

Generation X in Law School: How These Law Students Are Different From Those Who Teach Them

Joanne Ingham and Robin A. Boyle

Generation X is the group of approximately forty-five million people born between 1961 to 1981.¹ They have been dubbed Generation X, or Gen Xers for short, because there seemed to be nothing dramatic about their experience— not the Vietnam War, not the Civil Rights movement, not the Second Wave of the Feminist Movement.² They also have a reputation for disengagement.³ Gen Xers have been described as disrespectful and suspicious of authority.⁴ These stereotypes can negatively influence how law professors conduct their classes and treat their students in general.⁵

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1. See Tracy McGaugh, *Generation X in Law School: The Dying of the Light or the Dawn of a New Day?*, 9 J. Legal Writing Inst. 119, 120 (2003); Linda Green Pierce, *X Lawyers Mark New Spot: Understanding the Post-Baby Boomer Attorney*, 61 Or. St. B. Bull. 33, 33 (June 2001); Lynne C. Lancaster and David Stillman, *When Generations Collide: Who They Are, Why They Clash, How to Solve the Generational Puzzle at Work* 13 (New York, 2002).
2. See Elizabeth A. Foley, *The Changing Face of Juries: Understanding Generation X*, 14 Chi. B. Ass'n Rec. 28 (2000).
3. See Barbara Glesner Fines, *The Impact of Expectations on Teaching and Learning*, 38 Gonz. L. Rev. 89, 106 (2002).
4. *Id.*
5. *Id.*

This article presents the results of a multi-year study that examined the learning styles of law students.⁶ The study was conducted at three law schools—Albany Law School (ALS), New York Law School (NYLS), and St. John's University School of Law (SJU).⁷ We compiled data on the learning styles of 1,500 law students and 73 law faculty and compared their traits.

After defining "learning styles" and summarizing several theories regarding them, we explain the need for an empirical study of law students' learning styles. We then present the data, describing our findings on the common learning-style traits of Gen Xers and compare our results with descriptions of Gen Xers in current literature. We contrast learning-style traits of law professors with the traits of their students. We conclude by suggesting teaching methodologies that capitalize on common learning-styles traits of Gen Xers.

A Definition of "Learning Style" and Theories Relating to It

The term "learning style" refers to the way in which an individual begins to concentrate on, process, internalize, and remember new and difficult academic information or skills.⁸ Although interest in how law students learn is hardly new,⁹ recent attention to the role of metacognition in human learning along with other advances in understanding how human beings learn has created a rich context in which to pursue empirical research into law students' learning styles and to translate the findings into classroom teaching techniques.¹⁰ In addition, the ease of administering reliable and valid measures of learning styles has made it possible to compare one population of law students with another, and law students with law faculty.¹¹

Law professors, including legal writing professors, embrace several theories that help explain how people learn. Law professors have written about the

6. This study was conducted by the authors and Elaine Mills, Lawyering Professor, Albany Law School, who began participating in this research in 2001 while teaching at New York Law School.
7. Robin Boyle has been assessing the learning styles of her law students since 1995. Joanne Ingham has been conducting research in learning styles in law schools since 2001.
8. See Rita Dunn and Kenneth Dunn, *Teaching Secondary Students Through Their Individual Learning Styles 2* (Boston, 1993).
9. See Alfred G. Smith, *Cognitive Styles in Law Schools 5* (Austin, Tex., 1979).
10. See Robin A. Boyle, *Employing Active-Learning Techniques and Metacognition in Law School: Shifting Energy from Professor to Student*, 81 *U. Det. Mercy L. Rev.* 1 (2003); Michael Hunter Schwartz, *Teaching Law Students to be Self-Regulated Learners*, 2003 *Mich. St. DCL L. Rev.* 947 (2003); M. H. Sam Jacobson, *Learning Styles and Lawyering: Using Learning Theory to Organize Thinking and Writing*, 2 *J. Legal Writing Inst.* 27 (2004); M. H. Sam Jacobson, *A Primer on Learning Styles: Reaching Every Student*, 25 *Seattle U. L. Rev.* 139 (2001).
11. The Productivity Environmental Preference Survey, the assessment tool used in the research presented here, consists of 100 questions that participants can answer in fifteen to twenty minutes. Aggregate data are then produced by the providers of the survey forms, which speeds data analysis.

following popular theoretical bases: Myers-Briggs Type Indicator (MBTI); David Kolb's Learning-Style Inventory; Howard Gardner's Multiple Intelligence theory; Daniel Goleman's Emotional Intelligence; and the Dunn and Dunn Learning Style Model.¹²

We used the Dunn and Dunn theory in our study because we were familiar with it and believe it to be firmly grounded empirically.¹³ The Dunn and Dunn Learning Style Model isolates twenty-one elements that affect learning. The model's assessments are learning-style based and include in-depth analyses of each person's environmental, emotional, sociological, physiological, and processing strengths.¹⁴ The elements that affect learning cluster in five categories:

