The Syracuse Model for Course and Curriculum Design, Implementation, and Evaluation

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Abstract. The procedure described in this article evolved from a design first implemented by the author in the mid-1960s. Extensive use over the years has led to development of the more generic and workable model discussed here. The model has been used successfully for workshops, course and curriculum design in institutions of varying sizes, and in most disciplines. While most instructional design models overlap to some degree, five factors make the Syracuse model somewhat unique: it is politically sensitive; it tests assumptions; it does not predetermine solutions; it is inexpensive to use; and program implementation can be fairly rapid. In addition, unlike most models, it tests faculty assumptions about both the content and the sequence of the instructional program.

The process model used by the Center for Instructional Development at Syracuse University is the most recent version of a design first developed by the author in the mid-1960s while at the University of Miami, when systems theory was first being applied to educational settings (Figure 1). The first model was extremely complex, had a major media emphasis, and was strongly influenced by the writings and work of Trump and Baynham (1961), and Lewis, Brown, and Harcleroad (1964). Over the years, as work with faculty members in the design and implementation of courses and curriculums continued, a more generic and workable model evolved. The present version (Figure 2), which has been used by many individuals at large and small institutions and in almost every subject area imaginable, has been fairly stable since the mid-1970s.

Like most systems, the Syracuse model appears generally linear in format. However, at any meeting some issues may be discussed that appear later in the sequence or the focus may be on previously discussed topics and decisions. In the real world, data are not always available when needed, and the priorities and needs of participants can directly affect what is being discussed at any given time.

All projects that the Center at Syracuse selects for implementation follow the general procedure outlined in Figure 2. Although the objectives and instructional content of all courses and programs are the responsibility of the academic department involved, an effort is made, by following this sequence, to ensure that every decision is based on accurate and comprehensive data and that all relevant factors are carefully considered. A project may take from 6 months to a year or longer to reach the field testing stage. While the time spent in the two major development stages (Phases I and II in Figure 1) will vary considerably from project to project, the initial design stage usually takes longer but does not require the intensive workload associated with production, implementation, and evaluation (Phase II). As will be noted, it is in Phase I that this model differs significantly from most others (Bass & Lumsden, 1978; Rowntree, 1974; Stamas, 1973).

Although Figure 2 is generally self-explanatory, several elements need emphasis.

