

**Session IV: The Twin Elements of Learning: Knowledge and Judgment (Practice)**  
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Reinventing Liberal Education: Knowing That, How, Why, and When?

We are, I believe, in the midst of a vital movement to reinvent liberal education. Because it is being advanced by a number of disparate groups and organizations, it is difficult to give a fully accurate description of the agenda of this movement. So, it is wise to start by stipulating what liberal education means—and then work to clarify and qualify that while talking about more specific developments. The aim of liberal education, I believe, is enabling students to make sense of the world and their place in it, preparing them to use knowledge and skills as means toward responsible engagement with the life of their times.

The virtue of the Bringing Theory to Practice project is that it articulates a vision of liberal education that can reclaim the practice of teaching and learning in the academy. This is a vision that places focus on the faculty, which makes it a noteworthy exception to the usual abstractions in which higher education policy is routinely discussed. Bringing Theory to Practice specifies the general aim of enabling students to make sense of the world and take up a responsible place in it by singling out three interrelated purposes that need new emphasis. The first is the *epistemic*, the concern with knowledge; the second is *eudemonic*, students' development as persons

as well as minds; and the third, *civic* purpose addresses the dimension of engagement with larger values and responsible participation in the life of our times.

In what follows, I want to build on this approach which Don Harward has done so much to articulate and sustain.

1. I will begin by asking the (rhetorical) question, “If this is so evidently a good thing, then why doesn’t everyone just do it?” The answer, of course, involves the difficult matter of what we might think of as *structural constraints* that work to limit today’s practices of academic pedagogy to a one-sided emphasis upon “knowing that.” This limitation can be summed up as giving nearly-exclusive attention to *analytical reasoning* or as it is often called, “critical thinking.”
2. Against this as background, I want to insist that the reconstruction of liberal education that we seek requires going beyond an exclusive concern with “knowing that” to include educating students’ capacity to “know how” as well. This is the realm of *practical reasoning*. Practical here connotes not only “skills,” but the ability to configure and use knowledge as experts “solve problems.”
3. I will argue that for real liberal education, “knowing that” and “knowing how,” even taken together, are not enough. They demand a further exploration that extends to “knowing why” and “knowing when.” This has traditionally been called *practical wisdom* or good judgment.
4. In conclusion, I want to emphasize what this perspective on liberal learning means for faculty. It requires a shift from an identity as a *disciplinary*

*specialist with some applied teaching skills* toward an understanding of the liberal arts faculty person as a *discipline-using educator* concerned in every activity with the larger goals of liberal learning.

### Why Doesn't Everyone Just Do It?

The need to unite the three Bringing Theory to Practice goals—knowledge, student development, and moral and civic engagement—might seem (as they do to me) such a compelling conception of college education that it becomes hard to grasp how it could be by so many institutions neglected. More must be at work than simply myopia, sloth, or bad will. Rather, our universities and colleges appear to be in the grip of some other conception of their educational mission that makes the unified conception animating this conference difficult to grasp and even calls out resistance to it. One obvious candidate is the ascendancy of the research ideal as the source of authority and prestige in the academy. As is well-documented, in the course of the past century this has worked to the detriment of the collegiate ideal of educating for cultural participation and civic leadership.

But, why has the ascendant research ideal been able to eclipse liberal education and the college ideal within American higher education? Could it be the unintended consequence of a larger, mostly positive development? I mean the remarkable global expansion of university education over the past half-century. This represents a remarkable diffusion of an institutional model, along with a powerful ideal of knowledge and conception of free personhood, derived from European and American prototypes. While it is common to claim that this vast expansion of higher education worldwide is about training personnel for more intellectually demanding occupations, there is little

evidence to show that universities do a particularly good job of preparing people for carrying functions in the occupational order. On the contrary, if proof be needed, it is telling that every field does most of that preparation in the work setting itself, or in hybrid teaching contexts such as teaching hospitals and clinics in the health professions.

