In Search of the Elusive ADDIE Model

by Michael Molenda

In instructional technology (IT) and instructional design (ID), one of the questions most frequently raised is, "What is the original source for the ADDIE Model?" Students, fellow professors, and practicing professionals are often interested in finding an authoritative source to cite in papers and to provide to clients. Practitioners tend to be curious about the pedigree of the term: Is it from academia? Business? Military?

I was curious, too, but not motivated to go beyond a cursory search until I was invited by the editor of a forthcoming encyclopedia (Kovalchick & Dawson, in press) to write an entry for the ADDIE Model. The question became personal.

The most obvious place to start such a search is in the existing dictionaries and encyclopedias of instructional technology, education, and training. ADDIE does not appear in any of them. Next, I went to the large (Saettler, 1990) and small (Reiser, 2001; Shrock, 1995) histories of instructional technology and ID. Again, not a single mention. Next, the textbooks on ID (Morrison, Ross, & Kemp, 2001; Gentry, 1994; Dick, Carey, & Carey, 2001; Smith & Ragan, 1999; Heinich Molenda, Russell, & Smaldino, 2002), but ADDIE is not mentioned in any of them—neither the older nor the more recent editions. How about the surveys of ID models (Andrews & Goodson, 1980; Gustafson, 1994; Gustafson & Branch, 1997, 2002)? Again, ADDIE is invisible.

By this point I was beginning to form the theory that ADDIE existed more as a label than as an actual ID model. To try to falsify this theory, I contacted about 20 people, including professors and practitioners who I thought would be knowledgeable in this area, especially those whose institutional memory goes back to the 1960s. Their responses indicated that they did not know of any original, primary source. When I asked if they could remember when they first heard the term, their typical response was "around the late 1980s." Some suggested leads or sources that *might* be early references, so I tracked down each of the leads. Again, none of the sources mentioned could truly be said to be a source of the ADDIE Model. I interviewed some of the authors cited as possible early references and they all said, "No, I didn't invent ADDIE and I don't know who did." Actually, three of them said, "No, I didn't invent ADDIE; I thought *you* did!"

I am satisfied at this point to conclude that the ADDIE Model is merely a colloquial term used to describe a systematic approach to instructional development, virtually synonymous with instructional systems development (ISD). The label seems not to have a single author, but rather to have evolved informally through oral tradition. There is no original, fully elaborated model, just an umbrella term that refers to a family of models that share a common underlying structure.

What everyone does agree on is that ADDIE is an acronym referring to the major processes that comprise the generic ISD process: analysis, design, development, implementation, and evaluation. Beyond that, there is a widely shared understanding that when used in ISD models, these processes are considered to be sequential but also iterative, as depicted in Figure 1. But any claims about what the ADDIE Model *says* beyond this are individual inventions.

The origin of the label itself is obscure, but the underlying concepts of ISD can be traced to the model developed for the U.S. armed forces in the mid 1970s. As Branson (1978) recounts, the Center for Educational Technology at Florida State University worked with a branch of the U.S. Army to develop a model, which evolved into the Interservice Procedures for Instructional Systems Development (IPISD), intended for the Army, Navy, Air Force, and Marine Corps. Branson provides a graphic overview of the IPISD, which shows five top-level headings: analyze, design, develop, implement, and control. This model is referenced in virtually all subsequent historical reviews of ID, but, notably, users do not refer to it by the ADDIC acronym. The authors and users refer only to IPISD; hence, it is clearly not the source of the ADDIE acronym either.

The underlying concepts of the IPISD model can be found in an earlier handbook by Briggs (1970), who also was affiliated with Florida State University. Briggs's model incorporates ideas similar to the IPISD model, but without the ADDIC headings. And, of course, there are many other tributaries leading to the main stream of ISD.

Although Thiagarajan has been mentioned as a possible source of the ADDIE label, this does not pan out because the article only refers once to "the basic systems approach A-D-E model" (Thiagarajan, 1976, p. 10), not *ADDIE*, nor does he provide a visual or verbal model as such.

The ADDIE terms and concepts appear in a figure in a how-to monograph distributed by the American Society for Training and Development (ASTD) on the basics of ISD (Grafinger 1988), as shown in Figure 1, but nowhere in the monograph is the acronym ADDIE itself given. This source consistently refers to it as the ISD model. Similarly, Rossett (1987) includes a figure showing an ISD model in which the top-level boxes are labeled with the five ADDIE terms, but the caption says, "What happens during ISD."
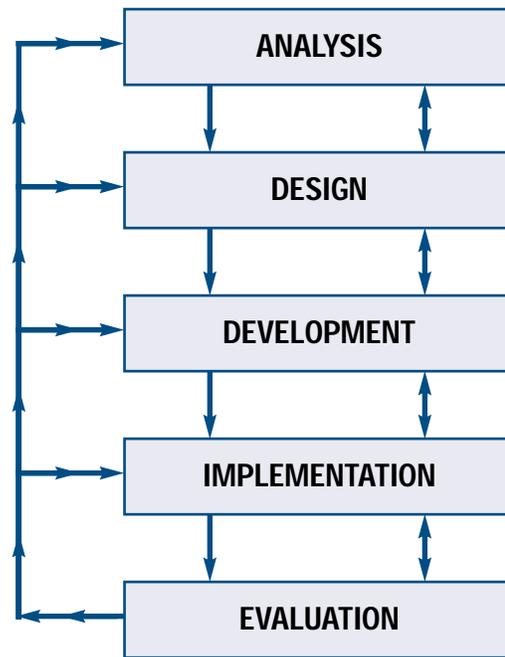

Figure 1. An ISD Model Featuring the ADDIE Processes (Source: Grafinger, 1988).

