by using those old standbys—paper and pen. The occasional classroom quiz can prove quite effective in determining how individual students are faring in a course. So can that old general instruction, "Everyone take out a sheet of paper and state the holding in (fill in the case name) or write down your solution to Problem X." My point is not that at present we can use computer technology to monitor the output at a relatively low cost; it is that such monitoring—regardless of how it is done—is necessary to maximize the output. The important message is that as law professors we can achieve better educational results if we abandon the concepts of "average"—the "average student" in an "average course" in an "average semester"—that color the way most of us approach our profession. We can opt instead to commit ourselves to facilitating real student learning in our courses.

So far I have focused primarily on what law professors can do to change the situation. Let me return to the role of the dean in addressing the problem of an "average" law school. There are a number of specific steps we can take. We can send our faculty members to programs that help them improve their teaching ability, such as those sponsored by the Institute of Law School Teaching at Gonzaga University School of Law. We can encourage them to partner with faculty in other departments in the university, particularly the education department, in the development of new teaching materials. We can equip our classrooms with state-of-

23. To many of us, objective assessment seems at best a bit iffy. For a good argument in favor of using objective testing, however, see generally Sergienko, *supra* note 13.

the-art teaching technology to make it easier for faculty members to use new techniques. We can provide in-house instruction on how to use commercial and proprietary software for teaching. We can dedicate technical support staff to assist professors in implementing student-centered teaching techniques. We can provide additional teaching assistant support to faculty members to help them implement interim assessments of their students. We can recognize the creation of course materials as an important academic endeavor even if we are unwilling to credit it as scholarship.²⁴ All of these initiatives will be costly to implement, particularly in the start-up phase. When those costs are amortized, however, they will become comparatively less expensive. Each of these measures—and countless others—would make it easier for interested faculty members to focus on the learning going on in their classrooms.

Making it easier for faculty members to become student-centered rather than “average” teachers, however, will not be sufficient to induce most faculty members to adopt precision teaching methods. To do that, we need to bring about a cultural change in our faculty hallways. We must create a culture of student-centered education. As I noted above, we must fundamentally alter the incentive structure in our law schools. We must reward faculty members for being very effective teachers and—this point may be somewhat controversial—demand that every faculty member make strides toward becoming a better teacher. We can continue to make room for our publishing stars, but we cannot continue to give them the lion's share of the goodies. We cannot continue to place greater emphasis on scholarship and service than we do on teaching. Otherwise, we cannot expect faculty members—particularly untenured faculty members—to put in the effort it takes to become more effective teachers.

Becoming a law school that truly champions student-centered precision teaching will not be easy. There are risks both to the individual faculty members and to our institutions. Those faculty members who focus their efforts on teaching necessarily will have less time for scholarship and service. As a result, they will risk being less sought after within the academy. Law schools that emphasize teaching likely will see the scholarly production of their faculty decline. If enough of the faculty shifts its focus, a school may seem less scholarly and its national rankings may suffer—even as the quality of its teaching rises!²⁵ Somehow, however, we must find the will to take on the challenge. Our students deserve it.

24. The debate on whether to credit the preparation of teaching materials as scholarship is an old one. While I highly value the creation of such materials, I believe there is a difference between doing scholarship and developing teaching materials. That said, I hasten to add that I would be quite willing to permit the inclusion of such materials in a tenure package as a substitute for one or more pieces of traditional scholarship.

25. See generally Lasso, *supra* note 19, for a fuller discussion of this point. Like most educators, I believe that one cannot really rank law schools in any meaningful sense. Such rankings may satisfy some deeply rooted cultural need for creating lists, but they do little to assess the quality of an educational program. At most, law school rankings do little more than further the creation of a lemming syndrome that drives students of a certain type to attend certain law schools, thus actually creating either the experience the students seek or the common shortfalls they often experience! Having said that, I am sure Washburn University School of Law is well above average on any and all relevant scales!