

Chapter 6

CURRICULUM DESIGN

Earlier, it was established that the word *curriculum* is used in three ways: (1) as a curriculum, (2) as the name of a system of schooling, and (3) as a title of a field of study. Further, curriculum theory was depicted as containing two primary dimensions, or sub-theories: curriculum design and curriculum engineering. Curriculum design may be defined as the substance and organization of goals and culture content so arranged as to reveal potential progression through levels of schooling. Since decisions in the field of curriculum, including curriculum engineering, hinge directly upon the curriculum, curriculum design is the focal point of virtually all curriculum thinking. From a theoretical point of view, curriculum design theory should constitute the most critical sub-theory of curriculum theory.

In this chapter, we shall expand upon the practical and theoretical issues and problems of curriculum design that force one to the conclusion that curriculum design theory must be a unique sub-theory of curriculum theory. The chapter is divided into three sections. In the first section, we shall examine the meanings associated with curriculum design, in the second section the problems of the substantive elements of a curriculum, and in the third section options for content arrangement.

DESIGN DEFINITIONS

The theoretical issues associated with the concept of curriculum as a document (as a curriculum, that is) fall under the heading of *curriculum design*. Curriculum design was defined above

as the substance and organization of goals and culture content so arranged as to reveal potential progression through levels of schooling. According to Taba:

Curriculum design is a statement which identifies the elements of the curriculum, states what their relationships are to each other, and indicates the principles of organization and the requirement of that organization for the administrative conditions under which it is to operate.¹

Johnson identified three notions of curriculum design as:

- (a) An arrangement of selected and ordered learning outcomes intended to be achieved through instruction,
- (b) An arrangement of selected and ordered learning experiences to be provided in an instructional situation, and
- (c) A scheme for planning and providing learning experiences.²

However one may conceptualize curriculum design, it is the design characteristics that make one curriculum like or different from another.

There commonly are two fundamental dimensions of curriculum design. The first has to do with the total substance, the elements and the arrangement of the document. We may speak of these as the contents of a curriculum in the same sense that we use a table of contents for a book to specify the titles of the various chapters. The second is the mode of organization of the various parts of a curriculum, particularly the culture content. Both of these dimensions circumscribe subordinate parts. We should keep in mind that the technical terms and statements used to describe a curriculum constitute the theoretical language of curriculum design. The focus of language to explain curriculum design is upon the two dimensions. Each of these merits full discussion because they are so critical to curriculum theory and research.

THE ELEMENTS OF A CURRICULUM

Literature on curriculum is replete with discussions about definitions of curriculum, curriculum decision-making,

¹Hilda Taba, *Curriculum Development: Theory and Practice* (New York: Harcourt, Brace, and World, Inc., 1962), p. 421.

²Mauritz Johnson, Jr. "On the Meaning of Curriculum Design," *Curriculum Theory Network*, 3:5, Spring, 1969.

curriculum planning, curriculum strategy, and so forth, but very little of it describes the finished product, or the output, of such endeavor. In other words, organized descriptions of curriculum designs are not plentiful. For many years, I have insisted that a curriculum is a written document. This point of view, when countered, is usually challenged by statements to the effect that the curriculum is not a written document or that it is "more than" a written document. What the curriculum is, if it is not a written document, or exactly what in it rises above a written document, those taking a stand do not make clear. Others claim that the written curriculum is not the "real curriculum." Again, what constitutes the "real curriculum" is not made clear. But regardless of interpretation, if a curriculum is something that is planned, it must be composed of elements with form and structure.

Design and Schooling

Conceivably, it will be helpful for us to look at some of the dynamics of the schooling situation for cues for curriculum design features. Important social institutions like schools may be justified only in terms of the goals or purposes they are intended to serve. Once goals are recognized and accepted, means must be selected for the attainment of the goals. Let us use Figure 6 as a model for illustrating these conditions for schools. In the figure, the goals lead to the selection of means to be used in achieving those goals. Two classes of means are indicated for schools. One of them is a curriculum; the other is instruction that takes place in response to the curriculum. The processes of evaluation help us to determine the adequacy of the two means in producing the desired results. The achievement of the goals and the results of evaluation help us

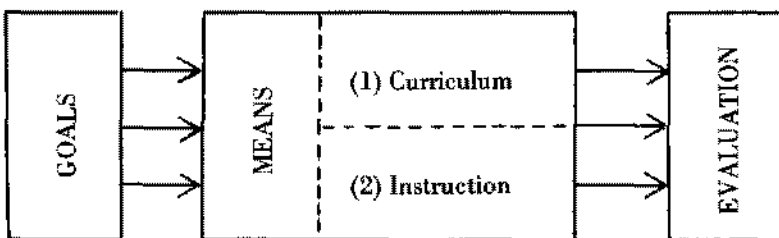


Figure 6. *The dynamic cycle of schooling.*

to redefine the goals and replan the means for achieving them. Thus, a dynamic cycle is established for the planning of schooling functions.

This kind of reasoning, however, immediately indicates two subsystems of schooling labeled curriculum and instruction, and this very designation of curriculum and instruction as two categories instead of one is another source of confusion. Related to these categories are the purposes of having a curriculum in the first place, and it is here that the theorist must bring the relationships between curriculum and instruction into focus. What the contents of a curriculum are depends entirely upon whether both curriculum strategy and instructional strategy are to be encompassed in the curriculum design, and there does not seem to be any way of avoiding this decision. For investigators to theorize and conduct relevant research, their language and constructs have to be carefully ordered. It is rational for the two means of achieving the ends of schooling to be conceived as two separate but related strategies. One set is conceptualized around the answers reached in response to the question, "What shall we teach in the school(s)?" The expression of those answers may be termed the curriculum, and their form and arrangement the curriculum design. The second set, the instructional strategies, is conceptualized around individual teachers and groups of pupils in response to the general question, "How shall we teach?" A sequence of events running from the development of curriculum strategy, to the development of instructional strategy, to the actual activities of pupils in classrooms or elsewhere is thus a logical one. None of these strategies is pupil learnings. These rather take place as a result of the strategies and events. In fact, curriculum designers should plan only in anticipation of learning activities and outcomes. In contrast, curriculum theorists or workers who think of curriculum strategy, instructional strategy, and/or actual classroom activities as constituting a single ball of wax called curriculum, pose an entirely different problem in curriculum design. Curriculum and schooling become almost the same concept. Curriculum design then includes an arrangement of objectives, subject matter chosen, specific action plans for teaching, all forms of instructional materials to be used, time schedules, activity descriptions, and so forth. If one goes further and includes what pupils learn as part of

curriculum, the many components of evaluation also have to be added. In fact, it is difficult to conceptualize what a curriculum design would look like in such a scheme.

Elements Implied by Definition of Curriculum

Virtually all writers on the subject of curriculum have been compelled to define curriculum. There is much variance in the ways curriculum is defined even though subsequent discussion may be quite similar. This variance reveals itself in the following samples of selected definitions. Buswell used the term to mean "whatever content is used purposely by the school as a stimulus to learning."³ Smith, Stanley and Shores stated:

A sequence of potential experiences is set up in the school for the purpose of disciplining children and youth in group ways of thinking and acting. This set of experiences is referred to as the *curriculum*.⁴

For Inlow, curriculum "is that body of value-goal-oriented learning content, existing as a written document or in the minds of teachers, that, when energized by instruction, results in change in pupil behavior."⁵ Wilson defined curriculum as "a planned set of human encounters thought to maximize learning."⁶ Doll concluded that: "The curriculum is now generally considered to be all of the experiences that learners have under the auspices or direction of the school."⁷ Firth and Kimpston state that "The curriculum is a vital, moving, complex interaction of people and things in a fluid setting. It encompasses questions to be debated, forces to be rationalized, goals to be illuminated, programs to be activated, and outcomes to be evaluated."⁸ Ragan used the term curriculum "to include all of the experiences for which the school accepts responsibility."⁹ Faunce and Bossing gave a similar

³G. T. Buswell, "Organization and Sequence of the Curriculum," *The Psychology of Learning*, National Society for the Study of Education Forty-first Yearbook, Part II (Bloomington, Ill.: Public School Publishing Company, 1942), p. 446.

