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Theory, Practice, and the Education of Professionals

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Abstract

In "The Relation of Theory to Practice in Education," John Dewey compares professional education for teachers to the education of other professionals, especially physicians. He distinguishes between 2 general approaches, the apprenticeship and the laboratory, generally favoring the latter. This article proposes 6 commonplaces characteristic of all forms of professional education and critically examines Dewey's views of teacher education through those commonplaces. Proposals are offered for conceptualizing the education of teachers in general and the connections between theory and practice in particular.

The National Society for the Scientific Study of Education was only a year old when it devoted large portions of both its second *Yearbook* (1903) and its third (1904) to the topic "The Relation of Theory to Practice in the Education of Teachers." John Dewey's contribution, "The Relation of Theory to Practice in Education," led off the 1904 volume (Dewey, 1904, pp. 9–30). These two volumes were identified in a preface as addressing "the normal school problem." They aimed to address the research university problem as well, at least with regard to the connections between its research missions and its role in the education of teachers.

The society had changed its name in 1902 from its previous identity as the National Herbart Society. The leadership had apparently concluded that an association with *science* was likely to be more propitious than with the work of a German philosopher whose influence on American education had, in Harold Dunkel's wry phrase, gone "up like a rocket and down

like a stone" (Dunkel, 1970, p. 1). The University of Chicago Press was the society's publisher, and the University of Chicago was home to its headquarters. At the time of the 1904 publication, its elected officers represented the cross section of the several worlds the society was intended to bridge. The officers were drawn from the University of Chicago, Columbia, Cornell, University of Indiana-Bloomington, and the State Normal University in Normal, Illinois, and included the state superintendent of schools in Wisconsin. With representation from the research universities, normal schools, and public schools, the theory-practice problem was quite real for the society.

Dewey was nearing the end of his decade at the University of Chicago when he wrote this essay. He had established the Department of Education, which he chaired while also leading the Department of Philosophy (including the field of psychology). He established the Laboratory School in 1896. But his disagreements with the university president William Rainey Harper had festered, and in 1904 he accepted an offer from Columbia's president Nicholas Murray Butler, who had chaired the board of the National Society for the Scientific Study of Education until 1903, to join the philosophy department at Columbia, a position he would take up in 1905. Thus, while the present essay is one of Dewey's oldest statements on the topic of theory and practice, it may stand as a valedictory to his extraordinary decade at Chicago.

I have organized this article in the tripartite manner characteristic of this volume. I will first summarize Dewey's argument, with special attention to his perspectives on the professions and professional education as models for teacher education. I shall then offer my own perspective on education for the professions, emphasizing a conception of the enduring challenges of all professional learning and practice. I shall conclude with a critical examination of Dewey's views and offer an outline of a contemporary variation.

Dewey's Argument

Dewey's Perspectives

Dewey opens his essay by stating "without argument" his assumption that "adequate professional instruction of teachers is not exclusively theoretical, but involves a certain amount of practical work as well. The primary question as to the latter is the aim with which it shall be conducted" (Dewey, 1904, p. 9). What an interesting reversal! The author takes for granted that theoretical preparation is needed for future teachers. The central issue is whether practical work is needed, and if so, of what kind.

Dewey then asserts that there are basically two positions regarding the goals of practical preparation. We can seek to develop those practical skills needed to do the job smoothly and capably on a daily basis. This he calls the *apprenticeship* approach. Alternately, we can design practical experiences to inform and "make real and vital" the two components of theoretical work—subject matter knowledge and knowledge of educational principles and theory. This second perspective he identifies as the *laboratory* view. Clearly the two perspectives are not exclusive and will interact. Nevertheless, they are clearly different, and the view that is preferred will dictate overall strategy considerably.

The apprenticeship looks backward; the laboratory looks forward. The apprentice learns from the demonstration of and exercise of "best practice." The laboratory is a setting for experimenting with new practices and essaying yet-untested proposals. The apprenticeship is tradition; the laboratory is science. The concept of apprenticeship rests on modeling after and imitating the wisdom of experience and practice, seeking to consolidate the hard-won gains of past traditions of practice. Apprenticeships are local, particular, situated. Laboratories produce more general knowledge that is portable, cosmopolitan, and broadly transferable.

After considering both sides of the distinction, Dewey favors the scientific orien-

tation of the laboratory over the practical and traditional perspectives of the apprenticeship. This view is consistent with the preferred orientation of the research university and its commitment to skepticism, scientific experimentation, invention, discovery, and progress. He uses the rest of the essay to articulate the grounds for preferring the laboratory approach and to describe in detail the ways in which that approach would unfold in the creation of professional teacher education in research universities and in the needed reform of normal schools. The heart of his argument is drawing an analogy between teacher education and other forms of education in the professions (especially medicine). He views these more mature forms of professional education as offering support to his preference for the laboratory perspective.

