
CURRICULUM AND EVALUATION

Arno A. Bellack

Herbert M. Kliebard, EDITORS

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4. THE ORGANIZATION OF LEARNING EXPERIENCES

Ralph W. Tyler

In developing basic concepts with which to think about curriculum problems, less progress has been made with regard to the organization of learning experiences than with the other aspects of the curriculum. To eliminate the confusion over the widely varying classifications of curriculum learning and learning in extracurriculum activities, students of the curriculum have developed a definition of "school curriculum" upon which there is a surprising amount of agreement. The "school curriculum" is commonly defined as all of the learning which is planned and guided by the school, whether or not it is carried on in classes, on the playground, or in other segments of the pupils' lives.

There is also considerable agreement among curriculum workers regarding the nature of objectives. Current curriculum theory views the ends sought as desired changes in the behavior of pupils, "behavior" being used in the broad sense to include thinking, feeling, and acting. The aim of the school curriculum is to develop in pupils those reaction patterns that are of greatest significance. There are, of course, varying conceptions of what reaction patterns are of greatest significance, but the nature of educational objectives as changes in pupil behavior is a common concept of curriculum theories.

Furthermore, there are several well-defined techniques for attacking the

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problem of objectives, each of which has some theoretical explanation and support. For example, one attack upon objectives is to analyze the activities, interests, problems, and deficiencies of the pupils to identify pupil needs that might serve as the bases for the educational objectives. Another is to analyze contemporary society — its problems and the activities and difficulties of adults in society—to identify social demands and needs that imply educational goals. The various techniques that have been developed for attacking the problem of objectives are not mutually consistent, nor are they altogether adequate; but theory is evolving to provide a more coherent guide for action in dealing with problems of this type. The attack upon curriculum objectives has been given most attention in curriculum theory.

The problem of selecting and designing learning experiences to attain the desired objectives has been given much less attention in its theoretical aspects, but theories of learning have contributed greatly to our concepts in this field. For example, the associationist theory of learning, with its emphasis upon exercise and effect, has played a large part in the planning of many curriculums. This theory places emphasis upon learning experiences in which the pupils practice the behavior desired as the objective and in which the pupils derive satisfaction from these experiences. On the other hand, dynamic theories of learning are also guiding many current curriculum developments. These theories stress learning experiences which involve goals already recognized by the pupils and which provide opportunity for the pupils to attain the goals or to move toward their attainment. With the aid of developing theories of learning, more adequate theory for the selection of the learning experiences of the curriculum appears to be emerging.

THE IMPORTANCE OF ORGANIZATION

In attacking the problem of the organization of learning experiences, very little theoretical structure has been developed and widely tested. Yet this is a very significant problem in curriculum construction. One of the most important respects in which a curriculum differs from the informal and incidental learnings that take place on the street, on the playground, or at other places outside the school is in the conscious effort to organize the learning experiences of the curriculum. Without organization, learning experiences are isolated, chaotic, and haphazard. No matter how effective an individual learning experience may be, if it is not followed up in subsequent phases, it is not likely that significant changes will take place in the learner. Some of the major changes in learners that the school seeks—changes in basic habits, in ways of thinking, in skills, in attitudes, in interests are changes which require a considerable period of time to develop and which involve continuous attention; that is, they require a large number of learning experiences focused upon the same outcomes. Hence, the

organization of learning experiences is an important phase of curriculum construction.

COMPLEXITY OF THE PROBLEM OF ORGANIZATION

The organization of learning experiences not only is an important aspect of curriculum construction but is also a difficult and complex phase. It poses such questions as these:

How can the learning experiences of next week and next month best reinforce those of this week and this month so as to produce a maximum cumulative effect?

How can the learning experiences of this semester not only reinforce those of last semester but go more deeply and more broadly into the field so as to get increasingly deeper and broader understandings on the part of students?

How can the learning experiences in English be related to those in social studies so that appropriate and efficient reinforcement may be provided?

These are questions that can be answered only in the light of a comprehensive theory of curriculum organization based upon the psychology of learning and upon experience and experimentation in schools. Without a comprehensive theory for guidance, the organization of the curriculum is likely to be partial, spasmodic, and relatively ineffective. Hence, an important task for students of the curriculum is to develop a comprehensive theory regarding the organization of learning experiences.