⁴B. Othanel Smith, William O. Stanley, and J. Harlan Shores, *Fundamentals of Curriculum Development* (revised edition; Harcourt, Brace, and World, Inc., 1957), p. 3.

⁵Gail M. Inlow, *The Emergent in Curriculum* (2d ed.; New York: John Wiley & Sons, Inc., 1973), p. 41.

⁶L. Craig Wilson, *The Open Access Curriculum* (Boston: Allyn and Bacon, Inc., 1971), p. 64.

⁷Ronald C. Doll, *Curriculum Improvement: Decision-Making and Process* (2d ed.; Boston: Allyn and Bacon, Inc., 1970), p. 24.

⁸Gerald R. Firth and Richard D. Kimpston, *The Curricular Continuum in Perspective* (Itasca, Ill.: F.E. Peacock Publishers, Inc., 1973), p. 5.

⁹William B. Ragan and G. D. Sheperd, *Modern Elementary Curriculum* (4th ed.; New York: Holt, Rinehart and Winston, Inc., 1971), p. 3.

definition.¹⁰ Wagner stated that "Whatever it is that a child learns under the guidance and direction of the school is 'his' curriculum."¹¹ Others have held a similar point of view. Hopkins indicated that each child makes his own curriculum from the school environment.¹² Miel made a distinction between the curriculum of each child and the old curriculum, or the course of study.¹³ It is interesting to note here that Foshay attributed the many interpretations of curriculum after 1930 to a single basic idea, which was the concept of experience promulgated by John Dewey.¹⁴ Such variation in definition led Beauchamp to conclude that there have been represented in the literature three discrete sets of associations with the concept curriculum; namely, the experience notion, the social design notion, and the psychological notion.¹⁵ Even though the discreteness of these differences has not been elaborated, one must conclude that the existence of difference in definition should set the stage for differences in curriculum design and in curriculum theory.

All of this argument about meanings associated with curriculum is centered in two basic ideas. We have already presented one in depicting curriculum differentially as a curriculum, a curriculum system, and a field of study. The number and complexity of the referents here contribute to confusion in communication. The second, and probably the real fly in the ointment, is the word *experiences*. Most attempts in recent decades at defining curriculum focus on the concept of experience. The key phrase in almost all definitions of curriculum is *experience* or *learning experience*. The use of the term originated with the philosophic notion of experience in the sense expressed by John Dewey. For an individual to have an experience, Dewey insisted that it would be necessary for the learner to engage himself in

¹⁰Roland C. Faunce and Nelson L. Bossing, *Developing the Core Curriculum* (2d ed.; Englewood Cliffs: Prentice-Hall, Inc., p. 115.

¹¹Guy Wagner, "A Present Day Look at the American School Curriculum," *Education*, 78:328, February, 1958.

¹²L.T. Hopkins, "Who Makes the Curriculum?" *Teachers College Record*, 52:277, February, 1951.

¹³Alice M. Miel, "The School Curriculum in a Changing Culture," *Education Digest*, 21:21, November, 1955.

¹⁴Arthur W. Foshay, "Changing Interpretations of the Elementary Curriculum," *The American Elementary School*, Thirteenth Yearbook of the John Dewey Society, edited by Harold G. Shane (New York: Harper and Brothers, 1953), p. 17.

¹⁵George A. Beauchamp, "Curriculum Organization and Development in Historical Perspective," *Review of Educational Research*, 27:245, June, 1957.

activities from which he can learn something that he has not learned before. In addition, through that activity he must recognize and foresee the consequences of that learning for his present and future behavior. This action establishes continuity within the life experience of the individual and gives meaning to his actions. Obviously, the significant psychological process by which an individual thus acquires experience is critical or reflective thinking. In order for an individual to have an experience in this sense, then, the learner must see the utility and consequence of his learning in the broad perspective of life. The concept of experience thus conceived is not something one plans. The best that can be done is to create environments in which individuals hopefully will have experiences. Only the learner can have a learning experience. The task of the curriculum planner is to establish the basic structure for an environment in which the learners *may have* learning experiences. The curriculum planner can only anticipate the conditions under which learners may have learning experiences. Another use of experience seems to be as a substitute for the word *activity*, but when this is the case, the curriculum planner may, if he wishes, consider the setting forth of an array of activities as part of the curriculum being designed. Communication among curriculum workers would probably be greatly clarified and facilitated if the use of the word *experience* were discontinued in our curriculum literature, particularly at the level of definition.

Document Features

For the remainder of this discussion of the elements of a curriculum, it is assumed that a curriculum is a written document. In this frame of reference, design features, or curriculum contents and their arrangements, are easily envisioned. A commonly included feature is an outline of the culture content to be taught. These statements, whether long or brief, usually are arranged sequentially by grades, or levels, according to the administrative organization of the school for which the curriculum is intended. A subsequent section of this chapter will be devoted entirely to this topic; thus here it will be left as one of the ingredients of a curriculum albeit a major one.

Another component that is frequently included in a curriculum is a statement of goals and/or specific objectives. These may range from statements of overall purpose of a school to very highly specific cognitive, psychomotor, and affective changes in behavior sought through the efforts of a school. The same curriculum may contain a generalized statement of purposes for schooling in an introductory section and specific objectives in a second section in which the culture content is described. One can find curriculums that contain only a statement of outcomes. The position taken by Johnson would foster essentially this idea.¹⁶ It will be recalled that to Johnson a curriculum is a set of intended learning outcomes. Johnson would include in the curriculum, in addition to the intended learning outcomes, rules for moving from the set of intended outcomes into the instructional domain, but he would relegate the choice of and organization of culture content to those who are to plan the curriculum. By definition, Goodlad and Richter ostensibly would agree with Johnson when they state that "a curriculum is a set of intended learnings."¹⁷ For them, intended learnings are end products that are a consequence of education. This language is the language of educational goals or objectives, and thus approximates the point of view of Johnson.

A third ingredient that may be included in a curriculum is a statement that sets forth the purposes for the creation of the curriculum and that stipulates the ways in which the curriculum is to be used. The most obvious need is for designers to state in straightforward language the relationships between the curriculum and the development of instructional strategies. The general process of moving from the planned curriculum to instruction is called curriculum implementation. Such statements in a curriculum may be thought of as a set of rules for implementation. Another possibility for inclusion would be a description of the contents and organization of the curriculum and the purposes for including each. A statement about the way in which the curriculum was planned, and how it is to be appraised and reconstructed, is generally warranted. The statement has most

¹⁶Mauritz Johnson, Jr., "Definitions and Models in Curriculum Theory," *Educational Theory*, 17:127-140, April, 1967.

¹⁷John I. Goodlad and Maurice N. Richter, Jr., *The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction* (Los Angeles: Institute for Development of Educational Activities, University of California, 1966), pp. 11-12.

value as an initial statement in the curriculum. It facilitates the system of curriculum engineering.

A fourth possible item for inclusion in a curriculum, and one that is rarely included, is an appraisal scheme. The appraisal scheme is a plan for determining the adequacy and worth of the curriculum and for identifying the intended contribution of the various parts to it. For example, if the curriculum is intended to be used as a point of departure for all teachers in the development of their instructional strategies, whether or not they use it, and how well they use the curriculum for these purposes is the first place to bring the appraisal processes to bear. Another possibility is to test, through the appraisal scheme, any correlation between intended learning outcomes and learnings actually measured or observed subsequent to instruction. Since an appraisal scheme by definition furnishes data about the success and worth of the curriculum, the data becomes feedback information for reconstituting the curriculum contents and usage.

These four items appear to be reasonable for inclusion as parts of a curriculum. All curriculums include at least one of them. There may be other items that are included, but they probably would fall under the general umbrella of one or more of these four, unless the curriculum entries pertain to instructional matters. The next section contains a broadened description of issues in connection with the organization of culture content because most of the contemporary discussion about curriculum design falls under that general heading.