(1) environmental factors such as sound, light, temperature, and furniture/seating designs;

(2) emotional factors such as motivation, persistence, responsibility (a measure of conformity versus nonconformity), and the need for either externally imposed structure or the opportunity to do things in the learner's own way;

(3) sociological factors such as (a) learning best alone, in a pair, a small group, as part of a team, or with an authoritative or a collegial adult, and (b) wanting variety as opposed to patterns and routines;

(4) physiological factors such as perceptual strengths, time-of-day energy levels, and the need for food or liquid intake and/or mobility while learning; and,

12. Don Peters and Martha M. Peters, *Maybe That's Why I Do That: Psychological Type Theory, The Myers-Briggs Type Indicator, and Learning Legal Interviewing*, 35 *N.Y.L. Sch. L. Rev.* 169 (1990). See Steven Hartwell, *Six Easy Pieces: Teaching Experientially*, 41 *San Diego L. Rev.* 1011, 1012 (2004); Kristin B. Gerdy, *Teacher, Coach, Cheerleader, and Judge: Promoting Learning Through Learner-Centered Assessment*, 94 *L. Libr. J.* 59, 61-63 (2002); Kirsten A. Dauphinais, *Valuing and Nurturing Multiple Intelligences in Legal Education: A Paradigm Shift*, 11 *Wash. & Lee Race & Ethnic Anc. L. J.* 1, 2 (2005); Carrie Menkel-Meadow, *Aha? Is Creativity Possible in Legal Problem Solving and Teachable in Legal Education?*, 6 *Harv. Negot. L. Rev.* 97, 117-20, 138-40 (2001); Leonard L. Riskin, *The Contemplative Lawyer: On the Potential Contributions of Mindfulness Meditation to Law Students, Lawyers, and the Clients*, 7 *Harv. Negot. L. Rev.* 1, 47 (2002); Robin A. Boyle and Rita Dunn, *Teaching Law Students Through Individual Learning Styles*, 62 *Alb. L. Rev.* 213 (1998).
13. *Synthesis of the Dunn and Dunn Learning-Style Model Research: Who, What, When, Where, and So What?* (Rita Dunn and Shirley A. Griggs eds., New York, 2004). See also <<http://www.learningstyles.net>> (last visited Sept. 20, 2006) (click on "Research"); Susan M. Tendy and William F. Geiser, *The Search for Style: It All Depends on Where You Look* (U.S. Dept. of Educ., ERIC Doc. No. ED410029, Wash. D.C., 1997) (describing the Dunn and Dunn Model as "one of the most comprehensive and multidimensional learning-style models" and one of the few models that "provides information directly relat[ing] to teaching strategies in the classroom").
14. See Rita Dunn, Kenneth Dunn, and Gary E. Price, *Productivity Environmental Preference Survey: An Inventory for the Identification of Individual Adult Learning Style Preferences in a Working or Learning Environment (PEPS Manual)* (Lawrence, Kan., 1993) (available from The Center for Teaching and Learning, St. John's Univ., N.Y.).

(5) psychological factors such as (a) global versus analytic processing (as determined through correlations among the elements of sound, light, design, persistence, sociological preferences, and intake needs); (b) right/left brain hemisphericity and (c) impulsive versus reflective processing.¹⁵ These descriptions of how students learn can guide faculty in selecting instructional methods and guide students in structuring their learning and study strategies.

One assessment tool for the Dunn and Dunn theory is the *Productivity Environmental Preference Survey* (PEPS), which reveals how strongly—if at all—each adult prefers to learn in the way measured through each element.¹⁶ The PEPS has been used in research at more than 120 institutions of higher education¹⁷ and has shown predictive reliability.¹⁸

Teachers at all grade levels have found that teaching to students' diverse learning styles leads to increased achievement, improved attitudes, and greater retention.¹⁹ Numerous researchers using the model have demonstrated significant increases in achievement with post-secondary populations in engineering, mathematics, nursing, academic skills, anatomy, marketing, as well as improvements in undergraduate retention, study skills, teacher education, and corporate training.²⁰ Other researchers have demonstrated the usefulness of the model in designing classroom instructional materials and techniques for higher education.²¹

15. See Dunn and Dunn, *Teaching Secondary Students*, *supra* note 8, at 3, 5.

16. See Dunn et al., *PEPS Manual*, *supra* note 14.

17. See <<http://www.learningstyles.net>> (last visited Sept. 20, 2006).

18. See Lynn Curry, *Integrating Concepts of Cognitive or Learning Style: A Review with Attention to Psychometric Standards*, 2, 23-24 (Center for the Study of Learning and Teaching Styles, St. John's Univ., 1987) (finding that the PEPS provided "good reliability evidence").