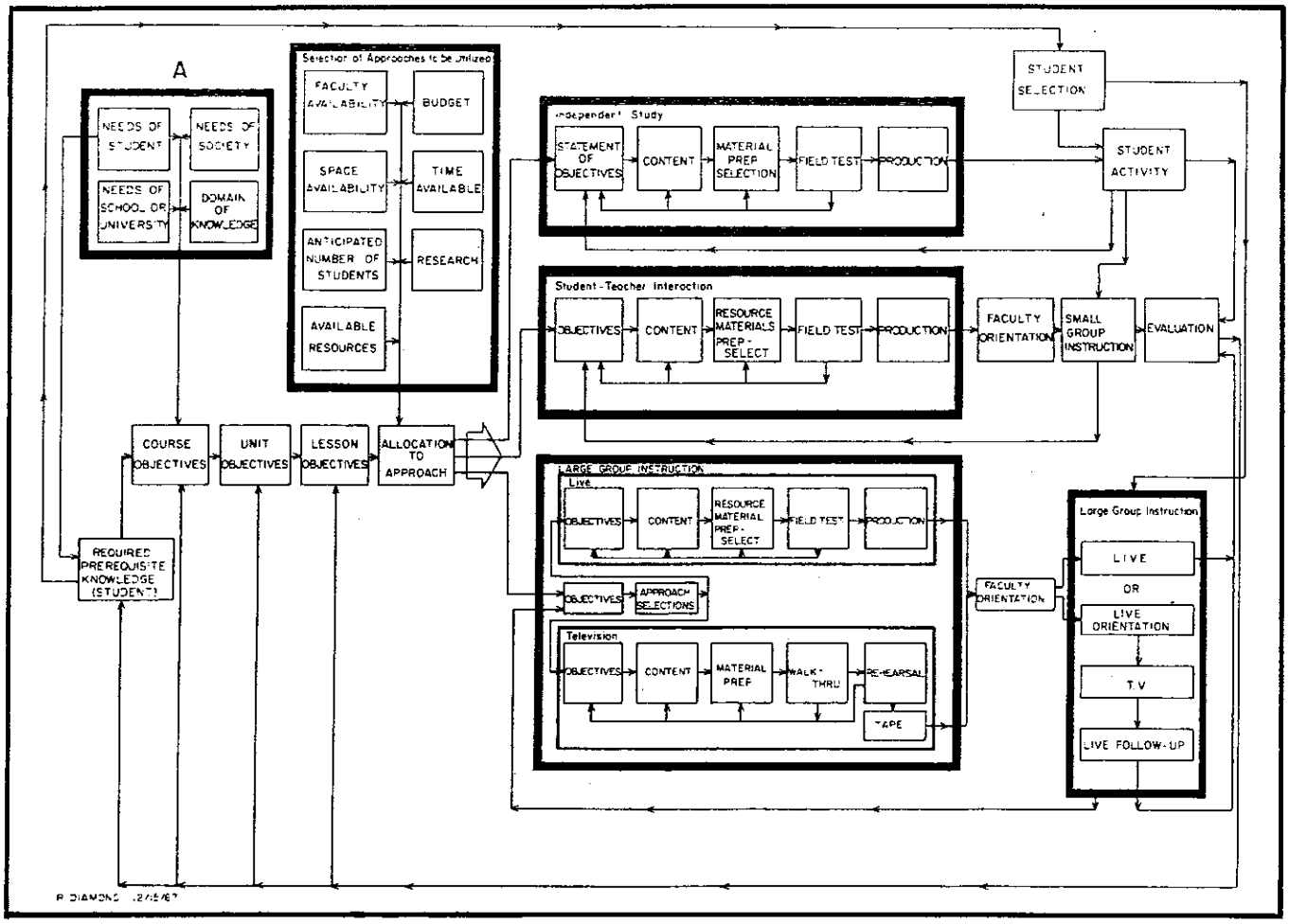

FIGURE 1. A systems approach to course development—1967 version.

Phase I—Design

Project Selection

To produce maximum impact from existing resources, it is the Center's policy to support major projects rather than many smaller ones. Therefore, projects at Syracuse tend to range from complete course redesign to developing an entire curriculum. Criteria for project selection include specific needs and problems identified by faculty, students, and administrators (e.g., attrition, lack of job opportunities for graduates, student and faculty complaints); available resources; the willingness of the participating faculty to follow the model; and support for the project within the department and responsible committees. Whenever possible, an attempt is made to involve more than one faculty member in the project and to keep all key curriculum committees and administrators informed throughout the process. This approach not only provides for a broader and improved content base for the project, but builds in stability for the program in case the key instructor leaves. It is essential for durability that the project be perceived by the participating faculty and cooperating department(s) as *their* project; ownership is a key for long-term project survival. While final selection rests with the staff of the Center, projects will not be considered for implementation unless they are supported by the chairpersons of the departments and the deans of the schools or colleges involved. (A more detailed discussion may be found in Diamond et al., 1975, pp. 32-35.)

Preliminary Component Sequence

This step creates an "idealized" version of the course or curriculum. It identifies basic content areas and their interrelationships; when sequence is required and when it is not; and where there should be options, tracks, remediation, and exemptions. The design evolves from a careful analysis of (1) the domain of knowledge in the discipline; (2) the knowledge, attitudes, and priorities of the students who will enroll; (3) community needs (particularly if the program is job-oriented); and (4) the priorities of the institution and the specific academic department and school. Experience has shown that content diagramming of a course or program helps to communicate effectively the design and content of a program to other faculty and to students.

Operational Component Sequence

While the preliminary component sequence represents the "ideal" program, the operational component sequence represents that ideal modified by consideration of various realities. Existing facilities, staff, and resources; the time available for instruction; the types of objectives anticipated; and the number and type of students must all be carefully considered. Appropriate changes are then made in the design, moving it from the ideal to a more realistic sequence which can be implemented. Modifications in the design will continue throughout the remaining