CULTURE CONTENT IN A CURRICULUM

In the previous section, it was pointed out that some curriculum theorists believe that a curriculum should singularly consist of statements of school objectives or intended learning outcomes. Others, on the other hand, insist that a curriculum is more than a statement of objectives. They would hold that curriculum planners should make the initial selection of cultural content that they feel would aid in the attainment of the objectives. I use the term *culture content* to avoid argument about interpretations of such phrases as subject matter, content, or any other term that might be used. Culture content may be thought of

as two kinds. One is that culture content that is systematically organized in what we have come to know as the disciplines, particularly those disciplines wherein certain knowledge or skill is prerequisite to other knowledge attainment. Practical knowledge may be distinguished from the disciplines in that it has not been organized and systematically treated by scholars to the same extent that the disciplines have. In fact, great debates have ensued over the distinction between discipline knowledge and practical knowledge particularly with respect to the role of the school. Some would hold that the school should only be concerned with discipline knowledge and not at all with practical knowledge. Whereas, other persons would hold that practical knowledge has great worth. Commonly, the elementary school program is composed mostly of practical knowledge, the high school a little of both, and the college principally discipline knowledge.

Organization Patterns

Historically, most of the argument about curriculum design has been connected with the organization of culture content within a curriculum. Most curriculum books contain some reference to types of curriculum that acquired their names from their design characteristics. Most readers will be familiar with such displays in the language of the separate subjects curriculum, the correlated curriculum, the broad fields curriculum, the activity curriculum, the problems of living curriculum, the persistent life situations curriculum, the core curriculum, the experience curriculum, the emergent curriculum. Supposedly, each of these call for a different arrangement of the culture content. It is fair to say that most of these curriculums tended to move away from a separate subject approach toward some pattern believed to facilitate learning on the part of the pupils. The fundamental argument was over the logical versus the psychological organization of the subject matter or culture content. On the one hand, proponents of logical organization contended that school subjects had their own internal organization and that curriculum planners should create curriculum designs that would capitalize upon the logical orderliness of the subject. Advocates of psychological organization

of subject matter emphasize an organization allegedly designed to facilitate learning by pupils because the organization aided pupils in the integration of culture content from several or all of the school subjects or by providing integrated units of work irrespective of school subject.

All are familiar with the great revival of interest in curriculum beginning around mid-century. The combined effect of critics of school practices, the availability of foundational and government grants of money for the study of education, and an upsurge of interest in problems of curriculum and instruction by scholars from the various disciplines produced a rash of curriculum activity. These were illustrated by the Biological Sciences Curriculum Study, the School Mathematics Study Group, and Project Social Studies, to mention only a few. It is most interesting to note that in the more recent developments, direction of change is completely opposite to that of the earlier period. In the earlier period, attempts were made to move away from a separate subject or discipline-centered scheme of organization toward an organization in which the individual subjects would lose their separate identities by being combined, for instance, into language arts, social studies, core, persistent life situations, or problems of living designs. The more recent innovations have stressed a return to the organizational features of the individual disciplines and to more careful programming of each discipline according to its own characteristics and rules. Furthermore, most of the newly developed designs have been characterized as curriculum innovations even though they are concerned exclusively with single subjects such as mathematics, chemistry, or English. Little or no attention is given to the interrelationships among the various subjects, nor do the designers give evidence of realizing that a curriculum is something that has to characterize a whole school program. This is a very important distinction. I would hold the view that there is no such thing as a mathematics curriculum or a social studies curriculum. A curriculum is a plan for a school, and as a result, it must contain an organization of all of the culture content selected for the school. Furthermore, the organization must depict the relationships among the various designated parts of the culture content.

School organization also has a great deal of influence upon

design features of curriculum. It is easier to talk about the whole curriculum and/or the fusion of subjects in elementary schools where the organizational pattern has conventionally been the self-contained classroom, or more recently a nongraded organization, than in the departmentalized multiteacher organization of the secondary schools. Many of our preconceived notions about curriculum design may have to change drastically under the stimulation of such features as team teaching and nongraded units. But one cannot help wondering which comes first — administrative organization patterns like nongradedness and modular scheduling or a curriculum design. Many textbooks on professional education boldly state that we first must decide upon what kind of curriculum we wish to carry out in our schools before determining a pattern of organization for the school. So far, differences between a curriculum designed for a graded school and a nongraded school are few in number; customarily, portions of the same curriculum are assigned to the variously constituted groups. Irrespective of this state of affairs, it is important to note that a principle in curriculum design is that the design and the organizational scheme of any school need to be in harmony.

Content versus Process

There persists an argument about the relative merits of what is called a content-centered approach to organization of culture content within a curriculum and a process-centered approach. For curriculum theorists, this appears to be an argument that warrants considerable attention. Something that adds to the confusion is that writers assign various meanings to the terms content and process, and the theorist is then confronted with the problem of selecting or establishing his own definition of such technical terms. Some of the meanings associated with these terms will illustrate the complexity of the problem.

The original dichotomization of the terms content and process probably occurred over arguments about whether teachers should be predominantly concerned with a body of content to be learned by pupils or with pupil learning processes. In actual fact, the answer never has been one or the other. The argument arose as a result of the shifting of emphasis from content to be learned to the

learning processes — the latter an area that dominated professional effort during the 1920's and the 1930's and again in very recent years. A second distinction was made between the content of a subject and behavioral processes of applying elements of the content of the subject to the solution of social and practical problems. Here again, we can see that no real choice exists for the curriculum planner. There has been much discussion about the content of the disciplines and the modes of inquiry associated with them. We will highlight more of this argument in subsequent discussion of the disciplines and their structures as a basis for organizing the culture content within a curriculum.

An interesting position has been taken by Parker and Rubin that tends to dissolve the problem of content and process conceived as a dichotomy.¹⁸ They contend that process should be interpreted as content in curriculum designing. They cite the following four tasks for the curriculum worker:

1. A retooling of subject matter to illuminate base structure, and to insure that knowledge which generates knowledge takes priority over knowledge which does not;
2. An examination of the working methods of the intellectual practitioner: the biologist, the historian, the political scientist, for the significant processes of their craft, and the use of these processes in our classroom instruction;
3. The utilization of the evidence gathered from a penetrating study of people doing things, as they go about the business of life, in reordering the curriculum;
4. A deliberate effort to school the child in the conditions for cross-application of the processes he has mastered — the ways and means of putting them to good use elsewhere.¹⁹

It is apparent that Parker and Rubin consider that the working methods of the intellectual practitioner in the disciplines is just as much a legitimate part of the culture content to be specified in a curriculum as are the generalizations or factual information with respect to the substance of the discipline in question. Certainly, information or skills that help an individual to make use of knowledge in any applied situation would similarly apply. Most of

¹⁸J. Cecil Parker and Lewis J. Rubin, *Process as Content: Curriculum Design and the Application of Knowledge* (Chicago: Rand McNally and Company, 1966).

¹⁹*Ibid.*, p. 48.

the discussion of the heuristics of curriculum content in recent years would fit or substantiate this argument.

Disciplines and Their Structures

Another task for the curriculum theorist as he seeks better explanations for the organization of culture content is to determine the nature of the disciplines and their structures and to assess their curriculum implications. There has been a plethora of publications advancing the proposition that curriculum content should be organized around the established disciplines. These publications have been reviewed again and again in such journals as the *Review of Educational Research* and in numerous books and pamphlets; thus, there is no need for a further review of them here. A number of references are cited at the end of this chapter for those who wish to delve into the details. Our exclusive purpose here is to assess the implications of the issue for curriculum design.

A discipline generally is thought to be a branch of knowledge that is organized so as to facilitate its instruction and its further development. It consists of a related series of concepts and principles which constitute the domain of the discipline. This is the culture content, or organized knowledge, generated by those who have worked in the discipline. A discipline has characteristic ways of behavior for the solution of problems. A discipline has a history, or a tradition, accumulated in the process of generating knowledge and developing unique ways of solving problems.

