## From the Sidelines

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## DONALD A. SCHÖN (1931-1997)

In an article in this issue of *Metropolitan Universities*, Dean Sengupta of the School of Engineering at the University of Michigan-Dearborn deplores the fact that:

[t]he notion that complex, inelegant problems that constitute the reality of engineering practice can contribute greatly to curriculum and research is difficult for some faculty to accept. At least several generations of faculty came into universities after the Sputnik milestone when the paradigm of science was accepted as an ideal. Simplicity and reductionism triumphed, and synthesis and complexity suffered.

Dean Sengupta goes on to say that "[t]he centrality of practice in engineering education must be articulated clearly, repeatedly, and consistently...."

In recent years, the individual who articulated this centrality in all professional preparation most clearly and most brilliantly was Donald A. Schön, who died on September 13 at the early age of 66. His death is a major loss for anyone convinced that in this modern age a major role of the university is to engage actively and constructively in the ever more complex problems of contemporary society.

The vast majority of the readers of this journal will be familiar with *The Reflective Practitioner*, published by Don Schön back in 1983, in which he describes effective professional practice as based on "reflection-in-action." This work is one of those seminal books that completely change the way people look at and understand matters, such as Tom Kuhn's *The Nature of Scientific Revolution*. One reads it and says, "Of course! That's obvious! Why didn't I think of that?" It has to be one of the most widely read and quoted books in social science literature in recent years. The concept of the reflective practitioner has entered the basic vocabulary of everyone interested in effective professional practice, in the preparation for such practice, and, increasingly, of everyone interested in the nature of knowledge.

The wide impact of this book, reinforced and extended by many subsequent publications and by Don Schön's many lectures and workshops conducted both here and abroad, is because of the way in which he places the concept of the reflective practitioner into a broader context of the nature of knowledge and its sources. No one has presented more cogently the problem cited by Sengupta, which Don Schön characterized as the dilemma of "rigor or relevance." Don also coined the vivid and unforgettable simile:

a high, hard ground where practitioners can make effective use of research-based theory and technique, and . . . a swampy lowland where situations are confusing 'messes' incapable of technical resolution. The difficulty is that the problems of the high ground, however great their technical interest, are often relatively unimportant to clients and to the larger society, while in the swamps are the problems of greatest human concern.

Central to this image is the recognition that effective practice in the swamp of the real world is inevitably a learning process. "When someone reflects in action," Don Schön states, "he becomes a researcher in the practice context." The corollary to this, of course, is that practice is necessary to learning. Through his work, Don Schön contributed greatly to the efforts of individuals like Sengupta to include hands-on experience as an integral component of professional education.

But, of course, such learning can take place only if there exist systematic rules of evidence and inference that are quite different from those of Technical Rationality (as Don called it), which operate in the high place of the laboratory but nevertheless are rigorous in their own right. Don Schön has called for a "new epistemology of practice" for the swamp—that is, a systematic and intellectually consistent way of dealing with the complex problems of the real world.

Each of these dimensions of Schön's work on reflective practice is of substantial significance. Together they add up to a fundamentally new vision of the university, an intellectual construct that goes beyond operational definitions. What he has been saying to us is that the university—the principal societal mechanism for the advancement, dissemination, and application of new knowledge—can fulfill its function only by means of a symbiotic and two-way relationship with the society of which it is a part. Let us think of the university as a learning organism, just like an individual practitioner or an individual student. Don Schön's work forces us to realize that the university, like the practitioner and the student, must engage in reflective practice. It must focus as much on generating knowledge by means of research in the messy practice context as it has, traditionally, concentrated on finding knowledge in the shelter of study and laboratory. It must recognize that the flow of knowledge goes both ways between high place and swamp. No longer the city on the hill, it must be the intellectual highway linking the abstraction of the former and the reality of the latter.

Don Schön's work has provided an exciting and profound intellectual framework for the mission of universities generally, and most particularly for our metropolitan institutions. He has contributed to many other fields as well, but for us this is his lasting legacy.