A web search engine search will turn up numerous hits on the term ADDIE, but clearly none of these sources is close to an original, primary source. One prominent web source is *Big Dog's ISD Page* (Clark, 1995). Clark's treatment is similar to many other web sources: As do Grafinger and Rossett, he provides a visual model incorporating the ADDIE terms but refers to it as "the ISD model."

One of the few explicit and extensive narrative references to the ADDIE Model in the academic literature is found in Molenda, Pershing & Reigeluth (1996). These authors attempted to capture the current consensus regarding the characteristics of the systems approach to ID. We chose the term ADDIE as an umbrella term for ISD models because that's the term we heard most often in oral discussions of the topic. We did not refer back to any original, primary source; nor did we fancy that we were inventing a new concept. In fact, we intentionally pushed the ADDIE concept into a new application. We attempted to present a model that illustrates the interconnections between the development of instructional interventions and the development of performance improvement interventions. That is, we claimed that performance interventions, such as incentive programs, job redesigns, electronic performance support systems, ergonomic overhauls, and the like, are themselves or should be created through a process involving analysis, design, development, implementation, and evaluation. A full explication of this model is given in Molenda & Pershing (2003).

The ADDIE Model is also used as a major organizing principle in Gustafson and Branch (2002), another source intending to represent the current conventional wisdom about ID. But Gustafson and Branch do not provide any citation for their references to ADDIE either.

What is emerging in the recent literature is a tendency to accept the ADDIE term as an umbrella term, and then to go on to elaborate more fully fleshed-out models and narrative descriptions. However, it should be recognized that authors who do this are essentially creating and disseminating *their own* models, as there does not appear to be an original, authoritative version of the ADDIE model to be revealed and interpreted. Unfortunately for the sake of academic rigor, there is no real or authentic meaning for the term. Anyone is free to impute whatever attributes they want to this label…as they do. 🜨

References

Andrews, D.H., & Goodson, L.A. (1980). A comparative analysis of models of instructional design. *Journal of Instructional Development, 3*:4, 2-16.

Branson, R.K. (1978, March). The interservice procedures for instructional systems development. *Educational Technology*, 11-14.

Briggs, L.J. (1970). *Handbook of procedures for the design of instruction*. Pittsburgh: American Institutes for Research.

Clark, D. (1995). *Big dog's ISD page* [Online]. Available: http://www.nwlink.com/~donclark/hrd/sat1.html#model.

Dick, W., Carey, L., & Carey, J.O. (2001). *The systematic design of instruction* (5th ed.). New York: Longman.

Gentry, C.G. (1994). *Introduction to instructional development*. Belmont: Wadsworth.

Grafinger, D.J. (1988). *Basics of instructional systems development*. INFO-LINE Issue 8803. Alexandria: American Society for Training and Development.

Gustafson, K.L. (1994). Instructional design models. In T. Husen & T.N. Postlethwaite (Eds.), *The international encyclopedia of education* (2nd ed.). Oxford: Pergamon.

Gustafson, K.L., & Branch, R.M. (1997). *Survey of instructional development models*. Syracuse: ERIC Clearinghouse on Information & Technology.

Gustafson, K.L., & Branch, R.M. (2002). What is instructional design? In R.A. Reiser & J.V. Dempsey (Eds.), *Trends and issues in instructional design and Technology.* Columbus, OH: Merrill/Prentice Hall.

Heinich, R., Molenda, M., Russell, J.D., & Smaldino, S. (2002). *Instructional media and technologies for learning* (7th ed.). Columbus, OH: Merrill/Prentice Hall.

Kovalchick, A., & Dawson, K. (in press). *Educational technology: An encyclopedia*. Santa Barbara, CA: ABC-CLIO.

Molenda, M., Pershing, J.A., & Reigeluth, C.M. (1996). Designing instructional systems. In R. L. Craig (Ed.), *The ASTD training and development handbook* (4th ed.) (pp. 266-293). New York: McGraw-Hill.

Molenda, M., & Pershing, J.A. (2003). *The strategic impact model or 'Indiana model.'* Unpublished paper, available from authors. Bloomington: Indiana University.

Morrison, G.R., Ross, S.M., & Kemp, J.E. (2001). *Designing effective instruction* (3rd ed.). New York: John Wiley.

Reiser, R.A. (2001). A history of instructional design and technology. In R.A. Reiser & J.V. Dempsey (Eds.), *Trends and issues in instructional design and technology*. Englewood Cliffs, NJ: Prentice Hall College Division.

Rossett, A. (1987). *Training needs assessment.* Englewood Cliffs, NJ: Educational Technology Publications.

Saettler, P. (1990). *The evolution of American educational technology*. Englewood Cliffs, NJ: Libraries Unlimited.

Shrock, S. (1995). A brief history of instructional development. In G. Anglin (Ed.), *Instructional technology: Past, present, and future.* Englewood Cliffs, NJ: Libraries Unlimited.

Smith, P.L., & Ragan, T. J. (1999). *Instructional design* (2nd ed.). Columbus, OH: Merrill/Prentice Hall.

Thiagarajan, S. (1976, November). Help—I am trapped inside an ID model! *NSPI Journal*, 10-11.

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Mike teaches graduate courses in foundations of instructional and performance technology, evaluation and change management, and distance education. Recently he has been working with Jim Pershing to develop a model (the Strategic Impact Model) and procedures for meshing training and non-training interventions into one coordinated process. The model emphasizes formative evaluation and change management as central processes. Mike may be reached at molenda@indiana.edu.