19. See Rita Dunn et al., *Summary of Research on Learning Styles*, 46 *Educ. Leadership* 50-58 (1989).

20. See Rita Dunn et al., *Effect of Matching and Mismatching Minority Developmental College Students' Hemispheric Preferences on Mathematics Scores*, 83 *J. Educ. Res.* 283 (1990); Rita Dunn et al., *Should College Students be Taught How to do Homework?: The Effects of Studying Marketing Through Individual Perceptual Strengths*, 26 *Ill. Res. & Dev. J.* 96 (1990); Joanne Ingham, *The "Sense-able" Choice: Matching Instruction with Employee Perceptual Preferences Significantly Increases Training Effectiveness*, 2 *Hum. Resource Dev. Q.* 53 (1991); Miriam C. Lenehan et al., *Learning Style: Necessary Know-how for Academic Success in College*, 35 *J. C. Stud. Dev.* 1 (1994); Joyce A. Miller, *Enhancement of Achievement and Attitudes Through Individualized Learning-Style Presentations of Two Allied Health Courses*, 27 *J. Allied Health* 150 (Fall 1998); Barbara Nelson et al., *Effects of Learning Style Intervention on College Students Retention and Achievement*, 34 *J. C. Student Dev.* 364 (1993).

21. See Rita Dunn and Shirley Griggs, *Practical Approaches to Using Learning Styles in Higher Education: The How-to-Steps*, in *Practical Approaches to Using Learning Styles Application in Higher Education* 19, 26-29 (Rita Dunn and Shirley A. Griggs eds., Westport, Conn., 2000). The benefits of utilizing learning styles in legal education were examined by Robin Boyle and Lynne Dolle, and by Boyle and Karen Russo. See Robin A. Boyle and

Our two-part study demonstrates that law students are diverse in their learning styles, yet there are certain common traits among Gen Xers. Our study further demonstrates that the learning styles of law students and law faculty differ significantly for certain traits. These findings can have an impact on pedagogy.

Why There was a Need for an Empirical Study

We embarked upon an empirical study of a large population of law students across three institutions because of the predominant teaching methodology in the classroom. Despite the diversity of learning styles in their student populations, law professors continue to use predominantly auditory instruction in the classroom, the usual method being the Socratic Method combined with some amount of straight lecture.²² A survey taken in the mid-nineties indicated that an “overwhelming majority” of law professors who taught first-year students used the Socratic Method “at least some of the time.”²³ The research presented here shows that these methods are unsatisfactory for the majority of the students sampled.²⁴

Our data demonstrate that students at the three law schools have diverse learning styles. Any classroom teaching method that relies primarily on auditory means is unlikely to be effective for the majority of the students in the lecture hall. Although an advocate of the Socratic Method questions whether

Lynne Dolle, Providing Structure to Law Students—Introducing the Programmed Learning Sequence as an Instructional Tool, 8 *Legal Writing Inst.* 59 (2002); Robin A. Boyle, Karen Russo, and Rose Frances Lefkowitz, Presenting a New Instructional Tool for Teaching Law-Related Courses: A Contract Activity Package for Motivated and Independent Learners, 38(1) *Gonz. L. Rev.* 1 (2003).

22. See Craig T. Smith, Synergy and Synthesis: Teaming “Socratic Method” with Computers and Data Projectors to Teach Synthesis to Beginning Law Students, 7 *Berkeley Women’s L. J.* 113, 113 (2001).
23. Steven I. Friedland, How We Teach: A Survey of Teaching Techniques in American Law Schools, 20 *Seattle U. L. Rev.* 1, 28 (1996).
24. See Smith, Synergy and Synthesis, *supra* note 22, at 113 (“But Socratic method also has serious shortcomings.”). Years and percentages of incoming law students surveyed indicating a strong preference for auditory learning at St. John’s University School of Law are listed in Boyle and Dunn, Teaching Law Students, *supra* note 12, at app. 2 (1998) (26 percent in academic year 1996-97). See also Robin Boyle, Bringing Learning-Style Instructional Strategies to Law Schools: You Be the Judge!, in *Practical Approaches*, *supra* note 21, at 158, 160 tbl. 17.4 (revealing 29 percent in academic year 1997-98); Boyle and Dolle, Providing Structure to Law Students, *supra* note 21, at app. A (29 percent in academic year 1998-99); Boyle, Russo, and Lefkowitz, Presenting a New Instructional Tool for Teaching, *supra* note 21, at app. A (revealing 24 percent in academic year 2000-01 and 20 percent in academic year 2001-02); Boyle, Metacognition, *supra* note 10, at app. A (19.2 percent in academic year 2002-03). Joanne Ingham and Elaine Mills, Address at Faculty Scholarship Luncheon, N.Y.L.S., A Meeting of the Minds? Learning Styles of First-Year Law Students at New York Law School and St. John’s U. School of Law 6 (New York, Dec. 3, 2002) (materials on file with presenters) [hereinafter Ingham and Mills, NYLS Colloquium Materials]. Similar results are reported from Albany Law School.

