

## The ADDIE Model

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The “ADDIE Model” is a colloquial term used to describe a systematic approach to instructional development. The term is 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. It is not a specific, fully elaborated model in its own right, but rather an umbrella term that refers to a family of models that share a common underlying structure. ADDIE is an acronym referring to the major processes that comprise the generic ISD process: Analysis, Design, Development, Implementation, and Evaluation. When used in ISD models, these processes are considered to be sequential but also iterative, as depicted in Figure 1.

[Insert Figure 1 here]

The basic engine of ISD models is the systems approach: viewing human organizations and activities as systems in which inputs, outputs, processes (throughputs), and feedback and control elements are the salient features. Advocates claim that the process of designing instruction can be carried out more efficiently and effectively if the steps are followed in a logical order so that the output of each step provides the input for the next. For example, the output of the Analysis phase is a set of performance deficiencies (such as errors being made by workers), which can be broken down to determine what ought to be taught. This output is

converted into statements of performance objectives. In the Design phase the content and objectives are examined to decide on appropriate sequencing, media, and methods, which specifications comprise the blueprint for the instruction. The blueprint created in the Design phase is converted into instructional materials and procedures in the Development phase. The materials and procedures are used by actual learners in the Implementation phase. In the Evaluation phase the learners and the instructional system are probed to decide whether revisions are necessary, in which case the process would be repeated with the next version of instruction.

The iterative aspect of the model is represented by the line and arrows running vertically down the left side of the model and the two-headed arrows between each component, as depicted in Figure 1. Each major phase of the process is accompanied by some sort of formative evaluation to test the adequacy of the decisions made during that phase. After Analysis, for example, are the descriptions of the audience and the learning needs accurate? After Design, are the objectives and methods judged appropriate by experts? After Development, does the prototype work in a small-scale tryout, or how can it be improved? After Implementation, did the entire intervention achieve its goal, or what remains to be done? This summative evaluation is what is symbolized by the final Evaluation phase. At each of these phases, the results of the evaluative activity could lead the developers to revisit earlier steps, hence the two-headed arrows.

The origin of the label itself is obscure, but the underlying concepts of ISD can be traced to the model developed for the United States 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 (p. 13), which shows five top-

level headings: Analyze, Design, Develop, Implement, and Control. This model is referenced in virtually all subsequent historical reviews of instructional development, but, notably, it is not referred to by the ADDIC acronym, 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 Leslie Briggs (1970), who also was affiliated with Florida State University. Briggs's model (p. 7) incorporates ideas similar to the IPISD model, but without the ADDIC headings.

Although Thiagarajan (1976) is sometimes cited as the origin of the ADDIE label, this is not satisfactory because he only refers to "the basic systems approach A-D-E model" (p. 10), not "ADDIE," nor does he provide a visual or verbal model as such.

In fact, the term ADDIE does not appear at all in the many textbooks on instructional design, the dictionaries or encyclopedias of education, or the several histories of instructional design written in the 1980s and 1990s. The name itself seems to have been disseminated by word-of-mouth, beginning perhaps in the 1980s. The ADDIE processes appear in a figure in a how-to monograph distributed by American Society for Training and Development (ASTD) on "basics of instructional systems development" (Grafinger 1988), as shown in Figure 1, but nowhere in the monograph is the acronym ADDIE itself given. It is consistently referred to as the ISD model in Grafinger. Similarly, Rossett (1987) includes a figure showing an ISD model in which the superordinate boxes are labeled with the five ADDIE names, but the caption says "what happens during ISD." ADDIE appears quite frequently on the World Wide Web in various manifestations also. One of the better-known Web sources is "Big Dog's ISD Page" (Clark 1995). As with Grafinger and Rossett, Clark provides a visual model incorporating the ADDIE terms, but refers to it as "the ISD model."

One of the few explicit narrative references to the ADDIE Model in the academic literature of the field is found in Molenda, Pershing & Reigeluth (1996). The ADDIE Model is also used as a major organizing principle in Gustafson and Branch (2002). Neither Molenda, Pershing, and Reigeluth, nor Gustafson and Branch provide any citation for their references to ADDIE. Thus it is only in the recent literature that the term is beginning to take on a more fully elaborated meaning. However, these authors are essentially creating their own interpretations as there does not appear to be an original, authoritative version of “the ADDIE model.”

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