The Model of Education in the Professions

In 1904, as continues to be the case in our own day, the model of education in the more prestigious professions carried considerable allure for teacher educators. So it was that, when confronted with the challenge of confronting the relation of theory to practice in education, Dewey was attracted to education in other professions as the source of a model:

I doubt whether we, as educators, keep in mind with sufficient constancy the fact that the problem of training teachers is one species of a more generic affair—that of training for the professions. Our problem is akin to that of training architects, engineers, doctors, lawyers, etc. Moreover, since (shameful and incredible as it seems) the vocation of teaching is practically the last to recognize the need of specific professional preparation, there is all the more reason for teachers to try to find what they may learn from the more extensive and matured experience of other callings. (Dewey, 1904, p. 10)

Dewey finds three “marked tendencies” that characterize education for the more

matured professions and ostensibly distinguish them from preparation for teaching:

1. The demand for an increased amount of scholastic attainments as a prerequisite for entering upon professional work.
2. Development of certain lines of work in the applied sciences and arts, as centers of professional work.
3. Arrangement of the practical and quasi-professional work upon the assumption that . . . the professional school does its best for its students when it gives them typical and intensive, rather than extensive and detailed, practical work. . . . This arrangement necessarily involves considerable postponement of skill in the routine and technique of the profession, until the student, after graduation, enters upon the pursuit of his calling. (Dewey, 1904, pp. 10–11)

Dewey thus focuses our attention on three program elements he imputes to more mature forms of professional education. These include increased academic prerequisites for initial entry into both the professional school and professional practice, ensuring that the future professional is a well-educated adult in his or her own right. In addition, he supports a more significant role for the relevant applied sciences in the professional curriculum itself, much as chemistry and physiology have become central to medical education. Finally, and most relevant to my analysis, he calls for greater emphasis in the practical work of the professional school on the “intellectual methods” of the profession rather than on “turning out at once masters of the craft” (Dewey, 1904, p. 11).

In this essay on theory and practice, Dewey chooses to focus on the last aspect, the deferral of extensive practical work for the sake of deeper, more scientifically oriented theoretical understanding. He offers several arguments in support of his view. The professional school has a limited amount of time to invest in its students, and it ought to use this time for those kinds of learning that it can do best. Moreover, prac-

tical skills are best learned in a true apprenticeship, when someone is indeed on the job, authentically responsible for the classroom and not simply observing or role playing. Indeed, Dewey avers, to place the emphasis on securing proficiency in the techniques of pedagogy and discipline—that is, on schoolkeeping—puts the attention in the wrong place and tends to fix it in the wrong direction.

Teachers face two central problems, claims Dewey, each of which demands the absorbed and undivided attention of the novice. One challenge is the mastery of the subject matter from the standpoint of its educational value, which to Dewey is the same thing as the mastery of educational principles and their application. Mastery of the subject matter for teaching, and of the principles of education, properly understood, is at once both the material of instruction and *the basis for* discipline and control. In contrast, novice teachers also face the challenge of *mastering the techniques* of classroom management and discipline. The mind of the student teacher cannot offer equal attention to both problems, he asserts. When the two goals compete, the attention to technical mastery is almost certain to win out over the development of an understanding of the “inner attention” of the learner, and a deeper grasp of the principles of education.

Dewey believes that prematurely plunging the student teacher into the complexities of responsibility for classroom control and management will preclude achievement of the most important objective of teacher education. Teachers must be educated and socialized to develop dispositions toward inquiry, reflection (what we might now call “metacognition”), and an orientation to direct their attention at the underlying intellectual and motivational processes of the child. When using practical experience to master classroom discipline and control, they are likely to be focused on the external behavior of the children rather than their internal, less visible processes. The teacher

needs to become a classroom psychologist, to “psychologize” the subject matter and to interpret the inner mental life of the learner. Such an orientation is likely to emerge from the laboratory model of practice, not from the apprenticeship model.

The argument goes even further. Dewey worries that an apprenticeship experience would build bad pedagogical habits. Consistent with the earlier analysis, Dewey wants teachers to base their teaching on scientific principles rather than empirical ones. He wants them to distrust their own wisdom of practice, based on personal experience and that of their teaching peers, and instead to trust in the findings of scholars. He worries that teachers are far too susceptible to passing fads and lofty rhetoric. “Such persons seem to know how to teach, but are not students of teaching” (Dewey, 1904, p. 15).

Dewey’s essay continues in this vein, with additional discussions of how both educational theory and subject matter should be taught to prospective teachers. He makes the persuasive (certainly to this writer) claim that, unless the teacher has learned a subject deeply and flexibly, it will be near impossible to lead students to learn it deeply themselves.

To summarize, Dewey mounts a vigorous attack on the technically oriented design of an apprenticeship model of teacher education. He associates this approach with the typical and traditional normal school, intent on producing skilled classroom managers and disciplinarians who will uncritically continue traditional practices. He instead advocates a period of at least 2 full post-secondary school years of deep subject matter preparation in the school subjects followed by intensive study of educational theory and its related disciplines (especially psychology). This theoretical work would be accompanied by extensive practical work, the goal of which would be to enhance and enrich the theoretical understandings. The goal of practical work in the academy would be the immediate prepa-

ration not of skilled practitioners but of reflective professionals disposed to examine their teaching and their students' learning critically. The well-trained professional, for Dewey, will mistrust learning from his own and colleagues' experience and will instead look to the scientific inquiries of the academy for guidance. The proper flow of knowledge is primarily from the academy to the field.