What universities mostly do, according to the research of institutional sociologists John Meyer and colleagues at Stanford University, is to certify individuals without actually preparing them to meet the demands of occupational roles. This view points away from a functional explanation of the rising prominence of universities. Instead, what comes into view is their extraordinary role in propagating a distinctive culture. In its turn, this culture shapes the outlook of increasing portions of the population of modern societies. Universities teach respect for, and at least basic understanding of, a mode of thinking that has come to be identified with “rationality” and modern culture itself. This is analytical thought: the capacity to understand and manipulate symbolic discourses. These discourses are made up of symbols that translate particular objects or events into general concepts plus rules for combining and manipulating such symbols. It is this culture of analytical thinking that links higher education to the occupational demands of the modern economy. Meyer and his colleagues argue that it is not primarily through the direct training of certain capacities so much as by cultivating a temper of mind that higher education has achieved its current function as a near-universal gatekeeper for the more prestigious and remunerative positions.

The culture spread by the university, then, puts a premium on formal knowledge, abstracted from context and narrative particularity. Such thinking is held to be a superior kind of knowledge, ultimately “applicable” to practice through formal techniques for

deducing results according to general formulas. Over time, that model of knowledge has become an unquestioned canon according to which intellectual disciplines are defined and criticized. This model has allowed the university to distinguish itself from more “primitive” claims to knowledge, like those derived from mere craft or experience. According to the institutionalist sociologists, the deeper function of higher education is induction into this culture of criticism and evidence, a culture that is universal in its claims and understands itself as the cutting edge of humanity’s forward progress.

Within this perspective, the liberal arts ideals and practices that emphasized transmitting heritage, including analytical disciplines but focused on making sense of the world and one’s possible place in it, do not measure up to the standards of such “modern” knowledge. The hidden constraint, perhaps, is just this prejudice about what knowledge is and therefore what “higher” education must concern itself with, namely induction into the culture of “critical thinking.” What is missing in this now-regnant knowledge culture is any recognition that the detached, analytical stance is, as John Dewey among other philosophers argued intensely, only one phase within the larger process of human experience. This larger process, which Dewey called “inquiry,” is guided by ends that are eudemonic and civic as much as epistemic. Or rather, we could say that the formation of human identity is the long-term goal and one that encompasses the moral and practical as well as theoretical dimensions of inquiry and understanding.

The failure of the university knowledge culture to be self-reflective about its own limits is surely linked to its apparent inability to avoid communicating to many a weakening of meaning and, at its extreme, a kind of nihilism, even as it expands scientific knowledge and technological capacities. And it is to address these “blind

spots,” or unintended consequences of the modern knowledge regime’s taken-for-granted assumptions, that *Bringing Theory to Practice* articulates its own richer and deeper vision of college education.

The educational practices of today’s universities and colleges typically direct students’ attention to mastering procedures for describing particular events and objects in terms of general concepts. The relation of this training to students’ struggles for meaning and orientation in the world, let alone ethical judgment, is all too rarely given curricular attention or pedagogical emphasis. A recast liberal education, however, must go beyond the purely analytical to provide their students with experience and guidance in using such analytical tools to engage in deliberation about action. That emerging model of liberal learning will, I believe, become centered upon teaching a wider conception of thinking, one that includes “knowing how” as well as the “knowing that” of the analytical disciplines.

#### “Knowing How:” the Key Role of Practical Reasoning

To appreciate the contrast between the typical agenda of analytical or critical thinking and this richer conception of “practical reasoning,” consider some examples. These are drawn from the “Life of the Mind for Practice” seminar described in a recent book I have co-authored with Matthew S. Rosin, entitled *A New Agenda for Higher Education: A Life of the Mind for Practice* (Jossey-Bass, 2007). The book is based upon a research seminar convened by the Carnegie Foundation for the Advancement of Teaching that intentionally brought together educators from professional fields as well as liberal arts disciplines. The intent was to examine the ways in which a common focus on teaching students to reason in context might provide a means for bridging the often deep campus

divides between the arts and sciences and the professional programs. Entitled, “A Life of the Mind for Practice,” the seminar included teachers of the liberal arts side-by-side with faculty from medicine, law, education, and engineering.

Consider first an engineer at the beginning of her career. A recent graduate, she is skilled in the analytic techniques she learned in her engineering program. But she finds herself working on an international project for the first time, collaborating with engineers from other nations who define their work differently than she does. How can these engineers work together, in a way that meets the various needs of the client, the employer, and the engineers themselves? In an engineering course profiled in *A New Agenda for Higher Education*, engineering students supplement the analytic skills learned in their engineering courses with knowledge drawn from the humanities and social sciences about how the engineering profession and its history differs across nations. Through assignments that require students to imagine the work of engineers in other societies and its ramifications for their own conduct, and vice versa, the course introduces students to important knowledge and skills—drawn from both the liberal arts and the engineering profession—for an increasingly global professional world and workplace.