In his analysis of the structures of disciplines, Schwab identified three basic problem areas: the organization of a discipline, the substantive structures of a discipline, and the syntactical structures of a discipline.²⁰ The organization of a discipline refers to its orientation with respect to other disciplines. Orientation is helpful in curriculum organization in determining which discipline areas may be joined together and which need to remain separate. The substantive structures of a discipline refer to the knowledge produced by the discipline. For curriculum design, the substantive structures may be interpreted as those parts of the content needed to be understood by pupils. Syntactical structures

²⁰Joseph J. Schwab, "Problems, Topics and Issues," *Education and the Structure of Knowledge*, ed. Stanley Elam (Chicago, Rand McNally and Company, 1964), pp. 4-43.

of a discipline refer to the modes and rules for generating proof or new knowledge. Ways in which scholars in the various disciplines gather and evaluate data, pose their hypotheses, and assert their generalizations are receiving a great deal of current attention as part of curriculum content.

The main thesis of those who have pushed for "discipline-centeredness" in curriculum design has been stated by Phenix in this way:

. . . all curriculum content should be drawn from the disciplines, or, to put it another way, that *only* knowledge contained in the disciplines is appropriate to the curriculum.²¹

King and Brownell accept the same thesis as Phenix when they postulate that those who are qualified members of the discipline group of scholars should participate in curriculum planning.²² They too would eliminate all nondiscipline knowledge from a curriculum.

The problem of sequence is solved by the selection of topics from the organized disciplines and the spiraling of them in terms of difficulty for various age groups. Bruner stated the hypothesis ". . . any subject can be taught effectively in some intellectually honest form to any child at any state of development."²³ He proposed a spiral curriculum graduated in difficulty from the simple to the complex. It is important to note that the criteria for selection, scope, and sequence as curriculum design features are all based upon the inherent worth of the knowledge and the modes of inquiry characteristic of the disciplines.

A special case of the application of discipline-centeredness to curriculum design is exhibited by those who are creating programmed materials for instruction. Two cases will illustrate, both in mathematics. One is the work carried on by Patrick Suppes at Stanford University on computerized instruction in mathematics. Suppes has developed carefully programmed sequences for the development of concepts and the ability to solve problems in which children must apply those concepts. The use of

²¹Philip H. Phenix, "The Disciplines as Curriculum Content," *Curriculum Crossroads*, ed. A. Harry Passow (New York: Bureau of Publications, Teachers College, Columbia University, 1962), p. 57.

²²Arthur R. King, Jr. and John A. Brownell, *The Curriculum and the Disciplines of Knowledge* (New York: John Wiley and Sons, Inc., 1966).

²³Jerome S. Bruner, *The Process of Education* (Cambridge: Harvard University Press, 1961), p. 33.

the computer in instruction provides for individualized instruction. The computer-based teaching machines provide immediate feedback and corrective measures when necessary. A second illustration is the University of Maryland mathematics project. In this program each learning step is programmed so that a hierarchical sequence of "learning sets" results. Positive transfer is assumed from one level to a higher level of learning sets. Exercises for pupils are provided, and appropriate achievement tests administered. Although the two examples cited were programmed sequences in mathematics, such carefully articulated programs are being worked out in virtually every discipline.

In addition to carefully worked out sequences spanning the structure of a discipline, there are prepared packages of materials, sometimes known as Learning Activity Packages (LAP's). LAP's have a carefully worked out structure that includes desired learning outcomes, varieties of media and resources for achieving objectives, and alternative means for completing the package. LAP's are different from the programs described in mathematics in several ways:

1. They assume that the users will be guided in their use of the package;
2. The outcomes are important and the users are free to deviate from the prescribed program or to choose from a variety of means to achieve the desired ends providing they can demonstrate that objectives have been satisfied;
3. They are generally planned for a topic and make no attempt to articulate objectives to span the structure of a discipline.

There are additional examples of prepared packages which are *not* discipline-centered. One such example is the social science program called *Man: A Course of Study*²⁴ (MACOS). MACOS attempts to provide a mesh of Bruner's instructional and Piaget's learning theories. That is, the learner structures his own knowledge in environments that offer multiple media and resource choices ranging from concrete to abstract and from simple to complex. The package itself focuses on man's humanity and seeks to explore the answers to the program's organizing

²⁴Curriculum Development Associates, *Man: A Course of Study* (Cambridge: Education Development Center, Inc., 1969).

questions: (1) What makes man human? (2) How did he get that way? and (3) How can he be more so? Subject matter is drawn from several disciplines and from observations of social anthropologists doing field experiments. Using Bruner's idea of the spiral curriculum, animal behaviors that range from the most simple and dependent on the environment to the most complex and internalized are studied. Rather than drawing from any particular discipline, five humanizing forces, considered to be universal, provide the foci that help the learner to understand progressively more complex and internalized behavior. At the same time, they allow the learner to compare and contrast the behaviors at each succeeding higher step.

There are two reasons for efforts like these to be considered as special cases in curriculum design. One is the careful programming of content. The other is that programs of this kind not only create curriculum answers to the question of what should be taught in schools; they also provide the instructional strategies and modes of appraisal. In this sense, they are unitary packages designed to solve the many problems of schooling.

Form and Arrangement

Any concept of curriculum design must account for the form and arrangement of the culture content. Under a discipline-centered, or a subject-centered, scheme, each of the subjects is arranged sequentially so that the various subtopics fit the vertical organization of the school; however, interrelationships among the chosen subjects, or disciplines, tend to be ignored. Bellack stated the problem as follows:

When one looks beyond the structure of the individual disciplines and asks about the structure of the curriculum, attention is focused on *relationships* among the various fields that comprise the program of studies. For just as relationships among ideas is at the heart of the concept of structure as applied to the individual disciplines, so relationships among the disciplines is at the heart of the notion of structure as applied to the curriculum as a whole.²⁵

At the heart of this problem is the quest for better explanations in

²⁵Arno A. Bellack, "The Structure of Knowledge and the Structure of the Curriculum," *A Reassessment of the Curriculum*, ed. Dwayne Huebner (New York: Bureau of Publications, Teachers College, Columbia University, 1964), p. 28.

respect to the selection of culture content ingredients. Presumably, one selects culture content that will fulfill the goals set for education in schools. If it is possible to be convinced that the goals for schooling are achieved best by curriculum planners organizing the total culture content into discrete disciplines, or subjects, then it is reasonable to expect goal fulfillment to be directed by such design. On the other hand, if the goals set for schooling call for planned interrelationships among the various disciplines, or subjects, it is unreasonable to predict their achievement from a design composed of discretely organized components. Very few would argue that knowledge taken from disciplines and their structures is not important for the school curriculum, but many would take the position, as did Bellack, that curriculum design is more complicated. One of the more significant variations in design theory could be centered around positions taken with respect to intradisciplinary organization versus interdisciplinary organization.

The complex nature of educational goals makes the task of form and arrangement of culture content difficult. Goals may be classified into four categories: cognitive, syntactical, affective, and applicative. The first, cognitive, includes the basic concepts of knowledge, key ideas, generalizations, principles, and laws. It is in response to this goal category that school curriculums have provided content to be learned. The second, syntactical, consists of modes of inquiry for solving problems in the areas of organized knowledge such as observation, classification, inference, and prediction. It also includes the psychomotor skills of communication. The third consists of the development of affective behaviors. This is the domain of values, beliefs, emotions, attitudes, and appreciations. The fourth includes the development of abilities to make applications of learning to social and personal problems of living, particularly problems demanding that knowledge and skills developed in the first three categories be applied. A curriculum for today's schools must serve all of these. They have been talked about extensively, but little has been done to fulfill all of them. In part, the reason has been that traditional organization of culture content does not easily reveal relationships between the identified goals and the culture content. This may be one of the reasons why the statement of our educational goals in

the form of specific behavioral objectives has become popular. A specific objective is easy to relate to any one of the four categories indicated above. In any event, the organization of culture content that may lead to the achievement of our various types of goals is a challenging task for those who address themselves to the problems of curriculum design.