A Contemporary Perspective on Education in the Professions

I first introduce my own analysis of education for professional work, for I agree with Dewey that the lessons learned from the other professions can be useful ones for those of us who educate teachers. But I do not find the analysis of professional education in Dewey's 1904 essay adequate to the task.

The Argument

I begin with a discussion of both the philosophy and reality of the concepts "profession" and "professional." Given some sense of these, I will then explore what makes the education of professionals so challenging, and how the turn-of-the-century reforms of professional education were fashioned. These reforms were "in the air" during the early years of the American research university, whose founders hoped to exercise control over education in the professions. This quest would eventually be reflected in the 1910 Bulletin No. 4 of The Carnegie Foundation for the Advancement of Teaching, known more generally as the "Flexner Report" on medical education (Flexner, 1910). These perspectives already influenced John Dewey in 1904 when he wrote about the connections between theory and practice in education. (Indeed, since Dewey characterizes the pedagogical choices created by the "new professional education" as the choice between "the apprenticeship" and "the laboratory," it is noteworthy that 6 years later, Abraham Flexner begins his critique of American medical education

with the observation that the American medical school "began soundly as a supplement to the apprenticeship system still in vogue during the seventeenth and eighteenth centuries" [Flexner, 1910, p. 1].)

I then explore the kinds of philosophies and pedagogies that have developed to respond to the challenges of professional learning and how these ideas might look if we were to employ them to address the problems of teacher education. I focus most particularly on the respective functions of theory, practice, and their connections; to conceptions of "science" and its relevance to the improvement of practice; to the relative roles of the academy and the field; to the prevailing theory of how new knowledge and wisdom develop in a profession; and to the resulting image of the ideal forms of education for the professions generally and for teaching in particular.

Features of a Profession

The idea of a "profession" describes a special set of circumstances for deep understanding, complex practice, ethical conduct, and higher-order learning, circumstances that define the complexity of the enterprise and explain the difficulties of prescribing both policies and curriculum in this area. What do we mean by a profession, and what is so hard about preparing people for professions? Let us begin with a recent discussion of the "ideology" of "profession":

As an ideology, professionalism had both a technical and a moral aspect. Technically, it promised competent performance of skilled work involving the application of broad and complex knowledge, the acquisition of which required formal academic study. Morally, it promised to be guided by an appreciation of the important social ends it served. In demanding high levels of self-governance, professionals claimed not only that others were not technically *equipped* to judge them, but that they also could not be *trusted* to judge them. The idea was expressed in classic form by R. H. Tawney: "[Professionals] may, as in the case of the

successful doctor, grow rich; but the meaning of their profession, both for themselves and for the public, is not that they make money, but that they make health or safety or knowledge or good government or good law. . . . [Professions uphold] as the criterion of success the end for which the profession, whatever it may be, is carried on, and [subordinate] the inclination, appetites, and ambition of individuals to the rules of an organization which has as its object to promote performance of function." These functions for Tawney and for many other advocates of the professions, were activities that embodied and expressed the idea of larger social purposes. (Brint, 1994, p. 7)

This account bears family resemblance to many other characterizations of the ideal concept of a "profession." There are, in principle and at the very least, six characteristics of a profession that set the terms for the challenge of educating professionals. I believe that these are universal features that are traditionally associated with the idea of a profession and that define the unavoidable dilemmas of professional education.

All professions are characterized by the following attributes:

- the obligations of *service* to others, as in a "calling";
- *understanding* of a scholarly or theoretical kind;
- a domain of skilled performance or *practice*;
- the exercise of *judgment* under conditions of unavoidable uncertainty;
- the need for *learning from experience* as theory and practice interact; and
- a professional *community* to monitor quality and aggregate knowledge.

These attributes are as relevant to designing the pedagogies of the professions as they are to understanding their organization and functions. I shall now discuss each of these attributes in turn.

Service: The Moral and Ethical Ideal

First, the goal of a profession is *service*: the pursuit of important social ends. Pro-

fessionals are those who are educated to serve others using bodies of knowledge and skill not readily available to the man or woman in the street. This means that practitioners of professions must develop *moral understanding* to aim and guide their practice. The ultimate rationale for their work is, in Tawney's words, "that they make health or safety or knowledge or good government or good law" (Brint, 1994, p. 7). They are obliged to employ their technical skills and theoretical knowledge in a matrix of moral understanding. The starting point for professional preparation is the premise that the aims of professionalism involve social purposes and responsibilities that are both technically and morally grounded. The core meaning of a profession is the organized practice of complex knowledge and skills in the service of others. The professional educator's challenge is to help future professionals develop and shape a robust moral vision that will guide their practice and provide a prism of justice, responsibility, and virtue through which to reflect on their actions. Medicine's Hippocratic Oath, therefore, is a central manifestation of the moral foundations of a profession.

In most professions, however, with the possible exception of the preparation of clergy, the moral dimension remains in the background. The demands of learning the necessary research and theories, as well as becoming technically adept in the many skills and practices, tend to subordinate the service dimensions. It is noteworthy that when business schools, law schools, or medical schools receive grants to initiate or strengthen programs in professional ethics, the event is so remarkable that it becomes front-page news.