Or consider another course highlighted in the Report: “Human Biology.” This course provides students with an introduction to some of the key findings of contemporary biology. But the course gets its significance from questions about the human import of these scientific discoveries. Rapidly advancing biological knowledge—think of genomics, for instance—is increasingly important to the ability to act well as voter and citizen, and even as a member of one’s family. Think of the expanding range of decisions that have sprung up in the face of serious or terminal illness and end-of-life care. As

advances in biological science and medical technology have extended life, they have also increased the burden of judgment and decision upon both health care professionals—which some of the students in the course will become—and families. How, then, to think about these matters so as to be able to act well in a context where there is real disagreement about the basis for judgment?

These questions arise from the students' actual or anticipated practical involvements and commitments as responsible participants in society. In that sense, they have an intrinsic civic dimension. Finally, though, they are questions that stimulate the *practical imagination*. Among the several dimensions of personal identity, it is the practical imagination that proposes what we can make of our lives, and the things we may hope for, individually and together. The scope of the practical imagination either expands or contracts students' capacities to engage with their lives in resourceful, reflective ways. It was Aristotle, one of history's great educators, who said that the institutions of a city needed to be aligned in order to shape its citizens' acquisition of knowledge, skill, and character so that they would care about their community and have the ability to contribute to its welfare. Schools, like his Lyceum, were to be organized to concentrate this formative process. We can see *Bringing Theory to Practice* as standing in this vital tradition of forming the practical imagination as well as inculcating formal knowledge.

The faculty members gathered in the "Life of the Mind for Practice" seminar found surprising resonance across the professional-liberal arts divide. That is, they found common ground and common cause around a specific pedagogical intention. All wanted to provide students with more than formal knowledge and analytical skill, important as these are in college education. They also aimed to provide students with opportunities to

bring this knowledge and skill together in pursuit of important practical purposes that contribute to the life of the world. On this theme, the professional school faculty found they had a good deal to teach. That is because professional education must provide space for aspiring professionals to learn how to thinking like professionals in making judgments of importance amid the uncertain conditions of practical experience. (This often goes against the academic grain of professional schools, so that clinical teaching often acquires a certain stigma of an “impure” activity compared to the exposition of theoretical knowledge.)

In courses such as those described in *A New Agenda for Higher Education*, in both the liberal arts and sciences and in professional fields, students learn to frame their thinking through interplay of theoretical knowledge drawn from the academic disciplines and their particular loyalties as citizens, as possible future engineers, or future nurses or physicians or pharmacists, and as persons with responsibilities for others. Through experiences such as these courses provide, students can explicitly learn how to move fluidly between the distanced, external stance of analytical thinking—the “third person” point of view typical of most academic thinking, and the “first and second person” points of view that are internal to acting with others in a situation.

*This is practical reasoning:* the back-and-forth between general knowledge and the challenges and responsibilities that come with particular situations, an ongoing process of reflection whose end is the formation of habits of critical judgment for action. The pedagogical vehicles for teaching this movement between viewpoints spans the professional and arts and sciences disciplines: the case study; literary and historical exploration of character and response to challenge; the simulation; participation and

reflection upon actual involvements in the world. But their common feature is recognition that in practical reasoning it is always the involved stance, the point of view internal to purposeful human activity, which provides the ground and the goal for critical, analytical reasoning.

### Knowing Why and Knowing When: Fostering Practical Wisdom

The professional teaching practices that are of value to liberal education, however, are principally those that are organized to develop just this kind of engaged, or practical, reasoning. The pedagogical vehicles professional education employs in the development of such practical reasoning are varied. They range from case studies, through simulations of practice, to guided responsibility in actual practice. But through all these methods, the challenge for students is to bring together knowledge, skill, and the dispositions appropriate to the profession in flexible, integrated ways. The thinking embodied in such judgment and action is practical reasoning. This kind of reasoning involves “knowing how” to make knowledge relevant to actual persons in uncertain situations. But it also necessitates engaging with questions of purpose and value: “knowing why” some decision is right and indeed “knowing when” such-and-such an intervention is appropriate.