law school professors ought to be teaching to the diverse learning styles of our students,²⁵ research in learning styles has demonstrated that when students are “introduced to new material through their [learning style strengths], they remembered significantly more than when they were introduced through their least preferred modality.”²⁶ The same skeptic also questions whether teaching to diverse learning styles adequately prepares students for the practice of law.²⁷ Lawyers practice their trade with a diversity of learning styles, and professors who help law students understand their own learning styles and how to maximize their strengths will help students become better prepared for law practice.²⁸ Active learning enhances understanding of the material.²⁹

Results of the Study Indicating Common Learning-Style Traits Among Generation Xers

All three law schools where the research was conducted are located in New York state. All three are private institutions.³⁰ The 1,500 law students who participated in the studies were all first-year students. The seventy-three faculty participants included doctrinal, skills, and writing faculty from both NYLS and ALS.

Common Learning Style Traits of Law Students from Three Law Schools

We administered the PEPS to each of the students and faculty members to assess learning styles. The NYLS and ALS data were collected from Elaine Mills’ 1L classes. The SJU data were collected in first-year Legal Research and Writing classes. Faculty participants at NYLS and ALS volunteered to

25. See Michael Vitiello, Professor Kingsfield: The Most Misunderstood Character in Literature, 33 Hofstra L. Rev. 955, 1008-10 (2005).
26. Dunn and Dunn, Teaching Secondary Students, *supra* note 8, at 16. See also Rita Dunn et al., Effects of Matching and Mismatching Minority Developmental College Students’ Hemispheric Preferences on Mathematics Scores, 83 J. Educ. Res. 283 (1990) (finding significant differences when global and analytic students were matched or mismatched with instructional strategies); Dunn et al., Should College Students Be Taught How to Do Homework, *supra* note 20 (studying the effects of using one’s learning style profile to study for an advertising class at St. John’s University).
27. See Vitiello, Professor Kingsfield, *supra* note 25, at 1010-12.
28. See Robin A. Boyle, Applying Learning Styles Theory in the Workplace: How to Maximize Learning-Styles Strengths to Improve Work Performance in Law Practice, 79 St. John’s L. Rev. 97 (2005). Although Vitiello identifies skills that many professors would agree are necessary for practicing law, such as being able to read and analyze statutes, rules, and cases, Vitiello, Professor Kingsfield, *supra* note 25, at 1011, he nevertheless does not show how the Socratic Method is an effective method of teaching these skills to the majority of the students.
29. See Gerald F. Hess, Principle 3: Good Practice Encourages Active Learning, 49 J. Legal Educ. 401, 402 (1999) (“Active learning is important for one fundamental reason: active involvement enhances learning.”).
30. NYLS is an independent law school. ALS is affiliated with Union University. SJU is affiliated with St. John’s University, a Catholic, suburban institution.

complete the survey. The completed surveys were sent to Price Systems in Lawrence, Kansas, for interpretation. The researchers received back a profile for each participant as well as a summary for each group. The resulting learning-style profiles were returned to each participant, as were comments suggesting how to apply the participants' unique learning-style traits to his or her academic study. The researchers compared the group data across institutions and shared the results of these comparisons with the faculty at each school for their comment.

The learning-style patterns among first-year students were remarkably similar across the three schools. In the appendix, Graph A depicts the percentage of students at each school who exhibited a strong preference (a standard score of 60 or higher) for each of the twenty-one elements in the Dunn and Dunn Model. A strong preference for a particular element means that when concentrating on new and difficult information, the individual strongly prefers these "conditions." For example, if a student indicates on the PEPS that he or she strongly prefers to sit in a hard chair and work at a desk, then the PEPS results would show that this person strongly prefers a "formal design." Graph B shows the percentage of students at each school who exhibited a "negative" preference (a standard score of 40 or less) for each element.

Among the numerous interesting data obtained, five particular results are striking:

- Students, regardless of institutional affiliation, showed strong preferences for *structure* in their learning environments. On average, 60 percent of the first-year students, across all three law schools in the study, indicated a strong preference for structure when learning. This trait indicates that to work productively, students prefer to have a very clear set of parameters provided in advance of tackling academic work.
- The results also showed that the peak energy times for the majority of the students are in the *afternoon* and *evening* rather than in the morning.
- Students prefer to *work with an authority figure present*. An authority figure might be a professor, an advisor, an employer, or a mentor. Learners with this characteristic are most productive when they can ask questions, discuss ideas, or seek feedback from a person of authority.
- Results further show that only 25 percent of the participants rely upon an *auditory strength* when learning, 15 percent learn best with *tactual and kinesthetic* approaches, and a mere 10 percent are *visual learners*. These data highlight the desirability of using multi-sensory, active learning approaches in the classroom.
- Approximately one-fourth of the students learn best while *learning alone*, rather than in pairs or groups. Often asking these students to learn new and difficult information in a group situation can interfere with

mastery of information and concepts. Only 10 percent are *peer-oriented* when learning new and difficult information.

