

WHY ARE WE DOING THIS? COGNITIVE SCIENCE AND NONDIRECTIVE SUPERVISION IN CLINICAL TEACHING

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When, not that long ago, I was a brand new clinic professor attending my first clinical conference, I heard clinical supervision described this way: Imagine you have been an excellent professional taxi driver for some time. Now, imagine you have to get into the back seat and let a beginning taxi driver take the wheel. You have to get her to take you safely to your destination without giving her directions. You need to help her understand the rules of the road and the operation of the vehicle with as little explicit instruction as possible.

This sounds like a terrible idea for road safety, but any clinical professor will recognize that the experienced taxi driver in the example is practicing “nondirective” supervision of the trainee.¹ At the time I heard this allegory, I was not told why it was the right way to teach a novice, or what the benefits (or alternatives) to nondirection were. It was simply explained to me that this was the way of clinical education, and it did not occur to me until many years later to ask why this was the best way, or how we arrived at this pedagogical theory.

Since the earliest days of modern clinical legal education, clinicians have been looking at the question of how much guidance to give students and how much responsibility to give students over their own decisions in their cases and

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1. See DAVID CHAVKIN AND ELLIOT MILSTEIN, CLINICAL LEGAL EDUCATION TEXTBOOK FOR LAW SCHOOL CLINICAL PROGRAMS (LexisNexis 2001). David Chavkin and Elliott Milstein have seized on the allegory of the kitchen organizer to convey the same idea: If you are a Professor of Kitchen Organizing and you are assigned to teach a college student how to organize a kitchen, what is the best way to teach the student the important skill of kitchen organizing? Should you model good kitchen organizing? Lecture on principles of kitchen organizing, followed by an assignment to organize the kitchen? Go to lunch and let the student work without instruction or guidance? Have a nuanced conversation in which you ask questions to help the student think about the issues that would be confronted while organizing the kitchen, the relevant facts of kitchen organizing, etc., then letting the student organize the kitchen, followed by post-action discussion about the student's choices? See also David Chavkin, *Am I My Client's Lawyer?: Role Definition and the Clinical Supervisor*, 51 SMU L. REV. 1507 (1998).

their clinical learning experience. Clinicians have long since settled on the default approach of giving clinic students as much responsibility as possible and intervening as little as possible in their representation of clients, limiting the amount of explicit guidance. This idea has a powerful hold over clinical educational theory, and has had it for a very long time. It influences how students are supervised, how clinics are designed and other aspects of clinical education. Commitment to nondirective supervision was formerly a sort of clinical shibboleth, although these days its influence—or, rather, the degree to which clinicians profess allegiance to it—may be diminishing: recently, Georgetown clinical professor Wallace Mlyniec called the directive/nondirective distinction an “anachronism.”² However, this change represents not a philosophical shift so much as a practical approach to supervision that allows for flexibility in the face of various sources of pressure. Although the distinction may be an anachronism, Professor Mlyniec captures the current general sentiment of clinicians when he points out that, “[t]his is not to say that telling a student what to do is the equivalent of engaging a student in an exploration that leads to new knowledge. . .engaging in an exploration is properly the ‘default’ method of supervision”³ for clinic students. Concessions to practicality notwithstanding, the foundation of clinical education has not really changed.

Outside of clinical legal education, a lively debate about optimal levels of guidance for novice learners has been going on for decades, shifting as new evidence is generated and new information incorporated. Some theorists argue that educational design should encourage learners to “construct” their own mental models and learning experience: this is the so-called “constructivist” school of educational design. Others argue that for novices, discovery and construction are needlessly mentally taxing and an inefficient use of time and mental resources, and therefore educational design for new learners should be focused on efficient learning through telling students the answers to the problems they are trying to solve: this is often called the “instructionalist” school of educational design. Although clinicians use “nondirective” and “directive” in the place of “constructivist” and “instructionalist,” respectively, there is a clear alignment of clinical pedagogy with the constructivist tradition of advocating for discovery and exploration learning for our novice law students.

There is as yet no consensus among educational researchers on optimal amounts of guidance for novices, but the ongoing investigation has provided a rich source of information that could—and should—inform pedagogical theory for clinical education. Clinical legal education obviously leans more toward the discovery learning and exploration side of the continuum, but it is not clear that clinical pedagogy is informed by what is going on in modern educational research and theory.

2. Wallace J. Mlyniec, *Where to Begin? Training New Teachers in the Art of Clinical Pedagogy*, 18 CLINICAL L. REV. 505, 518 (2012).

3. *Id.*

In this article, I examine the idea of nondirective supervision in clinical education in theory and practice in light of recent findings in educational research. In Part I, I examine the theory and practice of nondirective supervision in clinical education. In Part II, I explore the history of nondirective supervisory pedagogy and how it may have developed in clinical education. In Part III, I look at the latest evidence and theories from educational research, where a large body of empirical evidence supports the value of explicit guidance for novice learners in certain settings. Finally, in Part IV, I apply this knowledge to clinical pedagogy and urge clinicians to accept the possibility that directive supervision can be a good thing for our students, to be more conscious of developments in educational theory and research than we have been and to generate and then apply our own empirical evidence to inform our decisions about guidance for clinical students and assess clinical pedagogy and theory.

I. NONDIRECTION IN CLINICAL EDUCATION

The term “nondirection” is at once vague and misleading. As clinicians use the term “nondirective,” it is a term of art: we know that “all teaching is directive”⁴ to a great extent: in a clinical setting, this means that the instructor has a set of goals she plans to lead the students to, using a subject matter (area of law) that has been pre-selected, for a set number of credit hours, and so on. We are (like that hypothetical taxi driver), trying to get students to arrive at a particular destination that the student has not chosen. Nondirective supervision actually relates only to a very small set of instructional elements that arise directly from students’ work on cases.

A. *What is Nondirective Supervision?*

It is helpful to start with by explaining what I mean by “nondirection.” As most clinicians use it—and as I use it in this essay—“nondirection” means letting the student be responsible for making decisions about the case and performing lawyering tasks such as interviewing clients, arguing in court and drafting documents.⁵ Rather than telling the student what to do, the nondirective supervisor, usually through asking probing questions, works to focus students on important aspects of lawyering.⁶ During post-performance review, the nondirective supervisor asks probing questions to allow the student to understand key features of the performance without imposing the

4. Mlyniec, *supra* note 2, at 518.

5. See James Stark et al., *Directiveness in Clinical Supervision*, 3 B.U. PUB. INT. L. J. 35, 40-41 (1993). Stark’s list also includes sharing information, such as what the law is. In my experience, this is significantly less relevant to nondirective supervision than making decisions and performance.

6. See Kimberly E. O’Leary, *Evaluating Clinical Law Teaching - Suggestions for Law Professors Who Have Never Used the Clinical Teaching Method*, 29 N. KY. L. REV. 491, 499 (2002) (discussing that it is generally helpful to ask the students to discuss how to plan, rather than telling the students how to do it).

supervisor's own views on the student.

Engaging in nondirective supervision usually involves using a questioning approach to make sure students do not overlook important features of representation but resisting telling them what to do. The supervisor (1) uses questions to guide the student to engage in competent and diligent preparation for the task at hand, such as a court appearance, client meeting, or brief; (2) allows the student to complete the task, with only the degree of oversight necessary to ensure the student is meeting ethical standards of competence and diligence; and (3) asks probing questions to engage the student in a thorough self-critique after the task is completed.⁷

Like supervision of planning, supervision of performance is ideally nondirective. The student and supervisor will very likely moot things like court appearances, but in the moment of the lawyering, the student is typically put in a position to perform in role as the lawyer with minimal interference from the supervisor. A nondirective supervisor tries very hard not to interfere with performance.⁸ The student does the lawyering unless intervention is warranted.

Nondirection also influences ideas about post-performance feedback. Teacher and student together reflect on performance, with the supervisor giving feedback and also focusing on asking the student what she thinks, what she would do differently, etc. A nondirective approach to feedback encourages students to find their own assessment of their lawyering through (lightly guided) reflection.

Asking, not telling, is the key to nondirection. Gently leading students to discover for themselves what the supervisor hopes they will learn. Of course, as anyone who has ever been subjected to the Socratic Method will know, "asking" is not necessarily synonymous with "not leading a student to a particular answer;" it is quite possible to be directive and leading through the questioning format.

