

My Education Theory Heroes

While I take a profoundly practical approach to both teaching and the design of instructional materials, my concept of what is practical has been greatly influenced by theoreticians. In this short informal sketch, I'll touch on how some have influenced my thinking:

Bowlby and Ainsworth Attachment Theory suggests that learning takes place by watching how the “trusted other” responds to stressful situations. While this theory focuses on infancy, it applies at all ages. In my technology training classes, I never lose sight of how important a teaching moment occurs when something doesn't work as expected during one of my demonstrations!

Jerome Bruner I've found Bruner's most useful notion has to be “scaffolding,” which is closely related to Vygotsky's Zone of Proximal Development. Instructional materials must “play fair,” by presenting problems that can be solved with the knowledge the student can be reasonably expected to have. The myopic trainer or instructional designer can lose sight of the fact that the student does not already know as much as the trainer knows. This can impair the student's sense of self-efficacy, and I am always on guard against it.

Ruth Clark Ruth Clark was a consultant to the Microsoft Course Development Team for several years, so I learned her theories first hand. She was among the first to systematically apply the results of cognitive research to corporate training. The most important “take-away” from my time with Ruth is the need for tightly constructed training materials. If the relationships among concepts, procedures, objectives, methods, and evaluations are not explicit, we are in danger of wasting our students' time and losing their attention.

The Cognitive Psychologists The Pattern Recognition researchers convinced me of the importance of a consistent look-and-feel for a series of training materials. This will minimize cognitive noise and assist placement of information in short-term memory. Bourne's Frequency Theory has led me to use lots of positive and negative examples. Sperling's theory of Parallel Processing taught me that alternative modalities of presenting the same information heighten retention. Pavio's Dual Encoding Theory reinforced this notion. My writing is never without a foreshadowing introduction, thanks to Ausebel's Advanced Organizer construct.

Central to my method of scoping and sequencing material is the theory of Problem-Oriented Acquisition, which states that you are far more likely to learn skills that you need to use right away. This comes from D'Ydewalle and Rosselle's work on Transfer Appropriate Processing. Treisman's Attenuation Theory reminds me never to let too much time pass between presenting a concept and giving students an opportunity to use it.

The Constructivists Constructivism has been the “theory *de jour*” for some years now, and I sometimes think it has been overstressed to the exclusion of other useful ways of looking at learning. Still, I must remember that my faculty clients’ attitudes toward instructional technology will be constructed not only out their experiences in my class, but from all their previous related experience. Whether it is easier to do work with or without computers is not a “fact,” but a knowledge construction based on each student’s experience.

The Cooperative Learning Theorists Adult computer students surrounded by their peers often feel very vulnerable. They are afraid that everyone will “get it” except for them, and that everyone else will know they have been left in the dust. Cooperative Learning strategies, such as those discussed by Glasser and the two Johnsons, have helped me to minimize my adult students’ exposure.

Eric Erikson Erikson’s Psychosocial stage theory taught me that we never stop learning and evolving throughout adult life, and that most major learning occurs in response to personal crises. I try to pose problems to my classes and in my learning materials that create “mini-crises,” while never forgetting to provide enough scaffolding to make it possible for the students to resolve them (with their best effort).

The Instructional Systems Design (ISD) Theorists My concept of instructional design never strays too far from the ADDIE Model (Analyze, Design, Develop, Implement, Evaluate). I strongly favor Dick and Carey’s version of this model, which stresses the preeminence of the front-end analysis. I often drag their book out when a faculty member requesting my help in placing a course online is balking about the need to start with a Design Document.

To evaluate the results of a course produced with the ADDIE model, I rely on Kirkpatrick’s Four-Part Evaluation model, which stresses the importance of behavior change and Return On Investment (ROI).

David Jonasson Jonasson’s *Computers As MindTools: Engaging Critical Thinking* really stretched my thinking on the direction for computer use in schools and colleges. Jonasson suggests that games, simulations, concept maps, and collaborative learning opportunities can focus the computer’s power less on learning facts and more on learning how to learn. Our schools are a long way from seriously implementing Jonasson’s insights, but his focus toward critical thinking and away from excessive drill-and-practice is clearly the way to go.

Malcolm Knowles Knowles’ core principles of Andragogy have been so thoroughly internalized by the Adult Education community that it is easy to forget he was the source. All are vital to the way I teach and design instructional materials for adults:

- Adults need a reason for learning something or they will define themselves as too busy to bother.

- Adults learn by doing things, rather than by hearing about doing things.
- Adults approach learning as problem-solving.
- Adults learn best when they can use what they have learned immediately.

Robert Mager The most useful concept I explored in grad school was Mager's Three-Part Criterion-Referenced Objective (What do you want them to do? What tools do they get to do it with? By what criteria will you determine that they have done it well?) I use Three-Part Objectives constantly in my teaching and writing.

Moore and Kearsley The Theory of Transactional Distance suggests that each learner has a separate level of autonomy and can tolerate either High Transactional Distance (flexible learning, student in control, little direct communication with instructor) or Low Transactional Distance (rigid course structure, teacher in control, highly interactive with instructor.) This model supports my personal observation that the instructor-led classroom will always be with us, as there will always be a percentage of learners who will not be comfortable in a distance environment. I do believe there is much we can do to shrink that percentage.

Social Learning Theorists In this group, I would place the likes of Bandura, Dewey, Thelen, and to a certain extent, those stressing the intensely personal aspect of learning, such as Carroll and Carl Rogers. As a trainer, I always try to remain sensitive to the social aspects of learning and the need not to damage my students' sense of what Bandura calls "self-efficacy." For example, I never train the executives on a new skill at the same time as their own subordinates. The subordinates might learn the new material more quickly, and, for some executives, this could be quite a problem.

I also structure the learning materials I design to facilitate social interaction, wherever appropriate.