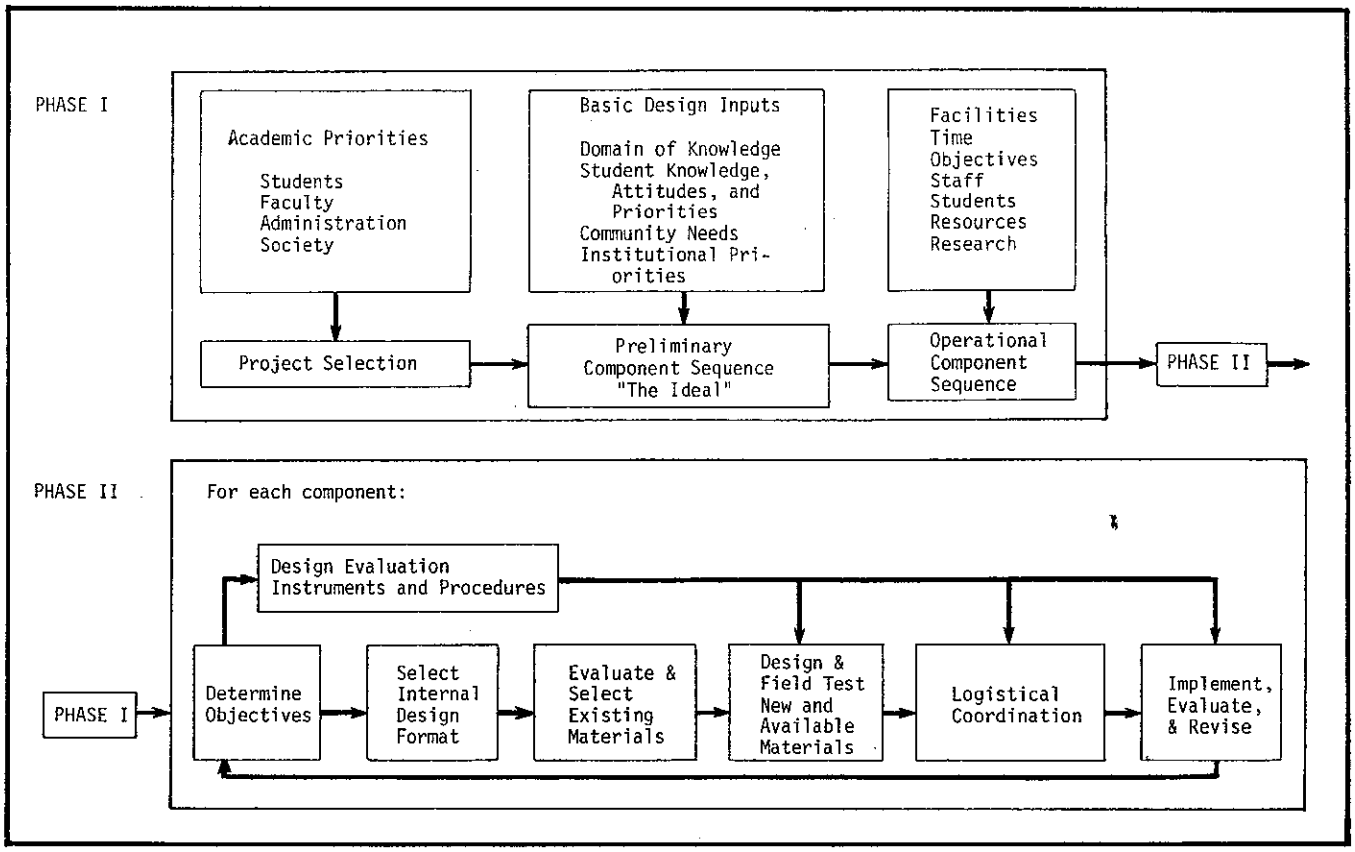

FIGURE 2. Process for instructional development.

steps in the process until the program becomes generally stabilized. However, as long as the course or program is offered, some changes can always be anticipated in the operational component sequence.

One of the advantages of this approach is that each project design is unique. The content, the students, the resources and the strengths of the faculty, rather than the process, determine the final program design.

In curriculum projects, Phase I produces an overall design of the program, showing the interrelationship of courses and other instructional elements. Once this overview is complete, the next step is to repeat the design process (Phase I) for *each* of the instructional units (or courses). For example, the Center recently worked with a faculty team to design a new curriculum for music majors interested in entering the recording and promotional professions. Once the overall curriculum was designed, work began in Phase I for each of the several courses identified as being essential. While this recycling of the process to a more specific level may at first appear to be more time-consuming than other models, the opposite is true because each course, if more than one instructor is involved, can be worked on independently without losing the unity of the overall program.

Phase II—Production, Implementation, and Evaluation

This portion of the Syracuse model is fairly traditional (Kemp, 1977); however, several elements do deserve some additional attention. At Syracuse, an effort is made to approach the statement of objectives in a direct but not overbearing manner. In many instances, when faculty members have been forced to state objectives in a behavioral way or to place them hierarchically, faculty members were antagonized, and the objectives generated were rather unrepresentative and insignificant. A clear and useful statement of objectives can usually be generated in a nonthreatening way by simply asking faculty members to describe what students must be able to do to demonstrate that the instructional units have been successful.

Finally, it should be mentioned that the instructional approach or combination of approaches that will be used are those that are most flexible, least expensive, and most effective in meeting the stated needs. Whenever possible, existing materials are used.