A question-based nondirective model is the gold standard of prevailing clinical pedagogy—to let students find their own truths about the practice of law, leading them gently, and only as much as necessary, through well-placed and thoughtful questions. You can hear the powerful hold of this focus on leading through questioning in one clinician's confession that "when I get tired or feel pressure to cover a lot of ground, I sometimes catch myself telling instead of asking."⁹ The prime directive is that you never tell the students what

7. In a classic article, Anne Shalleck provides several fictitious vignettes that demonstrate this principal. The supervisor guides students by asking questions such as "What do you think?", "Why are you worried about [the client's] history? Is it important to your theory of the case?" and "Why is an eviction order important to your client?", among many others. Questions from students are answered with questions from the supervisor. At no point does the supervisor actually tell the students what to do. See Ann Shalleck, *Clinical Contexts: Theory and Practice in Law and Supervision*, 21 N.Y.U. REV. L. & SOC. CHANGE 109, 117–18 (1993).

8. See Stark *supra* note 5, at 44. Interestingly, instructors indicate more willingness to intervene with respect to students' written work than other types of lawyering performance—for example, conducting client interviews or witness examinations at trial.

9. Justine Dunlap & Peter Joy, *Reflection-in-Action: Designing New Clinical Teacher*

to do if it can be avoided.

In contrast, in directive supervision, the supervisor is the one who is responsible for the representation, and he is carefully leading the student through the process. This may include explicit instructional methods such as modeling the desired performance or giving clear instructions to the student about what to do, and why.

Rather than have students work to discover their own solutions to lawyering problems, a supervisor who is acting directly is likely to give the student the solution. In the planning phase, directive supervision takes the form of the supervisor making key decisions and spelling out with some precision what needs to be done and the order in which the steps should be taken to implement those decisions. Post-performance, directive supervision includes explicitly pointing out the key features of what the student did, or should have done, and pointing out the important lessons that should be learned from the experience. Directive supervision is much more about telling (and showing) than it is about asking.

B. Support for nondirective supervision

Clinicians have, for the most part, been quite receptive to nondirective supervision as a theory.¹⁰ Although clinicians acknowledge that nondirective supervision is challenging to implement faithfully,¹¹ practitioners who, for whatever reason, are more directive than they believe they should be may even admit to feelings of guilt.¹² Anecdotally, I have regularly experienced this dedication to the ideals of nondirective supervision among clinicians.

Understanding why we clinicians are so attached to nondirection requires some digging into the benefits that flow from nondirective supervision, including increased student motivation and enhanced student learning. Nondirection is not an end in itself; it is a delivery vehicle for student “ownership” of their cases. Ownership and nondirection are so intertwined in clinical pedagogy as to be different sides of the same coin. Ownership leads to increased student motivation: motivation to work hard, to reflect on what has happened, to try to learn what is necessary to provide quality legal representation. When the teacher is nondirective, the student is forced to “own” the problem, which gives them the motivation necessary to make the most of it, educationally. Nondirective supervision is the manifestation of ideas about

Training by Using Lessons Learned from New Clinicians, 11 CLINICAL L. REV. 49, n.132 (2004).

10. See Stark et al., *supra* note 5, at 42–44. Later surveys confirmed that “the nondirective adherents dominate” clinical education; see also Dunlap & Joy, *supra* note 9, at 84–85. The survey data from 2004 is no longer current, but there is no evidence that clinicians have departed from the nondirective ideals.

11. Dunlap & Joy, *supra* note 9, at 63 (survey responses that hardest thing about clinical education is “being nondirective”). This view is certainly consistent with my own efforts to be a nondirective clinical supervisor.

12. *Id.* at n.134 (one survey respondent talked about the challenge of “nondirectiveness without abdication.”). See, e.g., Stark et al., *supra* note 5. The Stark survey results also show that most clinicians feel they supervise more directly than they should.

ownership, motivation, empowerment and reflection. It is a means, not an end in itself, to get to these important aspects of clinical pedagogy.

The value and power of ownership is not new to clinical education—in 1931 Harvard Law School Dean Tilford E. Dudley praised his law school’s novel clinic by arguing that “hanging around a well-organized office and working on cases for which someone else has responsibility”¹³ doesn’t work as a learning tool (at least not for Harvard men). Ownership is still a primary goal of clinical education. It is hard to overstate the importance clinicians place on ownership in terms of student learning. Taking ownership is “one of the most effective learning opportunities for law students,”¹⁴ and we know that “students benefit most from a model in which they can take responsibility for a matter from beginning to end”¹⁵ and that “student ownership is a critical element of effective clinical legal education.”¹⁶ This idea has powerful implications for clinical pedagogy and design. The ideal of the small-case clinic, in which the student can with relative ease own a case and see it to completion, is designed to maximize ownership.¹⁷ At least one clinician appears to have changed his clinic’s focus in part out of concerns about directive supervision interfering with student ownership.¹⁸ The concept is straightforward: if the case is simple enough that the supervisor can avoid “taking over” the case by telling the student what to do, then the student is

13. Tilford E. Dudley, *The Harvard Legal Aid Bureau*, 17 A.B.A. J. 692 (1931).

14. Marcy L. Karin & Robin R. Runge, *Article: Toward Integrated Law Clinics That Train Social Change Advocates*, 17 CLINICAL L. REV. 563, 609–10 (2011).

15. David F. Chavkin, *Spinning Straw into Gold: Exploring the Legacy of Bellow and Moulton*, 10 CLINICAL L. REV. 245, 262 (2003).

16. April Land, *“Lawyering Without Leaving Individual Clients Behind*, 18 CLINICAL L. REV. 47, 56 (2011).

17. See Alicia E. Plerhoples & Amanda M. Spratley, *Engaging Outside Counsel in Transactional Law Clinics*, 20 CLINICAL L. REV. 379, 387 (2014) (“[A simple case] approach enhances the clinician’s ability to increase the non-directive nature of their student case supervision—a lauded principle in clinical legal education—that in turn allows the student to maximize personal ownership and responsibility over her cases”); see also Jayashri Srikantiah & Jennifer Lee Koh, *Individual Representation Alongside Institutional Advocacy: Pedagogical Implications of A Combined Advocacy Clinic*, 16 CLINICAL L. REV. 451, 455 (2010) (“Small, individual cases certainly offer valuable opportunities for student learning by facilitating ownership and client-centered representation by students.”); Katherine R. Kruse, *Biting Off What They Can Chew: Strategies for Involving Students in Problem-Solving Beyond Individual Client Representation*, 8 CLINICAL L. REV. 405, 410 (2002) (“It is important to conserve the components of the small, manageable cases that make them good vehicles for learning: primary student control, a sense of ownership for the student, and the ability to see a project through from initiation to completion.”).

18. Roy Stuckey, Clinical Professor and Dir. of Clinical Educ. at S.C., Paper delivered at the 1986 American Association of Law Schools Clinical Teachers’ Conference (May 17–22, 1986) (suggested that it factored into his decision to restructure South Carolina’s Domestic Practice Clinic by eliminating contested divorces and handling only uncontested, no-fault divorces.) (“[n]o fault divorces give me the luxury of allowing students to make mistakes which are not likely to permanently harm many of their clients.”), cited in George Critchlow, *Professional Responsibility, Student Practice, and the Clinical Teacher’s Duty to Intervene*, 26 GONZ. L. REV. 415, 441 (1991).

more likely to “own” the case.¹⁹

The primary benefit of ownership identified in clinical scholarship is increased student motivation to learn (up to a point)²⁰. “Motivation greatly enhances the learning process,”²¹ and ownership is the key to that motivation.²² This motivation may come from a desire to act competently²³ or from fear and anxiety,²⁴ or some combination of these. Regardless of the source of their motivation, when students have primary responsibility for their cases, they have no choice but to work hard and learn the things they need to know. They have a “need to know”²⁵ that pushes them toward learning. The flip side of this is that too little ownership can squelch motivation by stripping students of ownership of their cases.²⁶ The supervisor may be seen as an “educational safety net,”²⁷ reducing student motivation. The idea that “direct supervision does not empower a student” has been described as a clinical “mantra.”²⁸

Ownership can also motivate students to examine their own performance with a critical eye—the “reflection” that is so key to clinical pedagogy.²⁹ When students are responsible for their cases, they are required to examine their own performance to try to extract important lessons for continued representation of

19. *But see* Brook K. Baker, *Learning to Fish, Fishing to Learn: Guided Participation in the Interpersonal Ecology of Practice*, 6 CLINICAL L. REV. 1, 68 (1999) (questioning whether “the goal of maximizing student ownership really requires ‘hiding the ball’” via nondirective supervision).

