During the past 20 years, and particularly during the last decade, interest in the computer as an instructional technology has increased dramatically. Virtually all phases of education and training have been affected by the growth of interest in the computer, as evidenced by the proliferation of computer-based instruction products that have come on the market and the popularity of computer-based training in business and government. The computer appears to be a technology of long-term consequence to the instructional development profession.

In planning this issue, the goal was to present a series of papers pertaining to important issues in the design of computer-assisted instruction (CAI). To accomplish this goal, authors from both academic and applied settings were asked to develop their ideas concerning CAI within the design focus of JID and the goals of this issue. The result of their efforts is this special issue, which includes comprehensive summaries of CAI research and the characteristics of an empirically derived CAI system (Tennyson), an evaluation of factors to be considered in making instructional design decisions (Hannafin), an analysis of the underlying assumptions and capabilities of various authoring options (Kearsley), an examination of the implications of learning and cognition research for design of CAI (Clark), and the presentation of several practical models for the evaluation of CAI (King and Roblyer).

The topics addressed in this issue should enlighten, broaden, and stimulate thinking about issues in the design of CAI. The papers do more than present information. They challenge the instructional design profession to examine carefully the fruits, fallacies, and risks associated with CAI, and to be thoughtful in our instructional judgments and decisions.

I am extremely grateful to each of the authors for contributing their efforts to this issue.

—Michael Hannafin  
Guest Editor