Instructional-Design Theories and Models
Volume III
Building a Common Knowledge Base

Edited by

Charles M. Reigeluth
Alison A. Carr-Chellman

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Unit 2
Theories for Different Approaches to Instruction

Unit Foreword

In chapter 4 we identified means and ends as two major ways to define different galaxies in the universe of instruction. This unit addresses the means—the different kinds of approaches that represent different systems of methods to use. This introduction provides a bit more detail on the approaches that are described in this unit.

In chapter 5, William Huitt, David Monetti, and John Hummel describe elements of a common knowledge base about the direct approach to instruction, or just direct instruction (DI). It is a method that accounts for student differences, groups students based on pretests, and presents information in an active format. DI focuses on student–teacher interaction and heavy use of examples, as well as constant assessment of student learning prior to moving on. We believe that DI, while perhaps not in vogue among scholars currently, likely has a useful place within an information-age paradigm of education. While DI can be used as a separate approach in its own right, it can also be used as a component within other approaches, such as problem-based instruction or experiential instruction to build lower-level skills and knowledge. Huitt, Monetti, and Hummel point out that DI has been shown through empirical research to increase standardized test scores—a common measure of instructional effectiveness in an increasingly accountable education system. Chapter 5 describes what the authors propose as the common knowledge base for this approach.

In chapter 6 Joyce Gibson describes elements of a common knowledge base about the discussion approach to instruction. It is a method for incorporating student experiences into the learning process rather than relying strictly on content presentation. There are kinds of learning that seem to particularly benefit from deep discussions, such as understanding. We also appreciate the ways in which this method tends to alter established power relations between learners and instructors. The emphasis on valuing learner experiences and learner empowerment are important for an information-age society. The effectiveness of the discussion approach depends to some extent on discussion-leading and participation skills. Just as direct instruction is often called for by other approaches, discussion is also often called for by other approaches, such

as problem-based instruction. Discussion is used by other methods as a primary tool for reflection.

In chapter 7 experiential instruction is defined by Lee Lindsey and Nancy Berger as learning from our experiences. They go on to differentiate this type of learning as learner-centered, authentic, and self-directed with expectation failure. Experiential instruction is a very common and well-researched approach that is particularly powerful for learning transfer to real-world environments and values authenticity, which we see as important in the information age. The primary strength of this approach is its grounding in reality, which can result in better transfer. The first three approaches (direct instruction, discussion, and experiential instruction) are quite different from one another. In contrast experiential instruction has more overlap with, and similarity to problem-based instruction.

In chapter 8 John Savery defines the problem-based approach to instruction (PBI) as an experientially oriented approach in which students learn from solving problems. PBI has a great deal of coherence as an approach, in that all its component methods fit systemically together. It also has a fairly distinct identity as compared to other types of instruction. PBI is a powerful and effective approach to instruction that is consistent with the information-age paradigm of education. In addition, as Savery points out, the use of PBI has been increasing in recent years and now serves thousands of teachers and students in a wide variety of content areas.

In chapter 9 Andrew Gibbons, Mark McConkie, Kay Kyeongju Seo, and David Wiley define the simulation approach to instruction as including dynamic system models, student ability to change those models, nonlinear logic, augmenting instructional functions, and a specific instructional goal. Simulation-based instruction is similar to experiential instruction, but it provides affordances that are not available in experiential instruction. It also has much in common with PBI. Direct instruction and discussion can both be used in the service of simulation-based instruction. In a simulation there could be points where the learners can hop out into some direct instruction that prepares them for something they need to accomplish in the simulation environment. Discussion, on the other hand, serves more as a reflective tool at the end of a performance in the simulation. Simulations are now more affordable and easier to develop, so they are more feasible for classroom application. Also, simulations are safer and can be done more quickly, easily, and affordably than many real experiences; and it is much easier to add other elements, such as direct instruction, reflection, guidance, scaffolding, and mentoring, through avatars and puppets.

These are but a few of the approaches identified in chapter 4, and it should be apparent that many approaches overlap with each other. We have not included others here because:

- They have considerable overlap with approaches we have already included.
- Some are less in alignment with the information-age paradigm of education.
- Some are linked to out-of-date technologies.
- There are obvious space limitations.

We focused on approaches that we felt were most important for the information-age paradigm of education. But we strongly believe that others are important for a common knowledge base on instruction, and we encourage you to work on synthesizing and advancing the current knowledge about those additional approaches.

In conclusion this unit contains chapters on the following five approaches:

- Direct approach to instruction
- Discussion approach to instruction
- Experiential approach to instruction
- Problem-based approach to instruction
- Simulation approach to instruction

The following unit addresses learning outcomes (the ends of instruction) in a similar fashion.

—CMR & ACC