20. Jennifer P. Lyman, *Getting Personal in Supervision: Looking for that Fine Line*, 2 CLINICAL L. REV. 211 (1995). (“At the foundation of this teaching, is the assumption that students learn more when they have more responsibility—right up to the moment responsibility overwhelms and paralyzes them.”)

21. Prof. Baker describes the possibility of students being overwhelmed by the responsibility of ownership. *See* Baker, *supra* note 19, at 1.

22. Jeanne Charn, *Service and Learning: Reflections on Three Decades of the Lawyering Process at Harvard Law School*, 10 CLINICAL L. REV. 75, 91 (2003) (“Students become active players making real decisions with real consequences. This role assumption creates high motivation and interest in learning on the student’s part.”); *see also* Michael Robinson-Dorn, *Teaching Environmental Law in the Era of Climate Change: A Few Whats, Whys, and Hows*, 82 WASH. L. REV. 619, 643 (2007) (“The ownership of a case that comes from representing a real client with substantial interests at stake provides students with the anchor, context, and motivation for substantive learning that is unmatched in law school.”).

23. Shalleck, *supra* note 7, at 158 (“[M]ost students care deeply about acting competently.”).

24. Jane Aiken & Stephen Wizner, *Teaching and Doing: The Role of Law School Clinics in Enhancing Access to Justice*, 73 FORDHAM L. J. 1997 (2004) (It is “the sense of responsibility that they feel, the fear, the vulnerability when representing real clients, that inspires students to strive to be effective lawyers with excellent skills.”).

25. Peter Toll Hoffman, *Clinical Course Design and the Supervisory Process*, 1982 ARIZ. ST. L. J. 277, 287 (1982).

26. Baker, *supra* note 19, at 66 n.248 (“[There is a] widespread belief that intervention interferes with autonomy and role assumption”).

27. Baker, *supra* note 19, at 10.

28. Mlyniec, *supra* note 2, at 518.

29. Abbe Smith, *Carrying on Criminal Court: When Criminal Defense Is Not So Sexy And Other Grievances*, 1 CLINICAL L. REV. 723, 728 (1995) (identifying clinician’s “mantra” as “reflection, reflection, reflection.”). I take no position on whether Professor Smith or Professor Mlyniec has identified the actual mantra of clinical education.

clients.³⁰ In contrast, the ability to reflect can be impeded by too much instructor direction.³¹

Being responsible also enhances the *quality* of student learning, because “the more independence the student can assume in representing people, the better their learning will be”³² —because they have more ownership. On the other hand, “[u]nnecessary control of the student’s actions inhibits the learning process.”³³

C. Departing from the Nondirective Ideal

There is a difference between talking about something and actually doing it. Clinicians’ ability to faithfully implement nondirection in practice is not always what we might hope it could be, but it is not because we have stopped valuing the idea of nondirection. As I noted earlier, Professor Mlyniec has recently identified a shift in how we talk about directive/nondirective supervision, calling the distinction an anachronism.³⁴ Over time, clinicians have been exploring and becoming more comfortable with situations in which supervision is directive. However, this more likely reflects a growing recognition and comfort with the constant tension between pedagogical ideals and the reality of practice than a philosophical shift within clinical legal education.

Nondirection may dominate theory and even clinic design, but in real life it is totally impractical. Surveys and clinical scholarship describe a fairly regular and universal (if not guilt free) departure from the nondirective default by clinicians.³⁵ As Professor Stacy Caplow explains, “[w]hile the received wisdom among live-client clinicians tends to favor non-directive supervision, this is one area in which our instructional philosophy may romanticize our reality.”³⁶ In practice, we as clinicians depart from the ideals more or less constantly, leading us to self-awareness about and significant efforts to understand the place for directive supervision. The primary pedagogical philosophy, however, has not changed.

The most obvious reason for directive supervision—and the one most

30. Anna E. Carpenter, *The Project Model of Clinical Education: Eight Principles to Maximize Student Learning and Social Justice Impact*, 20 *Clinical L. Rev.* 39, 87 (2013) (“When students have ownership of their clinical work, a goal that can be achieved, in part, by making students the primary lawyers in their project work, every moment of the clinic experience is a potential source of reflection, and thus a source of insight and understanding.”).

31. Kenneth R. Kreiling, *Clinical Education and Lawyer Competency: The Process of Learning to Learn from Experience through Properly Structured Clinical Supervision*, 40 *MD. L. REV.* 284, 300 (1981) (“a controlling relationship prevents attainment of the skills needed to learn from experience.”).

32. William P. Quigley, *Introduction to Clinical Teaching for the New Clinical Law Professor: A View from the First Floor*, 28 *AKRON L. REV.* 463, 486 (1995).

33. *Id.* at 487.

34. Mlyniec, *supra* note 2, at 518.

35. See generally Stark et al., *supra* note 5.

36. Stacy Caplow, *A Year in Practice: The Journal of a Reflective Clinician*, 3 *CLINICAL L. REV.* 1, 27 (1996).

commonly cited in clinical scholarship—is to prevent potential harm to clients. This is a potential hazard inherent to the practice of law by novices—whether the issue is simple or complex, they are still novices engaging in a challenging practice. They will make mistakes. They will confront problems that they are simply not able to handle. When a student is unable (or unlikely) to provide high quality representation, the clinician must choose between letting the student act independently or intervening to provide a high standard of representation. It is not a question of *if* but of *when* this will come up for a clinical supervisor.³⁷ Clinicians are very worried about how much risk to clients can be tolerated before intervention is justified.³⁸

The problem may be the situation, it may be the students, or it may be the case. Students may not immediately be up to the challenge of taking responsibility. Every instructor recognizes that there is a dynamic continuum of student responsibility that is a function of the development of student skill. Peter Toll Hoffmann suggested a three-phase approach to supervision, moving from directive to collaborative to nondirective once a student has become “minimally competent.”³⁹

Complex cases will likely require more directive supervision. If a case is large and complex, students may not be able to take primary responsibility, whether due to the difficulty or the simple size of a project.⁴⁰ Supporters of complex cases in clinics argue that, even though nondirection is threatened by large cases, the pedagogical value to students of the large cases outweighs this liability.⁴¹

Simple expediency may also call for directive supervision. When a deadline is looming or a decision needs to be made in the middle of a hearing or a deposition, it is not practical to engage in a nondirective exploration of options and interests.⁴²

It is not that there is no pushback against a philosophy of nondirection: a small body clinical scholarship has questioned the dominance of nondirection

37. ROY STUCKEY ET AL., BEST PRACTICES FOR LEGAL EDUCATION: A VISION AND A ROADMAP 195 (2007) (“[T]here are times... when the clinical teacher should intervene to protect clients from harm.”).

38. Critchlow, *supra* note 18, at 428. George Critchlow described it as the question of what a clinician will do when her “instinct as lawyer is to do one thing and as teacher something different.” Critchlow somewhat confusingly uses “directive” and “nondirective” to describe clinicians with relative levels of tolerance by supervisors for risk to clients. *But see* David Chavkin, *Am I My Client's Lawyer?: Role Definition and the Clinical Supervisor*, 51 SMU L. REV. 1507, 1534-1535 (1998) (arguing that failure can be a highly effective teaching tool).

39. Peter Toll Hoffman, *The Stages of the Clinical Supervisory Relationship*, 4 ANTIOCH L. J. 301, 309 (1986).

40. *But see, e.g.*, Carpenter, *supra* note 30, at 52 (arguing that “[C]linics can engage in projects that have a meaningful social justice impact while still meeting the pedagogical objectives of student ownership and role assumption.”).

41. *See, e.g.* Srikantiah & Koh, *supra* note 17, at 454 (arguing that large institutional advocacy projects are a good source of clinical education, even though these projects are not a good fit for non-directive supervision and student ownership of cases).

