

material could not work, but here it just does not work because the interplay lacks focus and pertinence and cumulative impact.

For the record, *Sentimental Education* is carefully indexed, largely by proper nouns, but also by concept (such as *kitsch*, *management of the soul*, and *vocationalism*). Documentation includes 14 pages of "Notes" (pp. 180-193, divided by chapter), but not a bibliography. Those accustomed to reading works documented using the APA style may find the lack of dates of text citations disconcerting and the consequent need to flip to Notes irritating. Of the 15 illustrations in the text, five are line drawings which help explain concepts; ten are photographs, generally cosmetic, seldom referred to in Donald's discussions.

To conclude, the pastiche method of presentation — the compilation of earlier writing into a book with a new label — is not necessarily unrewarding. When it works, the collected pieces generate an electricity that energizes the whole, presenting new insights, a focus, or a synthesis much greater than the sum of the individual parts. This does not occur with Donald's collection of material.

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Howard, V.A. (Ed.). (1990). *Varieties of thinking*. New York: Routledge, Chapman & Hall, 176 pp., \$35.95 (hardcover).

The editor of *Varieties of Thinking* chose eight articles from scholars connected with the Philosophy of Education Research Centre (PERC) at the Harvard Graduate School of Education for inclusion in this collection on thinking in education. With the exception of Kenneth Hawes's

"Understanding Critical Thinking," Donald Schön's "The Design Process," and Paul Wagner's "Will Education Contain Fewer Surprises for Students in the Future?" the remaining chapters are either previously published journal articles, or, in one case, a condensation of an earlier book.

Varieties of Thinking is part of a series which examines the philosophical and historical foundation of educational practice. The intent is to promote inquiry into the issues of thinking and the relations between those issues and curriculum. The authors employ conceptual, empirical, and applied analytic perspectives in calling into question the understanding of how and why others understand. They seek to address such basic questions as What is thinking? and How is the process of thinking exhibited? These questions are discussed indirectly through the topics of problem-solving (Perkins), critical thinking (Hawes), competence in representational comprehension (Elgin), developing inductive abilities and applying them to intellectual maturation (Schwartz), thinking through writing (Howard), the role of computers in thinking (Scheffler, Schwartz), epistemology and the design process (Schön), and the role of emotions in thinking (Wagner).

In the introduction, Howard explains why these topics are used to think of thinking as a broad concept which is expansive, not reductionistic, complex not simplistic, and how the topics come at the central questions from a variety of disciplinary viewpoints. He points out that there are multiple ways of knowing and that not all of the authors are philosophers by training, but that their contributions are best described as "applied philosophy." He means that the papers examine, and bring out, for the reader, what is meant by the act of thinking. The examination and elicitation of thinking is accomplished by questioning assumptions embedded in basic concepts, presuppositions, and explanations in given fields.

By asserting that the papers bring philosophy and other theoretical and practical disciplines together, Howard suggests that the authors treat these issues in some substantive way. After having read the collection, however, it is apparent that the central issue is not a direct pedagogical one; it is conceptions of thinking. Because the central issue is not directly

pedagogical most teachers would not see the papers focusing on what it means for students to come to understandings of what it means to know. The papers are at a level of abstraction once removed from pedagogy. The papers explore the authors' understanding of conceptions of thinking but they do not get to a level where a teacher has a sense of how conceptions of thinking impact classroom teaching or learning. This is not to say philosophical arguments are not interesting or worthy of exploration; instead, the claim comments on Howard's interpretation of the paper's applicability. Also, this claim does not argue for a technical nor an instrumental approach to conceptions of thinking. As a critic my bias is to a relational, pluralistic conception of knowing which is socially created.

A pure critic, as Howard correctly points out, is more concerned with the products of thinking. I argue the papers are generally valuable but they tend to be more on the pure critic side as opposed to the pedagogy side. The collection as a whole lacks a synthesis and connectedness one would hope for in an educative work. The discussions and topics are disparate, as one would expect from a collection of mostly previously published papers, and it is this feature which makes *Varieties of Thinking* difficult for undergraduate or general graduate use. The papers are of most interest to education specialists who approach thinking from a traditional framework.

The papers remind us that, in education, we need a conception of knowing which is wider than that afforded by the received scientific model of knowledge as the acquisition of objective, factual information. Recent work in education argues for conceptions of knowledge, thinking, and understanding in teaching and teacher knowledge which are substantively different than what is found in the papers. What is missing are discussions of research and concepts which attempt to understand the way in which teachers think about the nature of knowledge and how related epistemological issues impact teaching. I term this area *pedagogical epistemology* and work by Lyons (1990) and Sfard (1991) are illustrative of this different way of understanding teacher thinking. I do not expect the authors of the papers to make specific reference to the concept of pedagogical epistemology but there is an expectation to include

conceptions such as teaching thinking (Schulman, 1987), the nature of knowledge and how it relates to teaching (Calderhead 1987, 1988), how learners come to know why they know, and the philosophical basis for a learner's knowledge. A view of thinking which upholds the idea of knowledge as a socially generated creation would serve us well.

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