Using the Model

As with most instructional systems, the Syracuse model is most effective when an individual skilled in the design process (an instructional developer) leads those responsible for the content through the system. While it can be used by an instructor working alone, experience has shown that an instructional developer, testing assumptions, providing alternatives, and serving in the role of a facilitator, can substantially help improve the final product. (For an excellent discussion of the relationship between a developer and a faculty member and their roles within this model, see Eickmann and Lee, 1976.) The model appears to be a generic one that can be effectively used at all grade levels and in all academic disciplines. While the questions asked may be the same, the answers and solutions will vary. Experience has shown that this is a model for instructional design, implementation, and evaluation applicable to

any instructional unit—a workshop, seminar, course, or curriculum—and in any instructional setting (school, college, industry, or government).

As noted previously, for maximum impact, emphasis should be placed on the design and implementation of major instructional components—courses and curriculums. When small elements (e.g., a laboratory portion of a course, a series of lectures) are the focus of the project, many basic questions are left unanswered (e.g., why the unit exists in the first place) and there is little impact on the program results (attrition, learning, enrollment). At a time when survival of a support agency may be at stake, significant impact becomes particularly important. This does not mean, as some have claimed, that people asking for help are turned away. This would be political suicide. Help is given but in a limited way so that most of the efforts of key professional staff can be directed toward areas where they will have major impact on the educational experience.

The Role of Evaluation

Evaluation is an essential element, not only within the model but in the Center itself. Since the Center was established at Syracuse in 1971, it has had two major administrative components—Development and Evaluation. Each is headed by an associate director. The role of the evaluation unit in the total process has been first, to provide information essential to the overall design activity, and second, to identify outcomes of the programs generated. In the broadest sense both formative and summative evaluation (Methodology of Evaluation, 1967, pp. 39-81) are integral components of the Syracuse model and of the Center.

Unique Features

While most instructional models overlap to some degree, several facets of the Syracuse model make it somewhat unusual.

1. *It is politically sensitive.* The project selection phase of the process is designed to ensure two things: that the projects will have a good chance of success, and that once implemented, the program will survive. This is done by working within the existing political framework. It makes sure that the project falls within the priorities of the institution or sponsoring agency, that the key decision-makers are involved in and support the activity (curriculum committees, deans, department chairpersons, department managers, and so on) and that the content experts are not only willing to devote the necessary time to the project but that they also have the respect of their peers and can provide the required academic expertise.

2. *It tests assumptions.* The model assumes nothing in regard to what a program should look like and what should be in it. By providing extensive data used in designing an "ideal" program and by having an instructional developer in the role of a facilitator, the process ensures that every option will be explored and that every assumption made by the teaching staff will be tested. This is not true of models that have, as their first steps, the generation of behavioral objectives. Experience has shown that many of the constraints assumed by faculty as they structure a course are not real and are based more on tradition than anything else.

3. *It does not predetermine solutions.* The specific instructional design developed and the instructional technology utilized grow out of the process. Use of the model, while it does tend to generate designs sensitive to the individual needs, backgrounds, and priorities of students, does not predetermine what the final product will look like. It is, in effect, bias-free.

4. *It is inexpensive to use.* The model requires no hardware, no extensive support staff. An instructional developer can often be working on four or more projects simultaneously and, fortunately, significant structural and content changes do not always require additional instructional dollars once the program is implemented. In many instances, little if any additional funds have been needed to implement a total redesign of an existing course. The final program is designed to operate *within* the scope of existing resources. Programs survive only when they are administratively practical; therefore, this model is designed to operate within the scope of whatever support is available at a given time, at a given place, for a given project. While accessibility to evaluation and production expertise is certainly encouraged and will result in a more effective and efficient product, the necessary experts are not always part of the development staff. However, specialists in these areas are often available somewhere in the school or college and these individuals may be willing to assist on a part-time basis.

5. *Program implementation can be fairly rapid.* While more time may be dedicated to overall design in this than in most models, the very fact that a general structure is completed before production begins can, as mentioned previously, substantially reduce the time needed for implementation. Experience has shown that many courses, while totally restructured to improve their content and instructional effectiveness, can be offered within a few months after the design phase is completed because they require the production of few new materials and can be taught in the traditional manner. Major change does not correlate, necessarily, with extensive use of technology and heavy production.

In short, the Syracuse model for course and curriculum design, implementation, and evaluation appears to work. The present version has evolved over time and has, in the process, undergone extensive trial under fire. During the process the staff of the Center has studied other models to see whether elements might have been overlooked and whether modifications are warranted. While another program's staff may wish to evolve their own model, those involved should be encouraged to study the elements of this process in detail before omitting or modifying elements. Under any circumstances, the use of some clearly described procedure is essential. It ensures that all key questions are asked at the appropriate time and clarifies for the individuals involved where they are in the process and what their role in it will be. A workable model is essential for effective instructional development.

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