42. Dunlap & Joy, *supra* note 9, at 85 (arguing that directive supervision can result from deadlines).

in practice. Brook Baker calls it “hiding the ball” and questions its need, instead arguing for a collaborative supervisory relationship.⁴³ Harriet Katz, with some exasperation, invites clinicians to “consider the possibility that teaching a high standard of practice could best be done by directive means,”⁴⁴ and strongly argues that experiential learning should be more interested in a collaborative model of supervision.⁴⁵ For the most part, however, the “reigning clinical pedagogy”⁴⁶ of nondirective supervision remains unchallenged.

Every clinician recognizes the need for a diverse array of actual supervisory methods in practice, rejecting a one-size-fits-all approach in favor of a nuanced, intuitive fluidity in supervisory approach.⁴⁷ The title of Professor Mlyniec’s excellent recent article, “Art of Clinical Pedagogy”⁴⁸ aptly describes this approach. Most of us have supervisory methods that defy rigid characterization as directive or nondirective. Every supervisor’s approach liberally combines directive and nondirective elements as informed by the supervisor’s experience.⁴⁹

However, for as long as our scholarship has addressed the degrees of directive supervision, the tension it has primarily focused on has been between the ideology of nondirection and the reality of directiveness in practice. The scholarship in this area does not reflect any serious disagreement or lack of certainty about the optimal amount of supervision for novices in the law clinic, and has not shown any serious inclination to explore the possibility that directive supervision could provide educational benefits equal to or even greater than nondirective supervision.

II. A BRIEF HISTORY OF NONDIRECTIVE SUPERVISION THEORY AND PRACTICE IN CLINICAL LEGAL EDUCATION

To understand the foundations of nondirection as the current dominant clinical pedagogy, it is important to understand how we got here. In the beginning, there was mostly nondirection. In the late 1960s and early 1970s, clinical programs expanded at a phenomenal rate due to a combination of “student demands for relevance”⁵⁰ in their legal training and the availability of

43. Baker, *supra* note 19, at 68.

44. Harriet Katz, *Reconsidering Collaboration and Modeling: Enriching Clinical Pedagogy*, 41 GONZ. L. REV. 315, n.74 (2006).

45. See generally *id.*

46. Srikantiah & Koh, *supra* note 17, at 471.

47. Minna J. Kotkin, *Reconsidering Role Assumption in Clinical Education*, 19 N.M. L. REV. 185, 188 (1989) (asks “whether any one instructional methodology is best suited to accomplish” all of the goals of clinic). See also Linda Morton et al., *Not Quite Grown Up: The Difficulty of Applying an Adult Education Model to Legal Externs*, 5 CLINICAL L. REV. 469, 479–80 (1999).

48. Mlyniec, *supra* note 2.

49. See Chavkin, *supra* note 38 at n.68.

50. ROBERT STEVENS, LAW SCHOOL: LEGAL EDUCATION IN AMERICA FROM THE 1850S TO THE 1980S 216 (1983).

significant funding to start clinical programs.⁵¹ This sudden expansion happened without any existing models to guide new clinics, and certainly no tradition of clinical scholarship or attention to clinical pedagogy. The first clinics were basically legal aid offices moved into law schools, focused primarily on maximizing client representation rather than student learning.⁵² And the first clinical supervisors were recruited from the ranks of practicing legal aid lawyers.⁵³ They were not experienced teachers—they obviously could not have been—and so they did not have anything but their own experience learning legal practice to inform their supervision. In this pedagogical vacuum, they introduced a hands-off approach to supervision that mimicked their own personal experiences.⁵⁴

Even as nondirective supervision was being introduced to early clinical education, one of the first questions that early clinicians asked was how much responsibility to give law students—who are almost always novices—in the representation of their clinic clients. In other words, they wondered how directive they should be. The legendary early clinician Gary Bellow very early on voiced concern that clinicians had “no clear view yet of optimal levels” of responsibility that students should take on.⁵⁵ Professor Bellow had identified the core question for clinical supervisors, and it was not a given that the answer would be “embrace nondirection.”

At the same time Professor Bellow was wondering about optimal levels of supervision, some clinicians were looking around them at theories developing outside of legal education, such as those of psychotherapist Carl Rogers.⁵⁶ Rogers advocated the creation of “helping relationships.”⁵⁷ His focus on supportive and non-controlling feedback and supervision are an easy fit with nondirective supervisory relationships in clinical legal education.

The key moment for developing and supporting a theory of nondirective supervision probably came in 1982, in the form of a seminal article by Frank Bloch. Professor Bloch noted that clinical education did not, at that time, have a theoretical justification for its incorporation into American law schools.⁵⁸ In

51. H.L. PACKER AND T. EHRLICH, NEW DIRECTIONS IN LEGAL EDUCATION 38 (1972).

52. Kotkin, *supra* note 47, at 191.

53. *Id.*

54. *Id.* at 190.

55. GARY BELLOW, ON TEACHING THE TEACHERS: SOME PRELIMINARY REFLECTIONS ON CLINICAL EDUCATION AS METHODOLOGY, *reprinted in* CLINICAL EDUCATION FOR THE LAW STUDENT 393 (1973).

56. Victor M. Goode, *There is a Method(ology) to this Madness: A Review and Analysis of Feedback in the Clinical Process*, 52 OKLA. L. REV. 223, 234 (2000) (“Like other service professions, the early legal clinics owed a great deal to the theoretical approach of Carl Rogers.”). See David R. Barnhizer, *The Clinical Method of Legal Instruction: Its Theory and Implementation*, 30 J. LEGAL EDUC. 67, 104-107 (1979). See also Michael Meltsner & Philip Schrag, *Scenes from a Clinic*, 127 PENN L. REV. 1 (1978).

57. See CARL ROGERS, ON BECOMING A PERSON: A THERAPIST’S VIEW OF PSYCHOTHERAPY (1961).

58. Frank S. Bloch, *The Andragogical Basis of Clinical Legal Education*, 35 VAND. L. REV. 321, 336, 336 n.13 (1982). He also notes that perhaps this not so bad—traditional legal education also lacks any theoretical justification.

response to this gap, he introduced clinicians to the “andragogy” model of educational design for adult learners. The most prominent advocate of andragogy was Malcolm Knowles, an educational theorist and educator working in the field of adult education.⁵⁹

Knowles argued that adult education design had to be mindful of a series of assumptions about the factors affecting motivation for learning in adult learners:

1. Adults are self-directed learners who should be involved in the planning and evaluation of their instruction.⁶⁰
2. Experience should provide the basis for learning activities.⁶¹
3. Adults are most ready to learn subjects that have immediate relevance and impact to their job or personal life.⁶²
4. Adult learning is problem-centered rather than content-oriented.⁶³

Knowles argued that adult learning should ideally be self-directed, experiential, and motivated by the applicability of the learning to the learner’s immediate need. According to Knowles, “the more active the learner’s role in the process, the more he is probably learning.”⁶⁴ Andragogy is fundamentally about managing learner input into the educational process to optimize motivation and, in theory, maximize learning.

Professor Bloch applied the principles of andragogy to clinical education and concluded that clinical education works because it is “andragogically sound.”⁶⁵ As applied to clinical supervision, Professor Bloch concluded that andragogy discourages directiveness.⁶⁶ Supervisors should encourage students to decide for themselves when to ask for help from a supervisor and when to engage in exploration on their own.⁶⁷ Bloch concluded that the most effective version of supervision was one that fostered mutual inquiry and shared responsibility.⁶⁸ Interestingly, and somewhat ironically in light of clinicians’ general interpretation of his article, Bloch argued not for nondirective supervision but rather for a collaborative approach, where the students and teachers work together as colleagues.

Influenced by their interpretation of Bloch’s article, “many clinicians. .

59. MALCOLM S. KNOWLES, *THE MODERN PRACTICE OF ADULT EDUCATION* (Follett Publishing Company ed., 1980). Knowles’ book made a big splash in many educational quarters, but it does not appear to have been until 1982 that clinicians took note of his ideas.

60. *Id.* at 45–49.

61. *Id.* at 49–51.

62. *Id.* at 51–53.

63. *Id.* at 53–58.

64. *Id.* at 50.

65. Bloch, *supra* note 58, at 353.

66. *Id.* at 349.

67. *Id.* at 349–50.