*Comparison of a Few Common Learning Style Traits of Generation X with the
Descriptions of Generation X in Current Literature*

How does the current literature identify differences between the Gen Xers and the Baby Boomers, and how does this portrayal compare to our findings of their learning-style traits? Tracy McGaugh's seminal article succinctly identifies a generational classroom gap between the Gen Xers and those who teach them—professors are communicating “expectations in a foreign language.”³¹ Our learning-style data support and perhaps offer explanations for several characteristics.

- The literature describes Gen Xers as needing “hand-holding,” such as posting course outlines on the Web and assigning tutors to provide extra help for first-year courses.³² One author cautions that “too much hand-holding may give students the erroneous impression that they don’t need to learn how to analyze course material on their own.”³³ Our findings indicate that the Gen Xers strongly prefer structure, similar to “hand-holding,” but without that term’s paternalistic overtones. Teaching students how to “self-structure” and providing structure in pedagogically appropriate ways would benefit students’ educational experience. Our finding that Gen Xers need structure is supported by the advice to provide them with “clear end-goals and every possible information resource necessary to work toward those goals.”³⁴
- The literature describes student Gen Xers as requiring that education be stimulating.³⁵ Because such a small percentage of students retains information auditorially or visually, an active learning environment is necessary to facilitate learning. With the introduction of computer technology in our lives and in our educational experience, law students are used to and may well learn best by receiving information in ways that are more multi-sensory, stimulating, creative, and interactive than the printed textbooks of the previous generations.³⁶ For these students, educational experiences such as a case study approach, role playing, working on a research project with a faculty member,

31. McGaugh, *Generation X in Law School*, *supra* note 1, at 119.

32. See Helen A. Anderson, *Generation X Goes to Law School: Are We Too Nice to Our Students?*, 10 *Perspectives: Teaching Legal Res. & Writing* 73, 74 (2002).

33. *Id.* See generally Rodney O. Fong, *Retaining Generation X’ers in a Baby Boomer Firm*, 29 *Cap. U. L. Rev.* 911, 917 (2002) (suggesting that supervising attorneys provide associates of Generation X with specific directions).

34. See Bruce Tulgan, *Managing Generation X: How to Bring Out the Best in Young Talent* 47 (Santa Monica, Cal., 1995).

35. McGaugh, *Generation X in Law School*, *supra* note 1, at 124.

36. 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.* 1, 23 (2002).

clinical experiences, externships, clerkships, moot court, and other interactive approaches would be very beneficial.

- The literature describes Gen Xers as seeing themselves on par with those of older generations rather than deferring to authority.³⁷ In contrast, our data reveal that 35 percent of these students prefer to work with an authority figure present. However, we also observe that approximately 20 percent of this population tends to be non-conforming, meaning they prefer to develop their own strategies for achieving a specific goal as opposed to following guidelines developed by others. They often may question why they have to follow others' guidelines when, in fact, they have their own ideas for accomplishing an assignment—which they perceive to be superior. The combination of traits (prefer authority present and non-conformity) suggests that students prefer to work with authority figures whose demeanor is collegial rather than authoritative in nature.

Findings on Learning Styles of First-Year Law Students and Faculty

We compared the learning-styles profiles of Gen Xers to the profiles of their professors, who were of primarily the Baby Boomer generation born between 1943 and 1960.³⁸ Faculty and students' learning-style patterns were very different from each other.

Results of discriminant analysis, a statistical procedure employed to reveal whether selected groups differ on certain characteristics, show that 94 percent of the NYLS students and faculty were classified correctly, indicating that an individual could accurately be identified as a student or professor 94 percent of the time based on learning style alone (see Table 1). Similar analyses for the ALS students and faculty indicate that the classification results were correct 84 percent of the time (see Table 2). The data leave little doubt that these two groups, students and faculty, exhibit different learning styles.³⁹

The greatest differences between these two groups, students and faculty, were found with certain learning-style elements, as indicated by the PEPS results. Differences in preference for structure, authority, time of day, and mobility were significant and meaningful. In our study population, we found the following:

37. See McGaugh, *supra* note 1, at 128–31.
38. *Id.* at 120. Boomers have also been defined as being born between 1946 and 1964. See Lancaster and Stillman, *When Generations Collide*, *supra* note 1, at 13.
39. Joanne Ingham and Elaine Mills, Address at Faculty Scholarship Luncheon, Albany Law School, Charting the Learning Styles of First-Year Law Students at Albany Law School, New York Law School, and St. John's Univ. School of Law, and Comparing Faculty Profiles with those of Law Students 6 (Albany, N.Y., Oct. 8, 2003) (materials on file with presenters) [hereinafter Ingham and Mills, ALS Colloquium Materials].