Theory: The Functions of Research and the Role of the Academy

A profession is always a form of highly complex and skilled practice. But what makes it a profession is not the complexity of skills alone. A profession is a practice whose agents claim is rooted in bodies of

knowledge that are created, tested, elaborated, refuted, transformed, and reconstituted in colleges, universities, laboratories, and libraries. To call something a profession is to claim that it has a knowledge base in the academy broadly construed. Professions legitimate their work by reference to research and *theories*. Therefore, professions change their practices not only because rules of practice, circumstances, or policies change but because the process of knowledge growth, criticism, and development in the academy leads to the achievement of new understandings, new perspectives, or new ways of interpreting the world.

The notion that formal professional knowledge is rooted in an academic knowledge base creates the conditions for the essential pedagogical problem of professional education. This problem is the relation between theory and practice. The recurrent challenge of all professional learning is negotiating the inescapable tension between theory and practice. That is, in nearly every form of professional education, students perceive the practicum experiences as truly valuable, while barely tolerating the academic experiences. It is perfectly clear to both the students and laypersons how a clinical internship, a student-teaching experience, or a student pulpit are relevant to preparing the new physician, teacher, or minister. It is the more theoretical preparation in cell biology, developmental psychology, or the interpretation of Augustine's writings that often appear of dubious value.

The role of theory is problematic for at least two reasons. Theory achieves its power through simplification and narrowing of a field of study. In that sense, theories deal with the world in general, for the most part treating variations as error and randomness as noise. Similarly, the research that informs theory is often conducted under controlled or otherwise artificial conditions, whose connections to the everyday world of practice are tenuous. A second characteristic of theories is that they gener-

ally operate within discrete disciplines, in contrast to practical problems, which typically cross disciplinary boundaries. Theories are extraordinarily powerful, which is why they are the treasure of the academy and should be valued by the professions; they are also frequently so remote from the particular conditions of professional practice that the novice professional-in-training rarely appreciates their contributions.

Any reader who has been educated for one of the professions—say, in the two with which I am most familiar, medical education or teacher preparation—will immediately recognize the theory-practice problem. My University of Chicago teacher Joseph Schwab devoted most of the last 20 years of his career to the problems of practical knowledge and its relations to theory. One need only try to connect the Krebs cycle with the intricacies of a particular clinical diagnosis, or the loop of Henle with some specific aspect of kidney failure, to appreciate the problem. As a teacher educator, I have tried to help students see how one traverses the gap between Piaget's developmental theory and what to teach on Monday morning or between Vygotsky's zones of proximal development and the pedagogical potential of groupwork. We who have tried to educate future professionals understand the challenge that is created when one's starting point for an education in a learned profession is immersion in vast bodies of academic knowledge. We prepare professionals in universities because we make the strong claim that these are *learned* professions and that academic knowledge is absolutely essential to their performance.

Now, this may be, in spite of Dewey's assumptions and argument, a false claim. It may well be that academic knowledge is essential only as an *entitlement* to practice and is not functionally necessary for practice. My point is that the claim of rootedness in a theoretical, empirical, and/or normative knowledge base is central to all of the professions. The view (shared by both Dewey and Flexner) that a liberal education of

some sort is a prerequisite for the study of medicine, law, teaching, and other professions sets an interesting problem for professional education: How does one define the foundational basic sciences for understanding and practicing a profession? What are the liberal arts and sciences per se whose grasp would identify an individual as "educated" or "learned" and therefore entitled to pursue a learned profession?

Practice: The Skills and Strategies of the Profession

Although a significant portion of the knowledge base of a profession is grown by scholars in the academy, it is not *professional* knowledge unless and until it is enacted in the crucible of the "field." Professions are ultimately about *practice*. The field of practice is the place where professions do their work, and claims for knowledge must pass the ultimate test of value in practice. While the theoretical is the foundation for the entitlement to practice, professional practice itself is the end to which all the knowledge is directed. This is why in all professional preparation we find some conception of a supervised clinical experience. Student teaching, medical residencies, architects' apprenticeships, student nursing, all are examples of carefully designed pedagogies to afford eased entry into practice accompanied by intensive supervision, to ensure the acquisition of needed skills and the demonstration of appropriate behavior, manner, and values. In medicine, the periods of internship, residency, and fellowship typically extend for many years after completion of formal professional preparation in the medical school. By contrast, student teaching internships rarely last more than 6–9 months. In further contrast, one of the features of preparation in the law is that legal educators have somehow managed to avoid the responsibility to introduce a serious clinical component into legal education, expecting the employing law firm to assume that burden.

The apprenticeship, the practice, and the

application that goes on in the field not only is a nearly universal element of professional learning, but typically once the professionals reach the field of practice, they look back on the theoretical preparation and begin to devalue it. We thus see the universal features of professional education—a strong emphasis on service but without much classroom work, substantial theoretical preparation with uncertain connections to everyday practice, and formal practicum experiences through varieties of supervised field experience, whether directly under the supervision of the university-based educators or in some loose connection to the academy. As observed above, the tensions between the theoretical and practical elements of the education are nearly always palpable.