68. *Id.* at 338. Accord Chavkin, *supra* note 38, at 1530–31 (suggesting that “apparent inconsistency” was to some degree a reflection of “the tension between service responsibilities and educational goals.”).

.believed that, in order to implement Knowles' theory of adult learning in the clinical context, their supervisory role required them to be 'nondirective.'"⁶⁹ It's not hard to see why the clinical world found much to like in andragogical principles that supported minimal intervention from supervisors. Bloch's article helped legitimize clinical education generally—by providing a theoretical underpinning—and validated nondirective supervision specifically. In response, clinicians embraced andragogical principles as a justification for prevailing clinical teaching methodologies.⁷⁰ Clinicians as a body were even more willing to accept andragogy than educational theorists,⁷¹ possibly due to the close fit between andragogy and clinical goals and theory.⁷²

Although few clinicians today explicitly refer to andragogy, the andragogical principles of maximizing motivation, reflection and empowerment have become the primary focus of clinical pedagogy. Building from Bloch's seminal work on andragogy and clinical education, clinicians have developed a robust and nuanced theory of ownership and its benefits in terms of motivation of students that goes hand in hand with nondirective supervision.

The way that clinical education arrived at its current state of nondirective methodology is not necessarily problematic—the lack of continued exploration and searching for guidance to inform supervisory theory would be excusable if we were sure that we were engaged in best practices. In fact, however, we do not have any such assurances. In a 1998 article, David Chavkin noted that clinicians had “no answers from empirical research” relating to “the extent to which most [clinic] students learn better from having to work their way initially through a problem without step-by-step guidance.”⁷³

It is not that we have no evidence to support prevailing clinical pedagogy—we have decades of observations from the field to support dominant practices. But, long after Professor Chavkin's observation, we still only have limited evidence to help us evaluate the effectiveness of our pedagogy. Even if we accept that nondirection is key to student motivation,⁷⁴ we do not have empirical evidence to support claims that nondirective supervision enhances student learning compared to directive supervision.⁷⁵

69. Morton et al., *supra* note 47, at 480.

70. *Id.* at 469.

71. *Id.* at 478.

72. *See id.* *See also* Kotkin, *supra* note 47, at 192.

73. Chavkin, *supra* note 38, at 1529.

74. *See* J.D. Fletcher, *From Behaviorism to Constructivism: A Philosophical Journey from Drill and Practice to Situated Learning*, in SIGMUND TOBIAS & THOMAS M. DUFFY, CONSTRUCTIVIST INSTRUCTION: SUCCESS OR FAILURE? 246 (2011). This question is beyond the scope of this essay, but the assertion seems somewhat questionable. There is evidence that what some derisively call “drill and kill” education can actually be enjoyable for students. As for law students in particular, we have plenty of evidence that law students are quite motivated to learn and perform in many educational settings that are highly directive and give students no ownership, such as in most of their law school classes.

75. In fact, we tend to forget to ask ourselves whether students are actually learning and how we might know it. Although we have spent a great deal of time thinking about how

Even in the absence of strong evidence, there is general agreement among clinicians that the question of whether supervision should be directive or nondirective is one that has long since been settled. Outside of clinical legal education, however, there is an ongoing and occasionally contentious debate about optimal levels of guidance for novices—it is certainly not settled. It is not even close to being settled. It has produced a large body of evidence, theory and scholarship. Clinicians should be aware of this ongoing conversation and its implications for clinical legal education. In the next section, I discuss the current state of science and theory of educational design for novices.

III. EDUCATIONAL THEORIES OF OPTIMAL GUIDANCE FOR NOVICE LEARNERS

The concepts that those of us in clinical legal education call nondirective and directive supervisory methods are (broadly) similar to what educational researchers call, respectively, “constructivist” and “instructionalist” theories of educational design. Like our theory of nondirective clinical supervision, constructivist theories emphasize self-directed learning and exploration. Instructionalist theories, in contrast, favor explicit guidance for novice learners, similar to what clinicians would call a directive theory of supervision. These comparisons are not an exact fit, and educational researchers use their own language, so in an effort to avoid confusion when speaking of research and theory outside of the world of clinical legal education, I will use the terminology of educational research.

A. Constructivist Theories of Educational Design

Clinical pedagogy’s orientation toward student discovery and exploration to find their own answers parallels, without explicitly incorporating, a long line of pedagogical theory that favors discovery, exploration and construction of knowledge by the learner. The many variations on this idea are loosely grouped together under the umbrella term “constructivist.”⁷⁶

Drawing on inspiration from enlightenment philosophers and more recent scholars like Jerome Bruner, theorists have argued that, since learning is done by constructing knowledge, learning will be better and deeper,⁷⁷ and more naturally effective, when learners “discover” their own knowledge by constructing their own solutions to problems. Active involvement by learners will increase their ability to develop and apply conceptual knowledge.⁷⁸

motivation and ownership of the taxi driving experience, we have devoted significantly less energy to investigating whether we’ve reached the destination.

76. Other terms used to describe this approach include exploration, discovery, and problem-based learning.

77. See Sofie M. M. Loyens & David Gijbels, *Understanding the Effects of Constructivist Learning Environments: Introducing a Multi-Directional Approach*, 36 INSTRUCTIONAL SCI.: AN INT’L J. OF THE LEARNING SCI. 351, 352 (2008).

78. See Sofie M. M. Loyens et al., *Students’ Conceptions of Distinct Constructivism*

Proponents of educational design that relies on discovery and construction, like clinical scholars, argue that this approach also provides more motivation than direct guidance.

In its purest form, this would mean giving students no direction at all, but that approach, if it was ever embraced, has been abandoned.⁷⁹ Instead, current theory suggests that the teacher's job is not to provide explicit procedures for a learner to follow but rather to challenge the learner's thinking.⁸⁰

The key to learning through discovery and exploration is that it builds deeper learning through helping the learner "construct their own personal learning experience"⁸¹ because "learning is best understood, stored and applied when learners develop their own mental models."⁸² With this in mind, the idea is to give learners the support necessary for them to construct those mental models.⁸³ This is done by making learners discover their own solutions to novel (but still realistically solvable) problems, delaying guidance as long as possible. In application, this means that guidance and information are strategically withheld from learners, including novices, to allow them to learn for themselves without being given the answers. While immediate feedback may result in more efficient learning in the short term, delayed feedback is more appropriate when the goal is long-term retention and transfer.⁸⁴

The arguments for constructivist educational design for novices are similar to those that we use to support nondirective clinical supervision. And,

Assumptions 22 J. OF PSYCHOL. AND EDUC. 179, 179 (2007). See also Cindy E. Hmelo-Silver et al., *Scaffolding and Achievement in Problem-Based and Inquiry Learning: A Response to Kirchner Sweller, and Clark*, 42 EDUC. PSYCHOLOGIST 99, 102-04 (2007).

79. Richard Mayer, *Should There be a Three-Strikes Rule Against Pure Discovery Learning?*, 59 AM. PSYCHOLOGIST 14, 17 (2004).

80. John R. Savery & Thomas M. Duffy, *Problem Based Learning: An Instructional Model and Its Constructivist Framework*, 35 EDUC. TECH. 35 (2001). One of the most prominent applications of a discovery-based theory of educational design has been the adoption by several medical schools in the US and Canada of Problem-Based Learning, or PBL. Working together in a small group with the support of a tutor, students in a problem-based learning environment work together to discover solutions to new problems. Several studies have compared PBL with traditional instruction, with interesting conclusions. A recent meta-analysis of several studies concluded that there was "strong evidence" that problem-based learning is superior to traditional education methods for several important areas of medical education. However, problem-based learning graduates appear to self-assess as having less medical knowledge than peers who received traditional medical education. See Gerald Choon-Huat Koh et al., *The Effects of Problem-Based Learning During Medical School Competence: A Systemic Review*, 178 CANADIAN MED. ASS'N. J. 34 (2008).

81. Jennifer Vogel-Walcutt et al., *Cognitive Load Theory vs. Constructivist Approaches: Which Best Leads to Efficient, Deep Learning?* 27 J. OF COMPUTER ASSISTED LEARNING 133, 135 (2011).

82. *Id.*

83. *Id.* See Alexander Renkl & Robert K. Atkinson, *Interactive Learning Environments: Contemporary Issues and Trends. An Introduction to the Special Issue*, EDUC. PSYCHOL. REV. 235, 236 (2007).