- Structure: When learning, students preferred more structure, such as working with models, samples, and clear guidelines. The faculty respondents preferred less structure, indicating a preference for self-structuring tasks.
- Preference for Working with an Authority Figure: Students in our study preferred to work with an authority figure, such as a professor, advisor, mentor, or other expert. The option to confer with an authority figure enhances productivity. The faculty, on the other hand, were less authority-figure oriented, meaning that they prefer to work independently and perhaps consult later with an expert.
- Time of day: In our study population, students were afternoon and evening alert rather than morning alert, while faculty report being more alert in the morning. These results suggest that faculty who teach in the morning, at their highest energy level of the day, are typically addressing students who are not fully alert. In the afternoon and evening, this pattern reverses.
- Mobility: It is ironic that faculty who are permitted to stand and walk around the room actually prefer less movement. Students, on the other hand, who indicate a higher need for mobility, are, in fact, confined to a chair during classes of sixty minutes or more.

At NYLS, the students and faculty differed significantly on thirteen PEPS elements, representing 65 of the total in the Dunn and Dunn model.⁴⁰ Graph C depicts the mean standard scores for those elements that distinguished students and faculty. At ALS, students and faculty differed on fewer PEPS elements, which nonetheless represent forty-three of the total in the Model.⁴¹ Graph D depicts the mean standard scores for these elements that distinguished students and faculty.

Stephen Guinta found that when teachers' and students' learning styles were mismatched, teachers experienced significant stress.⁴² Research has shown as well that the closer the match between students' and teachers' learning styles, the higher the students' grade-point average.⁴³ Thus, professors should take into account that their students' learning styles may differ from their own.

40. Statistical tables with mean scores, standard deviations, and significant F values for the elements are available in Ingham and Mills report to NYLS faculty. See Ingham and Mills, NYLS Colloquim Materials, *supra* note 24.
41. Statistical tables with mean scores, standard deviations, and significant F values for the elements are available in Ingham and Mills report to ALS faculty. See Ingham and Mills, ALS Colloquim Materials, *supra* note 39.
42. Stephen F. Guinta, Administrative Considerations Concerning Learning Style, Its Relationship to Teaching Style, and the Influence of Instructor/Student Congruence on High Schoolers' Achievement and Educators' Perceived Stress (1984) (unpublished Ed.D. dissertation, St. John's Univ.) (on file with Dissertation Abstracts Intl. 45 (01), 32A).
43. Elsie I. Cafferty, An Analysis of Student Performance Based Upon the Degree of Match Between the Educational Cognitive Style of the Teachers and the Educational Cognitive Style of the Students (1980) (unpublished Ed.D. dissertation, U. Nebraska) (on file with Dissertation Abstracts Intl. 41, 2980A).

Implications of the Findings for Law School Teaching

These findings—of students' strong preferences for structure, for time of day (late afternoon and evening), and for working with an authority figure—have implications for creating curriculum and for classroom instruction.

Implications for Students' Need for Structure

1. Devise student-related guides. Students' need for structure can be satisfied not only by teacher-created structure, but also by guides that students create for themselves. In theory, helping students learn to create structure for themselves should not only produce a skill valuable in law practice, but should also reduce the burden on the individual law professor to provide highly detailed structure for certain assignments. Additionally, allowing students to create their own structure where possible accommodates visual, tactile, and kinesthetic learners to a greater degree than most traditionally teacher-structured assignments and may help motivate students who might not be motivated by teacher-imposed structure.
2. Help students learn and apply effective editing strategies. Professors and students can collaborate in devising personalized editing checklists that provide the basis for a modest form of "contract learning."⁴⁴
3. Provide written instruction about assignments. Students can be encouraged to make good use of various checklists in reading materials for a course and can be given a highly detailed checklist written by the professor summarizing all of the skills students were expected to exhibit.⁴⁵ Students could receive grades on their memorandum assignment, for example, along with copious handwritten comments from the professor, addressing both basic and legal writing skills.
4. Professors can provide an assignment asking students to structure the actions they would take in response to the professor's comments. Students can be required to prepare a list of ten specific goals they would consciously strive to meet in their next writing assignment. In addition, students can be required to prepare a lesson plan to teach another student how to meet one of those chosen goals. The assignment can call for detailed, particularized goals rather than statements of broad ambition. To that end, the professor can provide examples of what would and would not be acceptable goal statements.⁴⁶ The assignment would also require students to give priority to goals that would address their more serious, broader-scale shortcomings relating to analysis as well as recurring errors in basic writing (repeated

44. See generally Jane H. Aiken, David A. Koplow, Lisa G. Lerman, J.P. Ogilvy, and Philip G. Schrag, *The Learning Contract in Legal Education*, 44 Md. L. Rev. 1047 (1985).