We should keep in mind that what we are talking about at this moment is the form and arrangement of the culture content, or subject matter, that may be a part of the total contents of a curriculum. The portion of the curriculum having to do with the organization of the culture content is more closely related to the instructional strategies that teachers make in response to a curriculum than any other section. It therefore is extremely important. However, it is the form and arrangement of the culture content that has been most often discussed under curriculum design or patterns of curriculum organization. We have discussed some of the historical arrangements, and now we need to look at possibilities for the form and arrangement of the total contents of a curriculum.

Ralph Tyler has long been concerned with curriculum organization. Tyler identified as organizing elements for a curriculum the concepts, skills, and values cited as behavioral objectives for pupils. Specific subjects, broad fields, core lessons, topics, or units he referred to as organizing structures. Organizing principles called for use of chronological order, extension outward from pupils' lives, the use of concrete materials and ideas prior to abstraction, and increasing the breadth and application of knowledge.²⁶

Another type of design for the culture content of a curriculum is that conceived and advocated by Stratemeyer, *et al.*²⁷ This particular design is based upon the concept of persistent life situations. Persistent life situations are defined as "those situations that recur in the life of the individual in many different ways as he grows from infancy to maturity."²⁸ The major areas within which

²⁶Ralph W. Tyler, "Curriculum Organization," *The Integration of Educational Experiences*, Fifty-seventh Yearbook, National Society for the Study of Education, Part III (Chicago: The University of Chicago Press, 1958), pp. 105-125.

²⁷Florence B. Stratemeyer, Hamden L. Forkner, Margaret G. McKim, and A. Harry Passow, *Developing A Curriculum for Modern Living* (2d ed.). New York: Bureau of Publications, Teachers College, Columbia University, 1957.

²⁸*Ibid.*, p. 45.

persistent life situations are found are health, intellectual power, moral choices, aesthetic expression and appreciation, person-to-person relationships, group membership, intergroup relationships, natural phenomena, technological resources, and economic-social-political structures and forces. Within each of the major areas, specific persistent life situations are identified. For example, under the major area "intellectual power," Stratemeyer includes making oral presentations, expressing ideas in written form, using graphic forms to express ideas, using source materials, understanding symbols and relationships, budgeting time and energy, and solving practical problems that persistently recur.²⁹ Individuals face situations like these in more or less complicated form depending upon their level of growth and maturity; thus curriculum design must account for them. The reader will observe that a design of the persistent life situations type is drastically different from a design that employs disciplines and their structures as a fundamental point of departure. The same may be said of core, broad fields, or social problems as basic orientations. The discipline-centered approach proceeds from the logical organization of selected portions of the disciplines which themselves are logically organized. The persistent life situations type proceeds from perceived social, cultural, and personal needs of the school pupils. In this sense, it is psychologically oriented.

Another proposal for the form and arrangement of culture content is that elaborated by Broudy, Smith, and Burnett.³⁰ It should be noted first that Broudy, Smith, and Burnett believe that the secondary school should be an institution to provide for the general education of the adolescent population. They reject the notion of terminal, or vocational education, as the responsibility of the secondary school. The pros and cons of this argument obviously cannot be given here in detail, but the point is essential to an understanding of the design proposal. For Broudy, Smith, and Burnett, curriculum consists primarily of two elements. One of the elements is content which is characterized by facts, descriptive and valuative concepts, principles, and norms and rules. The other element consists of categories of instruction organized under

²⁹*Ibid.*, pp. 155-165.

³⁰Harry S. Broudy, B. Othanel Smith, and Joe R. Burnett, *Democracy and Excellence in American Secondary Education* (Chicago: Rand McNally and Company, 1964).

symbolic studies, basic sciences, developmental studies, aesthetic studies, and molar problems.³¹ The specific design features of this proposal are illustrated in Figure 7. Certainly, this design is radically different from the usual array of required and elective courses that is traditional with our secondary schools.

In the 1966 Goodlad and Richter monograph previously quoted, the authors proposed a conceptual system for dealing with problems of curriculum and instruction.³² Since they were primarily concerned with setting forth a rationale for dealing with problems of curriculum, one has to infer from their discussion what characteristics might be present in curriculum design. Figure 8 portrays that portion of the Goodlad and Richter rationale that has greatest implications for curriculum design. For Goodlad and Richter all educational aims stem from the accepted cultural values. Educational aims would be translated into educational objectives stated behaviorally. These in turn would lead to learning opportunities. The authors define a learning opportunity as "a situation created within the context of an educational program or institution for the purpose of achieving certain educational ends."³³ Specification of courses or categories of readings and writing are examples of learning opportunities. Both the general educational objectives and the learning opportunities would be identifiable in two categories, one of the categories having a behavioral element and the other category having a substantive element. From the selected learning opportunities and from the general educational objectives, more specific educational objectives stated behaviorally are formulated; these, in turn, lead to the selection of organizing centers. An organizing center is defined as "a specific learning opportunity set up for identifiable students or for a student."³⁴ Field trips, problems, or topics are examples of organizing centers.

Drawing heavily upon the notions of behavioral elements and substantive elements in curriculum design, Dellard surveyed proposals for curriculum design published between 1960 and 1972, and developed a conceptual scheme by which various design

³¹*Ibid.*, p. 83.

³²*Op. cit.*

³³*Ibid.*, p. 18.

³⁴*Ibid.*, p. 18.

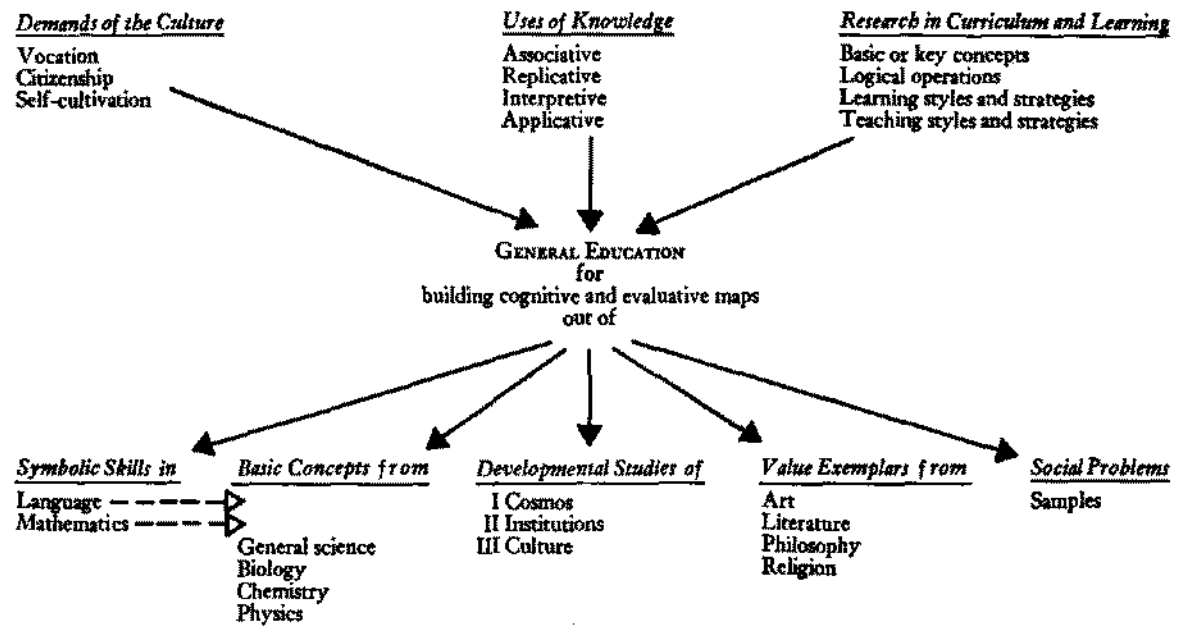


Figure 7. Design for common curriculum in general education (grades 7-12). Adapted by permission from Harry S. Broudy, B. Othanel Smith, and Joe R. Burnett, *Democracy and Excellence in American Secondary Education* (Chicago: Rand McNally and Company, 1964), p. 160.