84. See Alyssa Friend Wise & Kevin O'Neill, *Beyond More Versus Less: A Reframing of the Debate on Instructional Guidance*, in CONSTRUCTIVIST INSTRUCTION: SUCCESS OR FAILURE? 92 (Sigmund Tobias & Thomas M. Duffy eds., 2009).

like clinical legal educational theories, exploration and discovery theories suffer from a paucity of actual empirical evidence to support them. The construction-based theories are, as one proponent of constructivism has described it, “stimulating rhetoric” but lacking in empirical support.⁸⁵

B. Instructionalist Theories of Educational Design

Researchers have generated a significant body of experimental evidence that supports the argument that for novices, learning is maximized by explicit instruction that limits the amount of time and effort expended searching for solutions to problems. This is broadly called the “instructionalist”⁸⁶ argument. In application, it is similar to what we clinicians would call directive.

The supporters of instructional educational design have recently relied on developments in our understanding of the way that humans process and store new knowledge (scholars call this “cognitive architecture”) to explain the evidence that novices can benefit more, and more quickly, from directive supervision. Learners can use their time and cognitive energy more efficiently, and, because this type of instruction is informed by cognitive architecture, it can lead to better retention and transfer.⁸⁷

In a seminal study published in 1985,⁸⁸ John Sweller and Graham Cooper described a series of experiments in which they compared the results on future performance of students solving algebra problems using “worked examples”—explicit, step-by-step demonstrations of how to solve the problem that effectively give students the solution and the problem simultaneously—and students using conventional problem solving techniques.⁸⁹ Students who used worked examples not only spent less time learning the material initially, in subsequent testing they performed better than their problem-solving peers on

85. Tobias Sigmund, *An Eclectic Appraisal of the Success or Failure of Constructivist Instruction*, in CONSTRUCTIVIST INSTRUCTION: SUCCESS OR FAILURE? 346 (Sigmund Tobias & Thomas M. Duffy eds., 2009).

86. This theory has also been described as the objectivist or the transmission theory. The terms “constructivist” and “instructionalist” are imperfect and I use them somewhat reluctantly. They are hardly the polar opposites that the terminology might suggest, and every theory and theorist exists along a spectrum depending on the amount, type and timing of guidance they recommend. In this essay, I use the terms to convey general placement along the continuum without intending to definitively place any particular theory in any particular camp.

87. Paul A. Kirschner et al., *Why Minimal Guidance During Instruction Does Not Work: An Analysis of the Failure of Constructivist, Discovery, Problem-Based, Experiential, and Inquiry-Based Testing*, 41 EDUC. PSYCHOLOGIST 75, 79–80 (2006). Professor John Sweller, the most prominent supporter of instructionalism, has recently introduced an evolutionary component to this argument, suggesting that certain things like a native language and social interactions are so hard-wired into our brains that we learn them in a different way than, for example, physics or math. See John Sweller, *What Human Cognitive Architecture Tells Us About Constructivism*, in CONSTRUCTIVIST INSTRUCTION: SUCCESS OR FAILURE? 127, 129 (Sigmund Tobias & Thomas M. Duffy eds., 2009).

88. John Sweller & Graham A. Cooper, *The Use of Worked Examples as a Substitute for Problem Solving in Learning Algebra*, 2 COGNITION AND INSTRUCTION 59, 59 (1985).

89. *Id.*

problems similar to the sample problems.⁹⁰

Cognitive researchers call the effect described by Sweller and Cooper the “worked example effect.”⁹¹ In the past 30 years, the worked example effect has been identified in a variety of domains, including mathematics, database usage, meteorology,⁹² electrical safety,⁹³ understanding lightning⁹⁴ and nautical knotting,⁹⁵ among others. In study after study, the more explicit the instruction, the better novice learners performed on subsequent challenges.

One interesting finding from the research related to the worked example effect has been an understanding that the value of explicit guidance diminishes gradually as learners gain expertise. In fact, at some point, explicit guidance actually hinders learning—it’s worse than no guidance at all.⁹⁶ Researchers call this the “expertise reversal effect”—expert learners are better off without explicit guidance.⁹⁷

C. Cognitive Load Theory

To explain the worked example effect and the expertise reversal effect, theorists have developed “cognitive load theory,” or CLT, which argues that instructional efficiency is maximized by attending to the features of cognitive architecture.

Cognitive load theory starts from findings about working memory and our ability to process novel information to explain how we learn “complex cognitive tasks, where learners are often overwhelmed by the number of information elements and their interactions that need to be processed simultaneously before meaningful learning can commence.”⁹⁸ In other words, how do we begin to learn complicated things (like the practice of law)?

Cognitive scientists talk about two different types of memory: “working memory” and “long-term memory.” Working memory is the “place” where we process new information. We have long known that most people can only keep 7+/-2 pieces of information in working memory at any given time.⁹⁹ When we

90. *Id.*

91. Sweller & Cooper, *supra* note 88.

92. Pierter Wouters, et al., *How to Optimize Learning from Animated Models: A Review of Guidelines Based on Cognitive Load*, 78 REV. OF EDUC. RES. 645, 656 (2010).

93. E. Pollock et al., *Assimilating Complex Information*, 12 LEARNING AND INSTRUCTION 61, 67 (2002).

94. Richard E. Mayer & Paul Chandler, *When Learning is Just a Click Away: Does Simple User Interaction Foster Deeper Understanding of Multimedia Messages*, 93 J. OF EDUC. PSYCHOL. 390 (2001).

95. Stephan Schwann & Roland Riempp, *The Cognitive Benefits of Interactive Videogames: Learning to Tie Nautical Knots*, 14 LEARNING AND INSTRUCTIONS 293 (2004).

96. See Slava Kalyuga et al., *The Expertise Reversal Effect*, 8 COGNITION AND INSTRUCTION 23, 25 (2003).

97. *Id.* at 23.

98. Fred Paas et al., *Cognitive Load Theory: Instructional Implications of the Interaction Between Information Structures and Cognitive Architecture*, 32 INSTRUCTIONAL SCI. 1, 1 (2004).

99. George A. Miller, *The Magical Number Seven, Plus or Minus Two: Some Limits on Our Capacity for Processing Information*, 63 PSYCHOL. REV. 81, 90–93 (1956).

are processing new information, it may be as low as 2-3 pieces of information.¹⁰⁰ Long-term memory, on the other hand, is an effectively limitless storage space for information. As new information is processed, it is integrated with related existing long-term memories to create “chunks” of information.¹⁰¹ Cognitive scientists use the term “schema” to describe these chunks of information held in long-term memory.¹⁰² Long-term memory in the form of relevant schemas “can be held and processed in working memory effortlessly” when needed.¹⁰³

Although working memory has serious limitations when dealing with novel information, it is quite capable of handling large amounts of complex information drawn from long-term memory. As learners acquire more information and experience, their increasingly comprehensive schemas allow them to process problems more quickly and efficiently, and eventually, automatically. In the schema-based model, most learning is, like expertise, domain-specific—expert lawyers are good at making legal arguments because their mental models incorporate the laws and precedents that give context to those arguments.¹⁰⁴ Novice lawyers, however, do not have the mental models necessary to process and apply complex legal reasoning to complex legal problems. With this expert/novice distinction in mind, educational design for novices should seek to change long term memory through the development of domain-specific appropriate schemas.

Cognitive load theory explains the impact of the “load”—the amount of mental work required—on learning.¹⁰⁵ According to CLT, a cognitive load that is too high means that some of the information will simply not be processed—

100. Fred Paas et al., *supra* note 98, at 2.

101. Vogel-Walcutt et al., *supra* note 81, at 134.

102. For a fuller discussion of schema theory as applied to legal education, see Stefan H. Krieger & Serge A. Martinez, *A Tale of Election Day 2008: Teaching Storytelling Through Repeated Experiences*, 16 LEGAL WRITING 117, 127 (2010). *See also* Stefan H. Krieger & Serge A. Martinez, *Performance Isn't Everything: The Importance of Conceptual Competence in Outcome Assessment of Experiential Learning*, 19 CLINICAL L. REV. 251, 267 (2012).