45. See, e.g., Linda H. Edwards, *Legal Writing & Analysis* 199 (New York, 2003) ("A Checklist for Fact Statements.").

46. E.g., "I will use thesis sentences" would not be an appropriate goal statement; "I will state at the outset of each rule application paragraph what I intend to prove in the paragraph" would be an appropriate statement.

sentence fragments, for example, or comma mayhem). The professor could specify a format for the attendant lesson plan: an explicit learning goal, the theory behind the lesson, examples good and bad, and an exercise.⁴⁷

5. Prepare course syllabi with details. Professors should include in their syllabi their course goals and objectives, class topics, readings and assignments spelled out, guidelines on evaluation, office hours, and e-mail addresses, all of which can provide a tremendous amount of structure for students.

Implications for Teaching with Time of Day Preferences

A majority of students at all three law schools expressed strong preferences for afternoon and evening, meaning that they can learn new and difficult information best during those times. This preference may explain why professors often complain that students are not alert in the morning. Students who are aware of their time-of-day preference should take responsibility for using their peak times for studying and for taking classes when this is an option.

Implication of a Majority Preferring to Work with an Authority Figure

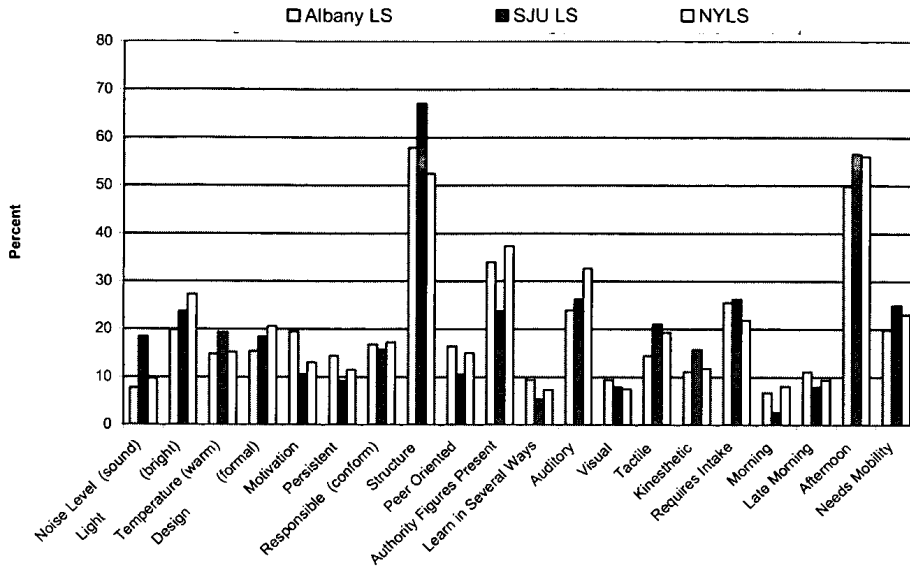
A majority of students express a strong preference to work with authority figures. With this understanding, how approachable a faculty member is perceived to be becomes an important element in the teaching-learning process. Faculty can communicate a willingness to work with students by posting office hours and encouraging student meetings during those times. Professors can hold conferences for face-to-face contact and can also be accessible through e-mail to answer students' questions. Students' needs for consulting with professors should not be viewed as an individual weakness.

...

Professors are well advised to be alert to the fact that their classrooms are filled with students who learn in different ways. More importantly, the students professors teach tend to possess learning-style characteristics that may be dramatically different from their own. Students can be challenged to consider their individual learning-style strengths and how those strengths can be utilized to maximize their learning in law school. Simultaneously, faculty can be challenged to create a learning environment that is attentive to the differences students bring with them to their institutions.

47. The assignment could be designed to meet the standards enunciated in *How People Learn: Bridging Research and Practice* 21 (M. Suzanne Donovan, John T. Bransford, and James W. Pellegrino eds., Wash. D.C., 1999) ("To provide a knowledge-centered classroom environment, attention must be given to what is taught (information, subject matter), why it is taught (understanding), and what competence or mastery looks like.").