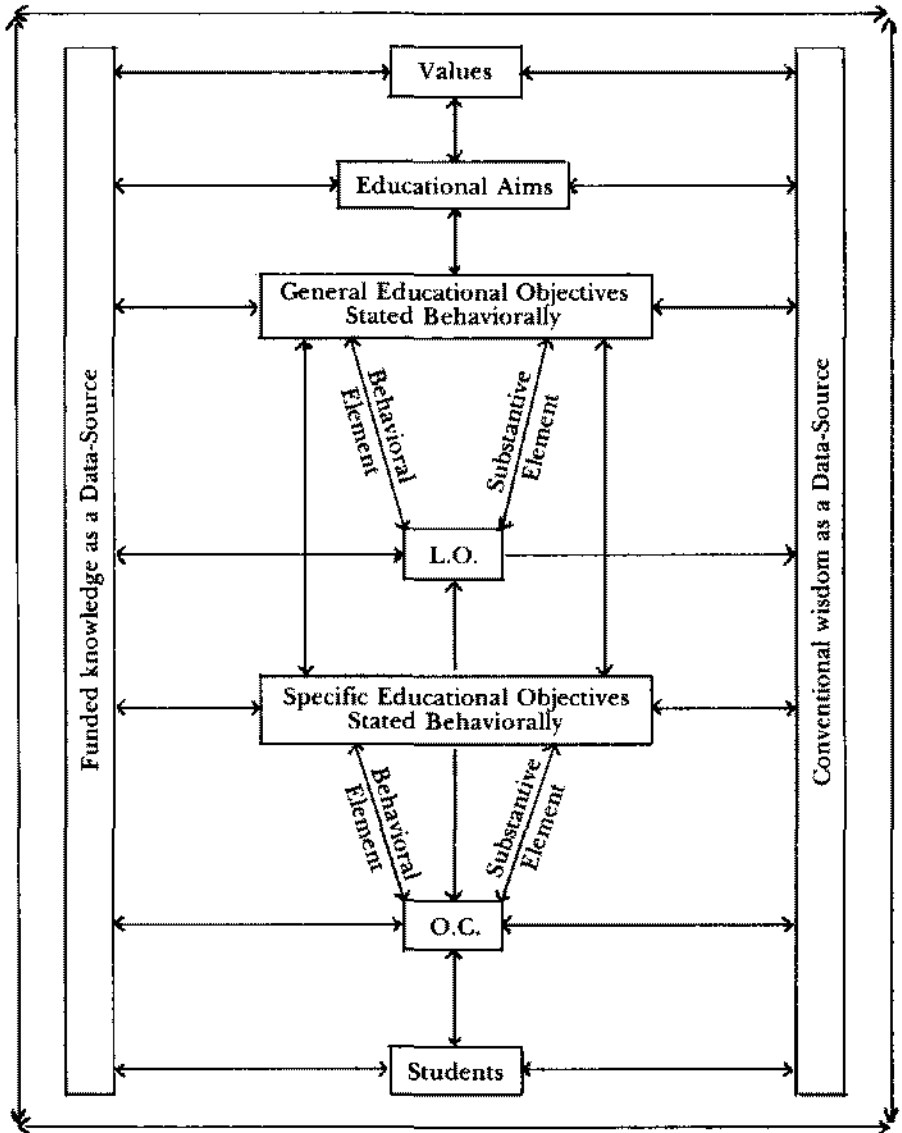


Figure 8. *Substantive decisions and derivations in a conceptual system for curriculum.* Adapted by permission from John I. Goodlad and Maurice N. Richter, Jr., *The Development of A Conceptual System for Dealing with Problems of Curriculum and Instruction* (Los Angeles: Institute for Development of Educational Activities, University of California, 1966, p. 65.

proposals could be systematically categorized and analyzed.³⁵ She was led to classify curriculum design proposals into three categories: (1) one-dimensional substantive designs, (2) one-dimensional behavioral designs, (3) two-dimensional designs. To be classified as one-dimensional substantive, a design had to rest upon such information as subjects, concepts, ideas, facts, or generalizations. Similarly, to qualify as a one-dimensional behavioral design, a design had to be based upon such behaviors as processes, attitudes, values, and so forth. Two-dimensional designs contained both substantive and behavioral material with an identified relationship or integration between the two classes of materials.

TRENDS IN PRACTICE

What goes on in practice is a convenient way for anyone to analyze curriculum design characteristics. One may review the contents of curriculums or of curriculum guides. Merritt and Harap did a thorough job of this in 1955.³⁶ They surveyed published courses of study and analyzed the content of those materials in detail. The authors found some new trends, especially in the production of guides for the subject areas of art, business education, and kindergarten. More to the point here, they also discerned a pattern in the contents of the guides surveyed. More than one-half of them contained general objectives as goals to be attained in a specific subject area while one-third contained general objectives stated as outcomes. The finding which startled the authors was the omission of basic views and policies affecting the teaching of the subject for the course. This omission was an indication to the investigators that too many guides were mere outlines of content to be learned. The infrequent inclusion of such considerations as scope, sequence, the nature of the unit of the work, and others, supported their conclusion.

Much later a similar study was conducted by Langenbach and others.³⁷ In that study, 1002 documents from school systems were

³⁵Cynthia Bellard, "A Systematic Survey of Curriculum Design Proposals from 1960 to 1972" (A Master's Paper, Northwestern University, July, 1972).

³⁶Eleanor Merritt and Henry Harap, *Trends in the Production of Curriculum Guides* (Nashville: Division of Surveys and Field Services, George Peabody College for Teachers, 1955).

³⁷Michael Langenbach, Michael T. Hinkemeyer, and George A. Beauchamp, "An Empirical Analysis of Curriculum Design," *Research in Education*, ED045 582, 6:146, April, 1971.

examined. The documents were purported to be curriculum materials, and they were included in the "Curriculum Materials Exhibit" at the 1969 national conference of the Association for Supervision and Curriculum Development, N.E.A. The materials were submitted voluntarily. They came from all sections of the country, and they were of recent origin. The analysis of the design features of those documents presented a picture of what curriculums planned in school districts and individual schools do look like. The documents were subject-centered in design. A classification of the materials into major types gave the following results:

<i>Type</i>	<i>Number</i>
General Curriculum	69
Art	29
Business Education	20
Foreign Language	21
Health, Physical Education, and Safety	77
Home Economics	21
Industrial and Vocational Education	74
Language Arts	195
Mathematics	97
Music	40
Science	113
Social Studies	246
TOTAL	1002

It can be seen from the above distribution that most of the curriculum documents were on individual school subjects and that sixty-nine of them were classified as general curriculums; that is, they covered more than one subject and for more than one grade. Most of the individual subject documents were designed for a school level such as the elementary or the secondary school.

More than 65 per cent of the documents included objectives, subject outlines, instructional materials, and pupil activities. Approximately one-fourth of them were topically organized within a subject, and one-half of them were organized on a unit basis. Ninety-five per cent contained statements of goals or objectives; of these, more than 50 per cent were stated in behavioral terms.

Several other kinds of entries add to the total design picture of the materials. More than 60 per cent of them contained historical

statements about the development of the material. Eighty-four per cent gave instructions that the materials were to be used by teachers to develop their teaching strategies; yet 73 per cent of the documents contained statements that could be interpreted as being instructional strategies. Only 15 per cent contained any kind of evaluation scheme.

From the foregoing descriptive statements about curriculum materials produced at the level of school practice, several conclusions may be reached. The basic design pattern was subject-centered, and the vast majority of the documents were devoted to a single subject. Planners appeared to consider it important to include in curriculums: objectives, subject outlines, instructional materials, and pupil activities.