One of the sources of those tensions is the conflict between standards and conceptions of practice affirmed in the academy and those typically manifested in the field. Theoretical preparation, in spite of the legendary conservatism of higher education, tends to be more radical and reform oriented than is the general tenor of practice itself. Indeed, academicians often see themselves as the critical conscience of professional practice, taking on themselves the responsibility for criticizing current practice and developing a vision for the future. It is not at all unusual for university-based professional educators to hold quite different conceptions of good practice than do field-based professionals. And it is, again, almost universally the case in professional preparation that the students arrive at their clinical experiences only to hear the nursing supervisor, or the veteran teacher in the fifth grade where they are student teaching, or the chief of clinical services in the hospital admonish them to forget all the nonsense they were taught at the university because now they will learn the way it is really done. Thus, counterintuitively, the ostensibly conservative academy is the source of radical ideas. The field is where you encounter the elastic cord that pulls matters back to the conservation of extant habits of practice.

This kind of tension is endemic in all forms of professional education.

Judgment under Uncertainty

In spite of the importance of both theory and practice, professions are not simply conduits for taking knowledge from the academy and applying it to the field. The process of judgment intervenes between knowledge and application. Human judgment creates bridges between the universal terms of theory and the gritty particularities of situated practice. And human judgment always incorporates both technical and moral elements, negotiating between the general and the specific, as well as between the ideal and the feasible.

To the extent that the academy addresses problems of practice at all, it necessarily presents them as *prototypes*, simplified and schematized theoretical representations of the much messier and variable particulars of everyday life. When student professionals move out to the fields of practice, they find inevitably that nothing in the real world precisely fits the prototypes. The responsibility of the developing professional is not simply to apply what he or she has learned to practice but to transform, adapt, merge and synthesize, criticize, and invent in order to move from the theoretical and research-based knowledge of the academy to the kind of practical clinical knowledge needed to engage in professional work.

As I observed earlier, one of the reasons that judgment is such an essential component of clinical work is because theoretical knowledge is generally knowledge of what is true universally. It is true in general and for the most part. It is knowledge of regularities and of patterns. It is an invaluable simplification of a world whose many variations would be far too burdensome to store in memory with all its detail and individuality. Yet the world of practice is beset by just those particularities, born of the workings of chance. To put it in Aristotelian terms, theories are about *essence*, practice is

about *accident*, and the only way to get from there to here is via the exercise of *judgment*.

Learning from Experience

Up to this point, my analysis has treated primarily the movement of knowledge from the academy to the field, whether directly or as mediated via professional judgment. However, the most formidable challenge for anyone in a profession is not applying new theoretical knowledge but learning from experience. While an academic knowledge base may be necessary for professional work, it is far from sufficient. Therefore, members of professions have to develop the capacity to learn from the experience and contemplation of their own practice. This is not only true for individual professionals; it is equally true for the entire professional community of practice. Lessons of practice learned from experience must have a way of getting back to the broad community of practitioners so all can profit from one another's experiences. Lessons of practice must also find their ways back to the academy to inform, as well as to problematize, knowledge development in the academy itself.

Dewey (1910/1951) subsequently observed in his classic essay on the influence of Darwinism on philosophy that chance, error, and accidents present both the sciences and the fields of practice with their most fascinating puzzles. The great challenge for professional learning is that *experience* occurs where design and intention collide with chance. Without the violation of expectations, it is impossible to learn from experience. Learning from experience, therefore, requires both the systematic, prototype-centered, theoretical knowledge characteristic of the academy and the more fluid, reactive, prudential reasoning characteristic of practice. The professional must learn how to cope with those unpredictable matters and how to reflect on her own actions. Professionals incorporate the consequences of those actions into their own growing knowledge base, which ultimately

includes unique combinations of theoretical and moral principles, practical maxims, and a growing collection of narratives of experience.

In comparing John Dewey and George Herbert Mead with Jane Addams, all of whom were good friends in Chicago in the first 5 years of this century, Ellen Lagemann (1988) observed that, for Dewey and Mead, the tools of their trade were the scientific hypothesis and the investigation; for Addams, it was the anecdote and the biography. In professional practice, hypothesis rapidly gives way to narrative. Jane Addams's Hull House was the setting in which the academic perspectives of Dewey and Mead were brought into collaborative contact with the truly professional practice embodied by Addams and the settlement house movement. The ideals of service clearly dominated the thinking of those who were inventing the professions of social work and community development, but the desire to ground those practices in the academic disciplines of social philosophy, sociology, and a professional school of social service administration were already a serious challenge.

In Bruner's (1986) terms, in these situations the paradigmatic way of knowing, characteristic of science, shares space with the narrative modes, more characteristic of the wisdom of practice. When we seek a pedagogy that can reside between the universal principles of theory and the narratives of lived practice, we invent approaches—such as the varieties of case methods—capable of capturing experience for subsequent analysis and review. We render individual experiential learning into "community property" when we transform those lessons from personal experience into a literature of shared narratives. Such connections between theoretical principles and practical narratives, between the universal and the accidental, forge professional knowledge. Such knowledge cannot be developed and sustained adequately by individuals experiencing and reflecting in iso-

lation, however. No professional can function well in isolation. Professionals require membership in a community.