Graph A: Percentage of First-Year Students at Three Law Schools Indicating Strong Preferences for PEPS Areas with Standard Scores 60 or Greater



Graph B: Percentage of First-Year Law Students at Three Law Schools Indicating Strong Preferences for PEPS Areas with Standard Scores 40 or Less

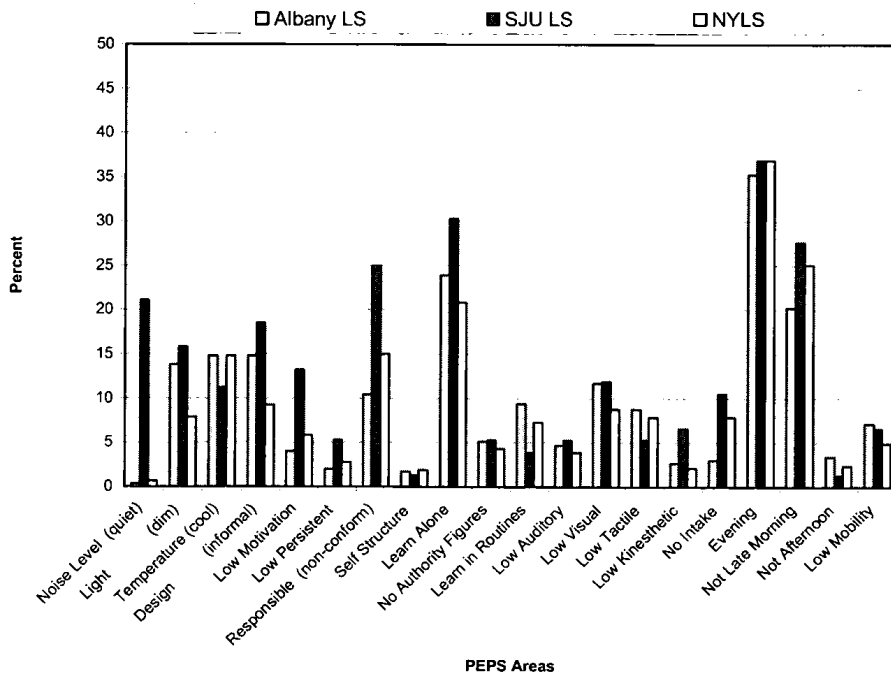


Table 1
Classification Analysis for Group Membership: Faculty and Students NYLS

Actual membership		Predicted group membership				
		n	Faculty		Student	
	n		%	n	%	
Original	Faculty	41	25	61.0	16	39.0
	Student	418	10	2.4	408	97.6
Cross-Validated	Faculty	41	20	48.8	21	51.2
	Student	418	13	3.1	405	96.9

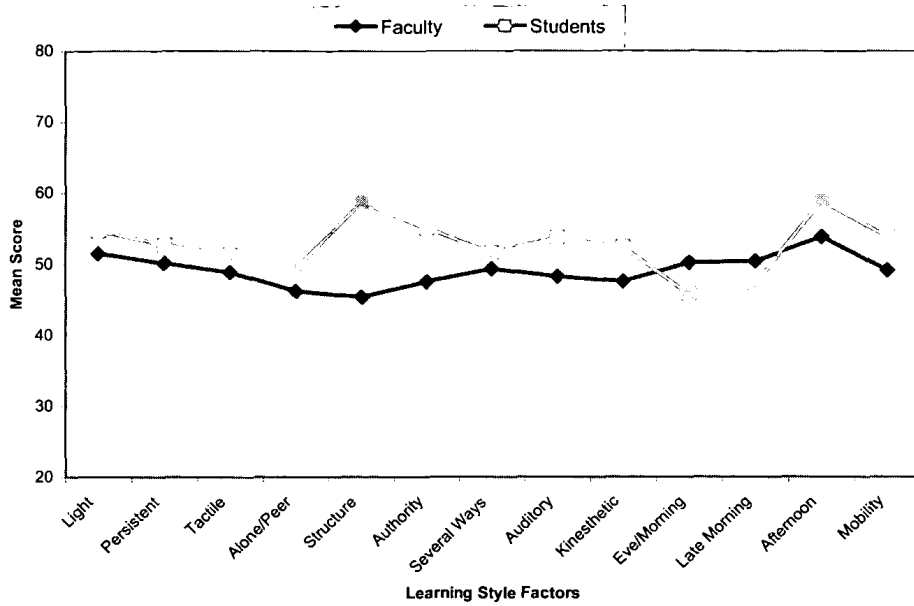
- a. 94.3% of original grouped cases correctly classified.
- b. 92.6% of cross-validated grouped cases correctly classified.

Table 2
Classification Analysis for Group Membership: Faculty and Students ALS

Actual membership		Predicted group membership				
		n	Student		Faculty	
	n		%	n	%	
Original	Student	297	248	83.5	49	16.5
	Faculty	32	4	12.5	28	87.5
Cross-Validated	Student	297	241	81.1	56	18.9
	Faculty	32	8	25.0	24	75.0

- a. 83.9% of original grouped cases correctly classified.
- b. 80.5% of cross-validated grouped cases correctly classified.

Graph C: Mean Scores for Learning Style Factors of NYLS Faculty and Students That Differ Significantly



Graph D: Mean Scores for Learning Style Factors of ALS Faculty and Students That Differ Significantly