Most curriculums, or curriculum guides, or curriculum materials include what may be termed instructional guides; that is they contain various kinds of directions for teachers pertaining to methods. And for the most part, they are organized by subject. In them, more instructions are given customarily to teachers in elementary curriculums than in secondary ones. This seems to constitute a vote of greater faith in the instructional ingenuity of the secondary school teacher than of the elementary teacher. Irrespective of this issue, there is great variation in the size of instructional guides as indicated by the number of pages devoted to a subject as well as by the content on the pages. There is a trend toward detailing the entries so as to solve instructional problems. The trend is reflected in the amount of attention given to instructional materials and teaching strategies. More of this kind of detail is present when instructional guides are published by subject rather than as general guides. Curriculum offices in large city school systems tend to prepare larger volumes than the smaller school districts.

Rarely do curriculums contain evaluation schemes or specific implementation instructions. The former probably reflects our artlessness about evaluation in general and about curriculum in particular. Lack of specific implementation instructions may mean that they are provided by some means such as administrative dictum. It may be a reflection of fear of imposing too rigidly upon the rights of teachers to decide their own teaching strategies.

SUMMARY AND A POINT OF VIEW

More controversy exists within the field of curriculum over issues in curriculum design than anything else. To attempt a thorough summary of all the issues would be to repeat most of what has been said previously in this chapter. By way of summary, therefore, I shall merely indicate which aspects of curriculum design spawn most of the issues, and then spend the rest of this section briefly outlining what my own point of view is with respect to curriculum design.

Summary

Most issues in curriculum design originate with one's conception of what a curriculum is, and this conception is usually reflected in a definition of a curriculum. As has been indicated in the earlier paragraphs, curriculum design is drastically different for the individual who defines a curriculum as a set of intended learning outcomes as compared with a person who defines a curriculum as all of the experiences that students have in school. Conceptually, these two definitions are worlds apart. If they may be considered as extremes in points of view, lesser differences appear for those who conceptualize a curriculum differently from these two.

People differ over whether a curriculum should be a written document or not. Most other issues with respect to curriculum design are dissolved if one accepts the notion that a curriculum is not a written document; therefore, any subsequent issues with respect to curriculum design are dependent upon the assumption that a curriculum is a written document. With these assumptions in mind we can review issues pertaining to document features or the content of a curriculum. Document features are simplified if one believes that a curriculum is only a set of statements of expected learning outcomes or behavioral objectives. Specific outcomes would normally be identified within some framework such as the subjects to be offered in school. On the other hand, if one also expects there to be included in a curriculum a body of culture content that is selected in anticipation that the culture content will assist in the achievement of the goals or objectives, then ways must

be sought for organizing that culture content. It is at this point that we have a very real theoretical issue between contemporary curriculum theorists. The issue simply is whether the selection of culture content shall be done at the level of instructional planning or at the level of curriculum planning.

Historically, there have been many issues created over the character of the culture content to be included in the curriculum. Again, the argument has been whether the culture content should be organized logically or psychologically. This may be interpreted as subject-centered versus experience-centered organization of culture content. In recent years, the issue has mostly been focused upon substantive culture content and processes of learning.

A third category of issue is whether to include instructional materials in a curriculum as well as the degree of their specificity. When these materials are incorporated into a curriculum, they usually include such things as suggested instructional materials and student activities. This issue reverts to definition again. It is only an issue when the curriculum position, or theory, incorporates curriculum planning and the planning of instructional strategies as part of curriculum designing. Many persons who write curriculum books apparently fall into the latter category, but those who write extensively about curriculum theory tend not to.

What else might be included in a curriculum beyond those mentioned above is discussed by very few people. I am one of the few who do, as I will illustrate in the following and concluding section of this chapter.

A Point of View

To illustrate how a theorist might select from the issues that have been summarized above in order to establish a consistent position with respect to curriculum design, I shall use my own position. The essential dimensions of my position on curriculum design are reflected in the model shown in Figure 9.

For me, a curriculum minimally has three properties or characteristics: (1) it is a written document; (2) it contains statements outlining the goals for the school for which the curriculum was designed; and (3) it contains a body of culture content that tentatively has the potential for the realization of the

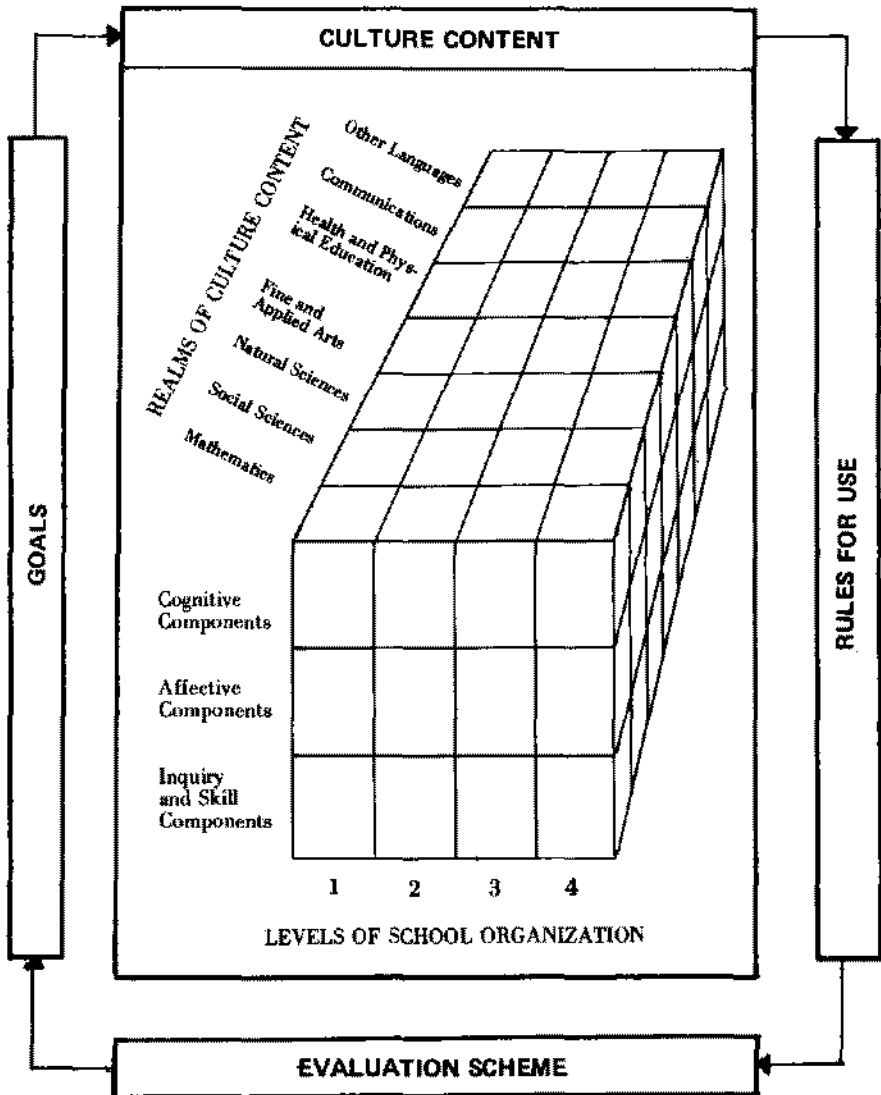


Figure 9. *A model for curriculum design.*

goals. Optimally, I would add two to those: a statement of intention for use of the document as a guiding force for planning instructional strategies and an evaluation scheme. It seems to me that it is axiomatic that anyone who talks about a curriculum needs first to conceive of it as a written document. It is quite improbable that anything other than a written document reflecting curriculum thinking could have organized design characteristics. Thus by definition, a curriculum is a written plan depicting the scope and arrangement of the projected educational program for a school.

