KNOWLEDGE STRUCTURE

Photo courtesy of Victoria Hall, University of California, Long Beach

Participants in the AIChE session on Knowledge Structure in Chemical Engineering, held in Los Angeles, November, 1991. Pictured, left to right: Scott Fogler, Stuart Churchill, R. Byron Bird, Richard M. Felder, and John P. O'Connell (not pictured, Donald R. Woods).

Knowledge has structure; structure to facilitate learning and structure to facilitate problem solving.

Research by cognitive psychologists has revealed the characteristics of those different structures.

The Undergraduate Education Committee of the AIChE sponsored a session on knowledge structure at the Los Angeles meeting in 1991. At that session (which I cochaired with Bill Kroesser), Stu Churchill, Rich Felder, John O'Connell, Bob Bird, and Scott Fogler shared their views of the fundamentals and the structure of knowledge in the areas of mathematics, mass and energy balances, thermodynamics, transport phenomena, and reaction kinetics/reactor design.

The results were exciting and diverse. Some of the presentations focused on the importance of the subject and the process of using the knowledge effectively, some on structure related to learning, some on problem solving, and some on a combination of these factors.

We are pleased to present those papers on the following pages.

Don Woods, McMaster University

Guest Editor