Unlike purely technical judgment, which employs methods to achieve pre-given ends, practical judgment involves the blending of formal knowledge with the concrete and value-laden dimensions of the situations of professional work. The pedagogies of professional education, then, necessarily involve a directly moral dimension: they must teach students what the profession stands for; they must seek to be persuasive advocates

for the profession's highest standards of practice. By necessity, this is unapologetically formative education with public responsibility in view.

This, I want to argue, provides a useful analogy to the kind of educational experience that all students need in order to give structure and point to their learning. The pursuit of practical wisdom is the deeper point of liberal learning. Students need not only to learn a good deal about the world and their place in it. They also must learn how to use knowledge and reflection to inform their judgment in complex situations. And they need educational experiences that can spur them to shape their own lives for critical engagement with their future careers and responsibilities. To achieve these aims, however, liberal learning must also be concerned with developing students' practical judgment.

The kind of integrated education we are seeking is an effort to resolve a paradox that perplexes many modern individuals and institutions. On the one hand, progress in academic disciplines is like the division of labor that underlies economic growth: by focusing on a single criterion it is possible to do progressively better at attaining it. On the other hand, where what matters is integration among several goals—as in professional practice and in civic life, decisions often cannot be broken down into single-goal issues but the several goals must be blended, and compromised, with other goals. In such situations—and most of life, especially civic life with others consists of such situations—the premium is on holistic practical judgment.

#### Implications for Faculty Roles and Identities

For much of the past century, college and university faculty have aspired to the identity of disciplinary specialist within an intellectual regime of ever more specialized

research programs. But if the foregoing is true, this is not the proper self-understanding for educators in their role as guides in the realm of liberal education. An interesting analogy from another profession may help illuminate the shift in understanding that is required. Medicine has long appealed to the canons of physical science as a model, and many physicians have presented themselves to the public, and often to themselves in their education and training, as essentially embodiments of applied science. However, in a recent study of physicians' ways of reasoning, Katherine Montgomery argues that, "faced with a patient, physicians do not "proceed as they and their textbooks often describe it: top-down, deductively, 'scientifically.'" Instead, they reason from cases. (Katherine Montgomery, *How Doctors Think: Clinical Judgment and the Practice of Medicine*, (New York: Oxford University Press, 2005), p. 46)

The starting point for all case-based reasoning, Montgomery's study shows, is neither deduction from general principles nor induction from the particulars to a universal concept. Instead, doctors form hypotheses about the possible causes of a particular patient's situation, then test those possibilities against details revealed by closer examination of the patient. This is a "circular, interpretive procedure" that moves between "generalities in the taxonomy of disease and the particular signs and symptoms of the individual case." This intellectual movement proceeds "until a workable conclusion is reached" {Montgomery, p. 47}. The reasoning process at the center of this activity is the interpretive circle is recognizable as a form of practical reasoning. The case narratives that physicians construct are not mere conjecture or poetic flights of speculation. Case narratives put conjectures to the test. They employ analytical knowledge through the interpretive work of isolating probable causes of illness by

eliminating alternative possibilities—that is, “differential diagnosis.” Thus, Montgomery concludes that analytical modes of explanation alone simply cannot achieve the integrated forms of understanding that medical professionals produce through this kind of practical reasoning.

The crucial point, insists Montgomery, is that case reasoning is not a holdover from the pre-scientific past. Rather, it is “the best means of representing the exercise of clinical judgment.” As such, case reasoning is the indispensable foundation of all medical skill. Montgomery concludes that we must recognize that medicine is more than a science. It is a complex practice of healing in which “diagnosis and treatment are intensively science-using activities,” though not “in and of themselves, science” (Montgomery, pp. 46, 52).

In an analogous way, I submit that liberal arts teaching of the kind we have been discussing at this conference is not the “application” of disciplinary knowledge. Nor is it identical to induction into particular arts and sciences disciplines, as is typical of “introductory courses” in many fields. These are all versions of the educator as disciplinary specialist. Rather, the kind of liberal education we are seeking requires a different understanding of the liberal arts teacher as an ‘intensively discipline-using’ educator whose aim is practical wisdom rather than specialized knowledge in itself. Such a self-understanding is, I suspect, already widespread in the ranks of liberal arts faculties, among those who feel a “calling” to this kind of work. But it goes against the grain of the academy’s more fashionable model of disciplinary specialist. If a genuine reinvention of liberal education is to succeed, it will require that this alternative faculty identity become public, recognized, supported, and advanced.