In Figure 9, provision is made for a statement of goals, or purposes for the school. At the level of curriculum planning, it appears to me that it would be more realistic to phrase these goal statements in general terms and leave the preparation of highly specific behavioral objectives to the level of instructional planning. In the model under discussion, a large part of a curriculum would consist of the culture content organization. Culture content is designated in terms of language, communications, health and physical education, fine and applied arts, natural sciences, social sciences, mathematics, and molar problems. One might substitute for the foregoing designations the patterns of meanings used by Phenix,³⁸ namely, symbolics, empirics, aesthetics, synnoetics, ethics, and synoptics. Or, one might substitute the categories of instruction listed by Broudy, Smith, and Burnett: symbolic studies, basic sciences, developmental studies, aesthetic studies, and molar problems. I would have no objection to either substitution. I have chosen the ones included in Figure 9 because I believe that most curriculum planners would feel more comfortable with the designations I have used. In this connection, anyone who must make this choice will do so on the basis of some established belief because there simply is no research literature demonstrating that one produces better results than the other. In Figure 9, the culture content is also identified in terms of characteristics of the culture content other than the designations listed above. These are called cognitive components, affective components, and inquiry and skill components. These characteristic components are included so that the culture content may be more specifically related to goals, and so that the

³⁸*Op. cit.*

curriculum will project a better level of advice for teachers who are to subsequently use the curriculum for developing instructional strategies. Across the bottom of the chart four levels of school organization are indicated. Normally, these would be labeled in terms of the actual administrative organization of the school as grades, levels, or ordinal years. This three-way organization of the culture content would force curriculum planners to be concerned with such design characteristics as scope, sequence, and vertical and horizontal articulation.

Two additional ingredients are included in the design model. One is a set of rules or statements designating how the curriculum is to be used and how it is to be modified as a result of experience in using the curriculum. These rules are extremely important in order to keep the curriculum constantly under scrutiny and revised in accordance with the best thinking of the planners. The final ingredient indicated on the right hand side of the model is an evaluation scheme. The evaluation scheme should at least outline the ways in which the curriculum is to be evaluated with respect to its design features as well as evaluation of the system of curriculum engineering of which is the subject matter of the subsequent chapter.

SUGGESTED READINGS

- Alberty, Harold B. and Elsie J. Alberty. *Reorganizing the High-School Curriculum*. 3d ed. New York: The Macmillan Company, 1962.
- Alexander, William M. *Changing Curriculum Content: Report of the Conference on Curriculum Content*. Washington: Association for Supervision and Curriculum Development, NEA, 1964.
- Alpren, Morton (ed.). *The Subject Curriculum: Grades K-12*. Columbus, Ohio: Charles E. Merrill Books, Inc., 1967.
- Ammons, Margaret. "The Definition, Function, and Use of Educational Objectives," *The Elementary School Journal*, 62:432-436, May, 1962.
- Ammons, Margaret and Robert S. Gilchrist. *Assessing and Using Curriculum Content*. Washington, D.C.: Association for Supervision and Curriculum Development, NEA, 1965.
- Anderson, Dan W., James B. Macdonald, and Frank B. May (eds.). *Strategies of Curriculum Development*. Columbus: Charles E. Merrill Books, Inc., 1965.
- Beauchamp, George A. *The Curriculum of the Elementary School*. Boston: Allyn and Bacon, Inc., 1964.
- Beckner, Weldon, and Joe D. Cornett. *The Secondary School Curriculum: Content and Structure*. Scranton, Pa.: Intext Educational Publishers, 1972.

- Bloom, Benjamin S. (ed.). *Taxonomy of Educational Objectives: Handbook I Cognitive Domain*. New York: Longmans, Green and Company, 1956.
- Broudy, Harry S., B. Orhanel Smith and Joe R. Burnett. *Democracy and Excellence in American Secondary Education*. Chicago: Rand McNally and Company, 1964.
- Bruner, Jerome S. *The Process of Education*. Cambridge: Harvard University Press, 1961.
- Educational Policies Commission. *The Central Purpose of American Education*. Washington: the Commission, 1961.
- Elam, Stanley (ed.). *Education and the Structure of Knowledge*. Chicago: Rand McNally and Company, 1964.
- Firth, Gerald R. and Richard D. Kimpston. *The Curricular Continuum in Perspective*. Itasca, Ill.: F.E. Peacock Publishers, Inc., 1973.
- Ford, G. W. and Lawrence Pugno (eds.). *The Structure of Knowledge and the Curriculum*. Chicago: Rand McNally and Company, 1964.
- Foshay, Arthur W. "A Modest Proposal," *Educational Leadership*, 18:506-516, May, 1961.
- Frost, J. L. and G. T. Rowland. *Curricula for the Seventies*. New York: Houghton-Mifflin Company, 1969.
- Goodlad, John I., and Maurice N. Richter, Jr. *The Development of a Conceptual System for Dealing with Problems of Curriculum and Instruction*. Los Angeles: Institute for Development of Educational Activities, University of California, 1966. (ERIC ED010064)
- Heath, Robert W. (ed.). *New Curricula*. New York: Harper and Row, 1964.
- Huebner, Dwayne (ed.). *A Reassessment of the Curriculum*. New York: Bureau of Publications, Teachers College, Columbia University, 1964.
- Hughes, Philip. "Decisions and Curriculum Design," *Educational Theory*, 12:187-192, July, 1962.
- Inlow, Gail M. *The Emergent in Curriculum*. 2d ed. New York: John Wiley and Sons, Inc., 1973.
- Johnson, Mauritz, Jr. "Definitions and Models in Curriculum Theory," *Educational Theory*, 17:127-140, April, 1967.
- Kearney, Nolan C. *Elementary School Objectives: A Report Prepared for the Mid-Century Committee on Outcomes in Elementary Education*. New York: Russell Sage Foundation, 1953.
- King, Arthur R. and John A. Brownell. *The Curriculum and the Disciplines of Knowledge*. New York: John Wiley and Sons, Inc., 1966.
- Krathwohl, David R., Benjamin S. Bloom, and Bertram B. Masia. *Taxonomy of Educational Objectives: Handbook II Affective Domain*. New York: David McKay Company, Inc., 1964.
- Krug, Edward A. *Curriculum Planning*. Rev. ed. New York: Harper and Row, 1957.
- Merritt, Eleanor and Henry Harap. *Trends in the Production of Curriculum Guides*. Nashville: Division of Surveys and Field Service, George Peabody College for Teachers, 1955.
- Michaelis, John V., Ruth H. Grossman, and Lloyd F. Scott. *New Designs for the Elementary School Curriculum*. New York: McGraw-Hill Book Company, 1967.

- Parker, J. Cecil and Louis J. Rubin. *Process as Content: Curriculum Design and the Application of Knowledge*. Chicago: Rand McNally and Company, 1966.
- Passow, A. Harry (ed.). *Curriculum Crossroads*. New York: Bureau of Publications, Teachers College, Columbia University, 1962.
- Phenix, Philip H. *Realms of Meaning*. New York: McGraw-Hill Book Company, 1964.
- Ragan, William B. and G. D. Shepherd. *Modern Elementary Curriculum*. 4th ed. New York: Holt, Rinehart and Winston, Inc., 1971.
- Saylor, J. Galen and William M. Alexander. *Planning Curriculum for Schools*. New York: Holt, Rinehart, and Winston, Inc., 1974.
- Smith, B. Othanel, William O. Stanley, and J. Harlan Shores. *Fundamentals of Curriculum Development*. Rev. ed. Yonkers-on-Hudson: World Book Company, 1957.
- Stratemeyer, Florence B., Hamden L. Forkner, Margaret C. McKim, and A. Harry Passow. *Developing a Curriculum for Modern Living*. 2d ed. New York: Bureau of Publication, Teachers College, Columbia University, 1957.
- Taba, Hilda. *Curriculum Development: Theory and Practice*. New York: Harcourt, Brace and World, Inc., 1962.
- Taylor, Philip H. *Purpose and Structure in the Curriculum*. An Inaugural Lecture delivered in the University of Birmingham, England on November 3, 1966.
- Tyler, Ralph W. "Curriculum Organization," *The Integration of Educational Experiences*. Fifty-seventh Yearbook of the National Society for the Study of Education, Part III, 1958, pp. 105-125.
- Unruh, Glenys G. (ed.). *New Curriculum Developments*. Washington: Association for Supervision and Curriculum Development, NEA., 1965.