Reconciliation of Cognitive Psychology and ATI Research

In his recent article on individual differences and instructional theory, Dick Snow argues that "instructional theories need...to be local theories by subject matter as well as local by locale." He further states "ATI research and the new cognitive psychology of information processing have come along together at just the right time to be combined with great profit. But the profit is in coordinated concepts and methodology applied in specific instructional design and evaluation settings. General instructional theory, I think, is a holy grail."

Actually, educational researchers can take quite different points of view. They could continue to pay traditional homage to empirically-oriented ATI research, ignoring its uneven history over the past 20+ years, or they could adopt and elaborate newer structural/process/systems theories which provide both deeper levels of understanding and a priori bases for prediction and control.

To be sure, any viable theory of instruction will need to integrate the best of what cognitive psychology and individual differences have to offer. Moreover, I believe that this integration (of theories of cognition and individual differences) must be accomplished in relativistic terms, albeit relative to content and prototypic subject populations, rather than to locales. The point is this: Theories which do exactly that have already been proposed...
with a high degree of success, and applied in educational settings.

In particular, the Structural Learning Theory (e.g., Scandura, 1977a), and its associated instructional design technologies (e.g., Scandura, 1977b), deal explicitly with the interrelationships which exist among content, cognition, and individual differences, and with the constraints which these interrelationships impose on the form of any comprehensive theory of complex structured behavior (including, but not limited to, instruction).

In effect, although Dick and I started at quite different points and apparently have quite different goals, we agree on the need to think of theories of cognition and individual differences in relativistic terms. This is an important step forward. The basic issue which remains is whether to accept Snow's empirical prescription for progress, which seems to me the more arduous and less rewarding way to go, or my own theoretically based approach toward instructional improvement.

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References


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