103. John Sweller et al., *Cognitive Architecture and Instructional Design*, 10 EDUC. PSYCHOL. REV. 251, 256 (1998).

104. Sweller, *supra* note 87, at 131.

105. Researchers have identified three different types of cognitive load: intrinsic, extraneous, and germane. Intrinsic load is a function of the material to be learned and the learner's existing knowledge. It can be managed through “scaffolding” or other forms of instructional support. *See* Kalyuga et al., *supra* note 97. *See, e.g.*, Jeroen J. G. van Merriënboer & John Sweller, *Cognitive Load Theory and Complex Learning: Recent Developments and Future Directions*, 17 EDUC. PSYCHOL. REV. 147 (2005). *See also, e.g.*, Slava Kalyuga, *Expertise Reversal Effect and Its Implications for Learner-Tailored Instruction*, 19 EDUC. PSYCHOL. REV. 509 (2007). Extraneous load is the additional effort required to understand the material resulting from unnecessary information that requires a learner's attention—this can be increased or decreased depending on the quality of instructional design. Ideally, this will be as low as possible. Germane load is “good” load—it is the cognitive load that is devoted to schema development, independent of the material itself. *See* Paas et al., *supra* note 99. In a perfect educational design, extraneous load would be minimized, germane load would be maximized, and intrinsic load would be optimized to the “Goldilocks” level that allows for maximum student learning without exceeding the inherent limit on cognitive load of the learner.

it will effectively be lost to the learner. A load that is too low can also lead to degraded performance,¹⁰⁶

Cognitive load theory argues that learning is most effective when the cognitive load is optimized for efficiency. Without explicit guidance, the novice can only engage in “search” techniques—a usually ineffective hit-or-miss approach to trying to discover the solution to a problem.¹⁰⁷ For these learners, cognitive load can be limited through varying levels of guidance. For a more experienced learner, guidance need not be so robust because they have already developed some schemas. And for an expert who has already developed mental models allowing her to respond to a particular type of problem, adding guidance may actually hinder learning by increasing extraneous cognitive load through superfluous instructional features that must be attended to. Optimal cognitive load is not a static concept—it must be constantly tweaked to remain maximized even as a learner becomes more sophisticated.

Cognitive load theory suggests that as a learner progresses, guidance should be gradually faded and the learner given more opportunity to engage in active problem solving. Once a learner has become an expert, guidance should be withdrawn altogether and the learner should be engaged solely in constructing her own solutions to problems.¹⁰⁸

The implications for instructional design of the limits on the ability of working memory to process novel information are straightforward: novices, who are likely to be overloaded by too much or overly complex new information, “should not be presented with material in a manner that unnecessarily requires them to search for a solution with its attendant heavy working memory load rather than being presented with a solution.”¹⁰⁹ Novice learners should simply be taught the procedures of a domain by taking a complex concept and breaking it down into smaller, manageable chunks to limit complexity, which are then taught very explicitly. Once students are familiar with the individual “chunks,” the relationship of the parts to the whole can be explored. Working memory load must be carefully managed to enhance learning.¹¹⁰ If too much information is presented at once, information may be lost.

Cognitive load theory explains why experts and novices actually learn in

106. Fred Paas et al., *supra* note 98, at 1.

107. See Sweller & Cooper, *supra* note 88 at 60.

108. This progression is similar to Peter Toll Hoffman’s “stages” proposal that clinical supervision should begin with explicit guidance that is gradually faded out as student competence increases. See Hoffman, *supra* note 39, at 304. However, the point at which CLT suggests guidance should be withdrawn is well past the point of the “minimally competent” student in Hoffman’s model.

109. John Sweller et al., *Why Minimally Guided Teaching Techniques Do Not Work: A Reply to Commentaries*, 42 EDUC. PSYCHOLOGIST 115, 116 (2007). This idea reflects Gary Bellow’s justification for nondirection arguing that students are actually less able to perform well after lawyering tasks “have been dissected in the classroom,” because they simply have too many things to think about to allow them to actually perform well. See also Bellow, *supra* note 56.

110. Kirschner et al., *supra* note 87, at 77. See also Sweller et al., *supra* note 109, at 116.

different ways. Novices need much more guidance, but that same guidance can actually hinder learning for experts. In most cases, however, withholding knowledge from a learner does not lead to increased knowledge development.¹¹¹

D. Explicit Instruction and Ill-Structured Domains

So far, so good—the worked example effect has been seen and well-documented in a variety of domains. It undeniably exists in certain settings and should be taken seriously as a tool for educational design. The question for us as clinicians is whether it applies to clinical legal education. Unfortunately, the answer is not particularly clear.

The vast majority of the evidence for the worked example effect and other types of explicit guidance has come from “well structured” domains, such as mathematics and physics,¹¹² that tend toward a structure in which there is a “right” answer and a standard path to finding a solution. It is possible, therefore, that the worked example effect is not applicable to novice learning in domains that are what educational scientists call “ill-structured.” An ill-structured domain is “characterized by being indeterminate, inexact, noncodifiable, nonalgorithmic, nonroutinizable, imperfectly predictable, nondecomposable into additive elements, and, in various ways, disorderly.”¹¹³ The line between domains that are well-structured or ill-structured is itself hard to define, but certainly the practice of law is at the less-structured end of the spectrum.

In ill-structured domains, explicit instruction is challenging because, by definition, there are no rules/procedures to teach—that’s what makes these domains ill-structured. (On the other hand, if there are no rules and experts are unable to agree on how to solve a particular problem, it may not be reasonable to expect novices to discover workable solutions.¹¹⁴) There is also some evidence that the simplification of complex processes that is necessary in instructionalism can lead to “maladaptive reductionism.”¹¹⁵ This “artificial neatening” may seduce learners (and perhaps instructors) into thinking that the rules really function as rules when in a real-world setting they almost never do.¹¹⁶ Unfortunately, there is still not much empirical evidence to help us

111. See Richard E. Clark et al., *Putting Students on the Path*, 36 AM. EDUC. 6, 7–8 (2011).

112. Rand Spiro & Michael Deschryver, *Constructivism: When it’s the Wrong Idea and When it’s the Only Idea*, in *What Human Cognitive Architecture Tells Us About Constructivism*, in CONSTRUCTIVIST INSTRUCTION: SUCCESS OR FAILURE? 106, 113 (Sigmund Tobias & Thomas M. Duffy eds., 2009).

113. *Id.* at 106–07. The classic example of the “ill-structured” problem is the thought experiment proposed by Ludwig Wittgenstein: defining a “game.” LUDWIG WITTGENSTEIN, *PHILOSOPHICAL INVESTIGATIONS* (1953).

114. Richard E. Clark, *How Much and What Type of Guidance is Optimal for Learning from Instruction?*, in CONSTRUCTIVIST INSTRUCTION: SUCCESS OR FAILURE? 168, 176 (Sigmund Tobias & Thomas M. Duffy eds., 2009).

115. Spiro & Deschryver, *supra* note 112, at 110.

116. *Id.* at 111.

understand when a domain might be theoretically too ill-structured to support the worked example effect.

Recent research has, however, generated evidence from a few less-well-structured domains. In one study, learners were asked to identify the styles of several designers after instruction either through problem solving or a worked example. The learners who received the worked examples performed better than those taught through problem solving methods.¹¹⁷ In another study in the field of medicine, researchers found that learners' diagnostic competence was increased after exposure to "elaborated feedback"—a kind of post-performance worked example.¹¹⁸ In 2013, researchers identified the worked-example effect in the ill-structured domain of English literature. University students identified as "less knowledgeable" who learned through worked examples performed better on a retention test than those who learned through problem solving.¹¹⁹

At least one study has looked for the worked example effect in the domain of learning law. In a recent experiment, Dutch law students were asked to solve legal analysis problems using a civil code.¹²⁰ Students from the first year and students from the third year (in the Netherlands, law is an undergraduate field of study) were asked to solve a legal reasoning problem. Some received worked examples as guidance, and some received less guidance. For both sets of students, first years and third years, the worked example cohorts demonstrated better learning than those from the other cohort.¹²¹

It is possible that these results merely reflect learning of highly-structured elements of ill-structured domains. For example, the study of Dutch law students measured the relatively structured and straightforward task of applying the civil code to a discrete set of facts—it does not come close to approximating the complexities of helping a client make and implement a decision in an actual case. However, the multiple studies finding the worked example effect in ill-structured domains should inspire further inquiry before we can conclude that explicit guidance is not appropriate for ill-structured domains.