Professions as Learning and Monitoring Communities

Finally, professions are inherently public and communal. We speak of someone not only *being a professional*, but being a *member of a profession*. Professional knowledge is somehow held by a community of professionals who not only know collectively more than any individual member of the community but also maintain certain public responsibilities and accountabilities with respect to individual practice. Thus professionals operate within their particular communities under privileges granted by the broader society. Such autonomy and privilege is granted when the profession is viewed as holding specialized knowledge whose warrant only its own members can evaluate and when its members are *trusted* to take ethical responsibility for such evaluation.

Although individual professionals carry the responsibility for practice, the assumption is that they are members of a community that defines and regulates the standards for that practice and that as a community, knows more than any individual practitioner. The public can turn to the professional community when questions of the quality of practice are at stake. From the perspective of professional pedagogy, however, the community of practice plays a critical role. The academic discipline serves the academy as a learning community whose invisible colleges ensure that knowledge gained is vetted for its warrant through peer review and then distributed among members of the community through journals and other forms of scholarly communication. The community of practice for a profession plays a similar role with regard to learning from experience, accumulating and critiquing the lessons gained and subsequently codified, and in general helping practitioners overcome the limitations of in-

dividual practice and individual experience. Without a community of practice, individual professionals would be trapped in a solipsistic universe in which only their own experiences were potentially educative. By creating and fostering the work of communities of practice, individual experience becomes communal, distributed expertise can be shared, and standards of practice can evolve.

I have argued in this section that a comprehensive view of the concept of "profession" must take account of six universal features of professions: service, theory, practice, judgment, learning from experience, and community. I have further argued that each of these attributes sets a challenge for the pedagogies of the professions (e.g., How does one instill personal values of service and altruism? How is an understanding of theory best acquired? What kinds of experiences and supervision are most likely to sharpen the capacity for reasoned practical judgment in the face of uncertainty?). Moreover, I have also suggested that some of these attributes compete for attention and emphasis within the curriculum of the professions. Thus, theory competes with practice, and an emphasis on values often is at odds with the acquisition of technical proficiency. Dewey's essay is an early attempt to formulate some of these issues and to offer a resolution, with particular reference to the education of teachers. I shall now turn to a brief concluding section that reflects on Dewey's views, in the light of his own era and from the perspective of our own.

Theory, Practice, and Professional Education

Dewey's Era

The central feature of all professional education is indeed the tense relationship between theory and practice. It is an essential tension, as unavoidable as the tensions found within families whose members have become highly dependent on one another. It is a painful tension because theory and practice are not only competing concep-

tions. Different stakeholders in the social and political worlds exercise control over these domains, and any preferences given to theory over practice, or to conceptual mastery over technical proficiency, for example, will have serious consequences for the future of institutions, the allocation of scarce resources, and the conferral of valued prestige.

In the context of this tension, Dewey argued that theory and intellectual mastery must take a certain precedence in the preparation of professionals. Not only must theory be taught directly, vigorously, and extensively. It must serve as the rationale for the teaching of practice. Therefore, those responsible for theory and its development should also control the conditions of practice. Dewey was writing in the first decade of the twentieth century, a time when the struggle over control of education in the professions was becoming particularly hot. The traditional normal schools represented a segment of the world of postsecondary education—free-standing schools of professional preparation similar to proprietary medical schools, law schools, schools of nursing, and so on—that was in serious conflict with the universities over just such issues.

Dewey's writings reflect his times and anticipate the subsequent writings of the famous critic and reformer of medical education, Abraham Flexner. When in 1908 Henry Pritchett, the first president of the Carnegie Foundation for the Advancement of Teaching, commissioned the retired schoolmaster Abraham Flexner to conduct a study of American medical education, the Foundation was hardly dispassionate about the likely consequences of the report. The Foundation was quite new, having been established in 1905, but its board represented *the* establishment in American higher education. Pritchett himself had been president of the Massachusetts Institute of Technology. Other board members included Woodrow Wilson of Princeton, Charles W. Eliot of Harvard, William Rainey Harper of Chi-

cago, David Starr Jordan of Stanford, and the same Nicholas Murray Butler of Columbia who had chaired the National Society for the Scientific Study of Education board and lured Dewey to his institution. These were institutions that saw the creation and preservation of research and of theoretical knowledge as their special preserve. Science was emerging as the dominant force in the universe of knowledge, and science was housed in institutions like theirs. If the professions were to be appropriately grounded in the most solid firmament of knowledge and its discovery, then the education of professionals ought necessarily to be the province of the universities (see Lagemann, 1983).

When he began the design and implementation of his study of the medical schools of the United States and Canada, Flexner encountered a distributed system of medical education dominated by apprenticeships, relatively unenlightened in its practice or its professional education by the powers of science, and often unconnected to the traditional institutions of postsecondary education, colleges and universities. Small, independent medical schools flourished. These included not only local proprietary schools but also independent institutions designed to prepare women and African Americans for medical careers. Flexner strongly believed that the emerging research universities, where science was flourishing, needed to be given greater control over medical education, both by increasing the academic prerequisites to practice and by requiring that medical judgment be justified by science rather than by practical precedent. For Flexner, Johns Hopkins was the prototype of the university-based, research university home for a medical school. Its curriculum, resting solidly on courses in the basic natural sciences, exemplified these principles. This was a conception of professional preparation that harmonized beautifully with the views expressed by Dewey in his essay in teacher education.