117. Arianne Rourke & John Sweller, *The Worked-Example Effect Using Ill-Defined Problems: Learning to Recognise Designers' Styles*, 19 LEARNING AND INSTRUCTION 185, 185 (2009).

118. Robin Stark et al., *Case-based Learning with Worked Examples in Complex Domains: Two Experimental Studies in Undergraduate Medical Education*, 21 LEARNING AND INSTRUCTION 22 (2011).

119. Suna Kyun et al., *The Effect of Worked Examples When Learning to Write Essays in English*, 81 J. OF EXPERIMENTAL EDUC. 385 (2013).

120. Fleurie Nievelstein et al., *The Worked Example and Expertise Reversal Effect in Less Structured Tasks: Learning to Reason about Legal Cases*, 38 CONTEMP. EDUC. PSYCHOL. 118 (2013).

121. *Id.* at 118. The Dutch study did not find any expertise reversal among 3rd year law students, suggesting that either it does not exist in legal studies or, more likely, even after 2 years of intensive study, novices have not reached a particularly high level of ability to engage in legal analysis.

IV. IMPLICATIONS FOR CLINICAL LEGAL EDUCATION

In the absence of consensus about the relative directiveness of guidance for novice learners across domains, what should clinicians do? Unfortunately, the existing evidence raises a whole new set of questions for us about when and how to give guidance to our novice law students. While it casts some doubt on the long-standing orthodoxy of nondirective supervision, it does not either confirm or refute any particular approach to supervision. However, looking at research and theory from the science of human learning gives us at least three suggestions going forward.

First, we should be more open to the possibility that directive supervision is acceptable not only for practical reasons but for philosophical ones—it may help our students, novice learners for the most part, learn more effectively. There is a very large body of experimental evidence supporting explicit guidance for novice learners, and it makes no sense for us to ignore it or discount it. Minna Kotkin's suggestion that we should rely more on "modeling" requires less defense if we understand the role of worked examples and understand that modeling is simply an in-person worked example that "makes the expertise trajectory clear by showing what the end goal of 'expertise' looks like."¹²² There may be good reasons to deviate from nondirection that are not based in practicalities such as time or client pressures. Directive supervision may or may not be the best approach, but we certainly do not have enough evidence to support the traditional hostility to it from the clinical world.

Some legal scholars have already embraced cognitive learning theory and its implications for activating prior knowledge in law students¹²³ and for legal writing.¹²⁴ In light of some of the questions that remain about the applicability of cognitive load theory across domains, I worry that this may be premature, but it demonstrates an admirable willingness to look beyond clinical and legal educational scholarship for guidance. No doubt, more attention to developments in cognitive psychology and its findings would benefit clinicians and clinical law students.

Second, we should be more aware of what is happening outside our discipline. This may say as much about me as about clinical education generally, but I had been teaching clinic for several years before I heard anything about the educational research happening outside our walls. Although there has been a hot and occasionally contentious debate happening for

122. Quincy Elvira et al., *Designing Education for Professional Expertise Development*, SCANDINAVIAN J. OF EDUC. RES. 1470 (2016).

123. Shaun Archer et al., *Reaching Backward and Stretching Forward: Teaching for Transfer in Law School Clinics*, 64 J. LEGAL EDUC. 258 (2014) (applying cognitive load theories of activating prior knowledge for more effective learning).

124. Terill Pollman, *The Sincerest Form of Flattery: Examples and Model-Based Learning in the Classroom*, 64 J. LEGAL EDUC. 298 (2014) (applying cognitive load theories of guidance to legal writing).

decades, there is almost no mention of it in the clinical education literature.¹²⁵ Early clinicians incorporated theories of Carl Rogers and Malcolm Knowles into the inchoate clinical pedagogy, but in the decades since Professor Bloch introduced us to andragogy, we have in many ways remained isolated from ongoing research into educational design for novices. Thirty years is an eternity in the life of educational theory and research. The literature and evidence on optimal levels of guidance for novices is vast and full of contradictions, but it obviously has significant potential benefit for clinical legal education.

Third, we need more information. Somewhat ironically, clinical legal education has adopted an approach that reveals our bias towards the discovery theory of learning: instead of looking to educational experts for guidance, we have spent the past 50 years trying to discover through our own explorations the optimal amount of guidance for our novice students.

To better understand the efficacy of our teaching, we should do some research. It is frankly astonishing how far behind some of our peers we are—for example, medical educators are constantly doing research on their own efficacy. As a result, medical educators have a robust theoretical and empirical body of knowledge to draw on in refining medical education. That is changing—outside of the clinical world, legal education has recently begun to tentatively embrace empirical research.¹²⁶ Those of us in clinical legal education, however, have done almost no research to assess our success or failure.¹²⁷

To accurately understand the role of guidance in clinical education, we need to generate, interpret and apply empirical evidence. To generate the type of evidence necessary to guide clinical education, we must conduct our own experiments. Of course, one reason that we have not developed a body of empirical evidence is that it is hard. Methods for assessing legal performance are challenging, but not necessarily impossible. Borrowing from medical education, my co-author Professor Stefan Krieger and I recently suggested using a “think-aloud” protocol.¹²⁸ In this type of assessment, students are asked to speak their thoughts aloud as they think through a problem they have been given, and the evaluator listens not only for an end result but also for evidence of the understanding and application of key concepts by the learner. Of course

125. I have only found one reference, in Chavkin, *supra* note 38, at 1531.

126. See David Herring & Collin Lynch, *Teaching Skills of Legal Analysis: Does the Emperor Have Any Clothes?* 18 LEGAL WRITING 85 (2012) (reporting the results of a study of impact of case-dialogue teaching on students’ legal reading and reasoning). See, e.g., Stefan H. Krieger, *The Development of Legal Reasoning Skills in Law Students: An Empirical Study*, 56 J. LEGAL EDUC. 332, 336 (2006).

127. I am only aware of a few small empirical studies. See Stefan H. Krieger, *The Effect of Clinical Education on Law Student Reasoning: An Empirical Study*, 35 WM. MITCHELL L. REV. 359 (2008); see also Rebecca Sandefur & Jeffrey Selbin, *The Clinic Effect*, 16 CLINICAL L. REV. 57 (2009).

128. See Krieger & Martinez, *supra* note 102. This idea did not originate with us—we borrowed it from the medical school assessment literature. Medical schools really are quite far ahead of legal education in this respect.

there are other methods. Surely clinicians can develop an empirical protocol that works for clinical legal education.

Even then, the way forward may not be clear. As impressive and useful as it would be to generate a body of knowledge about what kinds of guidance lead to best learning outcomes, the matter would still be far from resolved. It is not a straight line from effectiveness of a particular teaching method to implementation in clinical settings. Instead, it becomes another variable to incorporate into the complex calculus of motivation, efficiency, client protection, long-term effects and other factors. To get the math anywhere close to right, we need to have the right information to plug into our equations. This may sound an awful lot like “well, it’s an art.” Perhaps clinical legal education is an art—but the more informed we are about what we are doing, the better the final artwork is likely to be.

V. CONCLUSION

Learning can happen in many ways, including through highly directive and nondirective means. Once someone has reached mastery, whether through directive or nondirective means, the path that they took is probably not important. The problem, from a clinician’s standpoint, is that we only have students for a very limited time and they are usually very close to entering their professional lives, in which they may or may not receive additional guidance and mentoring. If we only have one semester to do this, what is the instructional design that maximizes student development from their position as novice lawyers toward the expert practitioners we hope they will be during that time?

Nondirective supervision is almost always wildly inefficient—for students who are trying to discover the “right” answers about what to do or how to do it, and for clients who are often left waiting while students and supervisors go about their work nondirectively. To justify this approach, we should have a pretty good reason for doing so. Instead, we have a long tradition that has not been subjected to significant critique from a theoretical standpoint and that has no empirical data to support it.

Nondirection has been an important part of clinical theory from the very beginning, and it is firmly entrenched in our thinking and talking about clinical supervision. However, the lack of empirical support, coupled with recent findings from educational researchers, should cast some doubt on the effectiveness of nondirective supervision for novices. We owe it to our students and our colleagues to regularly look to other fields for ideas, assess their workability in clinical education and respond quickly and earnestly to our own findings.