Within a decade of the Flexner Report's publication in 1910, nearly half of America's extant medical schools had closed (including, alas, all but one of those dedicated to the education of women and all but two of those educating African Americans). The "Flexner Curriculum" had taken shape and would continue to dominate American medical education until the present day: an undergraduate degree in the sciences, followed by 4 years of "undergraduate medical education" consisting of 2 more years of basic science and then 2 years of clinical medical rotations, followed by 1 or more years of supervised internship and residency. Premedical education and undergraduate medical education were always under the aegis of a university. Most of the particularly prestigious approved internships and residencies were also undertaken at university-based or university-affiliated "teaching hospitals." Consistent with Dewey's views of professional education, though not necessarily influenced directly by them, medical education was heavy on an initial immersion in theory and in science, with practical work deferred until after the science had been learned. Becoming a skilled practitioner was a goal of the clerkships and internships, not a priority of the earlier years of study.

Although Dewey writes of this approach in 1904 as if it were already canonical for professional education, the organization, structure, and institutional locations for professional education would remain contested terrain for many years. Ironically, the "revolutionary" Flexner curriculum would ultimately be perceived as a conservative barrier to later proposed reforms in medical education, which often cited John Dewey as their inspiration for more problem-based, field-centered, and practice-intensive approaches to the education of physicians.

This leads to another important observation. Dewey understood that, although theory had a certain priority for the education of teachers, it would be deadly if the

theory were taught absent immersion in contexts and conditions of practice. He therefore advocated a special kind of professional education, in which a curriculum of theory-in-practice dedicated to the understanding of theory-for-practice was at its heart. Theory was paramount, he asserted, yet it could not be understood in a purely academic setting. This insight was important, not only for Dewey's conception of education for the professions, but ultimately for his pragmatic conception of theory and its relations to practice in general.

Thus, Joseph Schwab observes in his 1959 essay, "The 'Impossible' Role of the Teacher in Progressive Education" (coincidentally written for another Chicago publication, *School Review*, in a volume commemorating the centennial of Dewey's birth):

For Dewey, any theory of practice, including his, finds its full meaning only as it is put into practice and gains its verification only as it is tested there. A theory includes a body of logical forms, conceptions designed to embrace and relate to one another all the facts in a problematic situation which are seen as relevant to its resolution. These logical forms take part of their meaning from the facts they are designed to hold, and another part from what they do to the facts by way of making them signify actions to be taken. Hence, the theory cannot be understood until the facts are experienced in the form given them by the organizing conceptions of the theory; and experienced means that they must be seen and felt and that the actions they signify must be undertaken.

Further, the theory is verified only by such an undertaking, for a theory is good to the extent that it does take account of all the pregnant facts and leads to actions which resolve the problem to the satisfaction of those who are caught up in it. . . . Now, it must be remembered that this view of knowledge plays two roles. In part it is the conception of education which Dewey hopes to convey. At the same time, it represents to him the way it must be conveyed. Remember too, that it is a wholly novel view of meaning and

of truth. To this day, it remains far from being generally understood. . . . Dewey seeks to persuade men to teach a mode of learning and knowing which they themselves do not know and which they cannot grasp by their habitual ways of learning. (Schwab, 1959, pp. 168-170)

Practice serves as a major vehicle for testing the validity and efficacy of theory, both for learning a profession and for developing theories more generally. Practice is a significant source of the evidence on which new theory development can be based. Learning from practical experiences is the major contributor to creating and testing theories of practice, which are the defining constructs of professional knowledge and learning.

There is an impressive, if somewhat ironic, confluence between these Deweyan ideas and major developments in the theories of learning and cognition that have emerged in the field of cognitive science. Cognitive scientists have become increasingly interested in the very idea that Dewey dismissed in his 1904 analysis, the idea of *apprenticeship*. They have shown a renewed interest and respect for the apparent educational potency of traditional apprenticeships. In these apprenticeships, "unschooled" children and adults can apparently learn complex forms of reasoning, understanding, and practice that are very difficult for formal educational institutions to teach. What kinds of learning do apprenticeships foster? How are they different from those typically pursued in formal education, both in schools and colleges?

Reflecting Dewey's basic ideas, if not his language, the notion of a "cognitive apprenticeship" has taken hold. This view of learning asserts that in academic settings theoretical knowledge is separated from practical applications and complex processes are taught far from the situations in which they can be used. An effective apprenticeship, whether for a midwife or a gambler, teaches the practical, judgmental,

and situated intellectual work that characterizes traditional crafts and occupations with the reflective and elaborative mechanisms that characterize higher-order thinking. It achieves these daunting goals by embedding the learning in the social context of practice, permitting the apprentice to move from observation to limited participation to full responsibility slowly and with serious modeling and supervision. Thus, ironically, the most significant corroboration of Dewey's conception of education has taken place through respectful contemplation of a form of learning that he denigrated. He had preferred the laboratory to the apprenticeship.

Nevertheless, Dewey had espoused an intermediate position: he argued that only theoretical learning *situated in practice* would be rich and meaningful, even though he continued to privilege the theory side of the distinction. He was far less clear on the indispensable role of practice as a source for new theory and on the importance of learning from experience as the key element in practitioners' capacities to increase the wisdom of their practice. That is, Dewey appears to believe that the most important source for new practical knowledge would remain research and theory conducted in the academy. He anticipated that in teaching, as in medicine, the flow of new ideas would be from university laboratories (or laboratory schools) and their professional schools to the communities of practice.

Why would Dewey, the great champion of experience as a source for *student* learning, be so blind to the experiences of school teachers as the sources for teacher learning and, indeed, for learning on the part of academic scholars of education? I suspect that there are several explanations. First, Dewey's entire philosophy rested on a belief that the methods of science could be brought to bear fruitfully on the workings of society. Science flourished, was nurtured, and grew in the halls of the academy. With special laboratory schools in which educational and psychological scientists could

pursue their inquiries, a science of education would do for teaching what the biological sciences were doing for medicine.

Second, in spite of his admiration for Jane Addams, Dewey may have tacitly shared with many of his generation a sense that the women in the classroom needed to be directed by the men in the principal's office and the male scientists in the university. Although probably an "anticipatory feminist" in many ways, the prevailing views of gender roles would have the technical functions of classroom teaching carried out primarily by normal-school educated women while the scientific activity remained in the hands of university men. Granted, Dewey argued that the theoretical preparation of teachers was intended to render them more critical, skeptical, and watchful of those groundless fads and fashions that sweep over the schools. He wanted teachers to understand the principles of educational science and to apply them critically to their work with curriculum and with their youngsters. But they were to *apply* science, they were not to do science (see Lagemann, 1988).

We now would place much greater emphasis on the importance of the communities of practice creating new networks, institutions, and capacities to learn from individual and collective experience. In teaching, we are observing the growth of groups like the National Writing Project, the National Board for Professional Teaching Standards, and a variety of collaboratives that encourage teachers to conduct inquiries in their classrooms and share their findings and insights with one another. Professional development schools have been designed as sites for collaborative inquiry into teaching and learning, as well as new versions of the old "practice schools" of the normal school era. Much more academic research is conducted in classrooms with teachers as active partners and even authors. Teacher-written cases of practice have become legitimate components of educational research. Taken together, these

practice-centered sources of wisdom are becoming at least as important as the investigations of psychological science in guiding the work of educators.

Finally, Dewey was apparently far more impressed by the apparent success of the "more matured" professional schools than was warranted. He was appropriately impressed with their heavy emphasis on the prerequisites of the liberal arts and on their commitment to theory and research as the scientific basis for their practice. He failed to see the extent to which much of that emphasis had little to do with the improvement of professional practice and far more with buttressing the control of the prestigious and powerful world of professional education by the newly emerging research universities. While he was certainly justified in valuing a more rigorous, skeptical, and investigation-based foundation for the professions, he gave inadequate attention to the need to nurture such activities and perspectives within the communities of professionals themselves.

A New Era for Professional Education

We may now be seeing an emergent new view of education in the professions, and of teacher education. These emergent ideas connect to each of the commonplaces of professional learning: moral vision, theoretical understanding, practical skills, the centrality of judgment, learning from experience, and the development of responsible professional communities.

We see renewed interest in the moral and character aspects of the professions. Although the moral foundations for professionalism had been acknowledged for generations, the achievement of moral ends was rarely seen as a focus of the professional curriculum. Skepticism regarding the Flexner curriculum has led to experiments with new models of professional education, which take the acquisition of practical skills and immersion in practical situations as necessary conditions for theoretical under-

standing. Early clinical experiences are now commonplace.

There is increased emphasis on the importance of those pedagogies that foster the combining of theory and practice in local, situated judgments. The continued and growing interest in case methods in business, law, education, and medicine reflects that emphasis. A case resides in the territory between theory and practice, between idea and experience, between the normative ideal and achievable real. Cases capture pieces of experience that initially existed solely within the life of a single individual, and they transform that solitary experience into text. Members of a larger group, all of whom are trying to make sense of the practice that the text documents and preserves, can share cases as texts. As pedagogical devices, cases confront novice professionals with highly situated problems that draw together theory and practice in the moral sea of decisions to be made, actions to be taken. Options are rarely clean; judgments must be rendered.

Cases are ways of parsing experience so practitioners can examine and learn from it. Case methods thus become strategies for helping professionals to "chunk" their experience into units that can become the focus for reflective practice. Cases therefore can become the basis for individual professional learning as well as a forum within which communities of professionals, both local and extended, as members of visible and invisible colleges, can store, exchange, and organize their experiences. They may well become, for teacher education, the *lingua franca* of teacher learning communities.

In his 1904 essay, John Dewey explored a set of problems that continue to beset professional education to this day. Science has flourished beyond the wildest dreams of anyone living a century ago. But the problems of education remain as challenging as ever. Dewey recognized that the solutions to these problems might lie in novel ways to think about the connections between theory and practice. Many of his insights were

remarkably prescient. Yet we continue to struggle with the problems he formulated.

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