It is not the purpose of this paper to present a comprehensive theory of organization, for no such theory has thus far been formulated by curriculum workers. It is my purpose not only to indicate the importance of formulating an adequate theory of organization but also to outline some of the basic topics that must be treated in it.

DEFINING THE LIMITS OF ORGANIZATION

Before suggesting the subjects with which a theory of organization must deal, it is desirable to indicate the limits of organization in relation to the total task of curriculum building. For purposes of analysis, it is possible to distinguish four major tasks in curriculum construction.

The first of these is the formulation of the educational objectives, or goals, of the curriculum. The formulation and definition of valid educational objectives is necessary to provide a guide for the further development of the curriculum and also to assure that the school is focusing its major attention upon important and significant ends rather than frittering away its time upon less imperative objectives.

After the objectives of the curriculum have been formulated, a second step is to select learning experiences that are likely to attain the objectives. The learning experiences which pupils have are the means by which the objectives of the curriculum are to be achieved. Obviously, it is important that the learning experiences provided should be calculated to attain the ends of the school program. The formulation of the objectives will have provided a guide which, together with our knowledge of the psychology of learning, will make it possible to select learning experiences that are likely to contribute to the attainment of the objectives.

This, then, brings us to the third major task: that of organizing learning experiences effectively and efficiently. It is with this step of organization that we are now concerned. It is assumed that appropriate theory has already been developed to deal with the formulation of objectives and with the selection of learning experiences. In this paper the problem of theory has to do with the organization of these experiences and not with their selection.

It is not my purpose to discuss the fourth step involved in curriculum construction: that of evaluation. Evaluation is necessary in curriculum building to determine how far the objectives are actually being realized and at what points the curriculum needs revision and replanning. A theory of evaluation has, however, been formulated more adequately than has a theory of organization.

THE FUNCTION OF ORGANIZATION

The first topic to be considered in developing a theory of organization of learning experiences is the educational function of organization. Much of the discussion in curriculum journals treats organization as though its primary functions were to arouse the learner's interest or to safeguard the logic of particular subjects. My own theoretical view is that neither of these is the primary function of organization. The primary educational function of organization is to relate the various learning experiences which together comprise the curriculum so as to produce the maximum cumulative effect in attaining the objectives of the school. The significant question to ask about any scheme of organization is: How adequately does it provide reinforcement of the several learning experiences so that they produce a maximum cumulative effect?

No doubt it is true that some curriculum organizations provide a more interesting educational program for the students than do others. This may imply that a secondary criterion for curriculum organization is the effect of the organization upon pupil motivation. But the first consideration is whether the organization serves to maximize the total effect of the various learning experiences.

The assertion that curriculum organization should parallel the logic of the

school subject assumes that the logic used to build or expound the subject indicates the desirable order of learning experiences for those studying the subject. For some subjects and for some students, the logic used in building the subject coincides with an organization of learning experiences that maximizes the desired learning. In such cases the learning and teaching should follow the logic of the subject itself. It should be clear, however, that the logic of the subject, in itself, has nothing to do with an effective organization for learning. An effective organization for learning provides an order of experiences based on the student's development, not on the relations of content within the subject.

The foregoing statement of my own view of the function of curriculum organization is made, not to deny other formulations, but rather to illustrate the need, in any theory of organization, for stating explicitly the primary function of curriculum organization.

EXTENT OF THE LEARNER'S EXPERIENCES TO BE ORGANIZED

When learning experiences are to be organized, the question that arises early in the planning is this: For a given learner or group of learners, which of all the learning experiences are to be included in the plan of organization? If one considers a pupil's total learning experiences over a period of time, there will be experiences within the school's course of study and in extracurriculum activities. There will also be learning outside the school at home, at play, and at work. There will be not only the experiences the pupil has today but those of tomorrow, next week, next month, next year, and so on. In practice, no plan of organization could expect to relate effectively all the experiences of the learner during the years he is attending school. Too many of these experiences are completely outside the control of the school and even beyond the control of parents, churches, and youth agencies or other social organizations. An effective theory of organization should indicate the extent of these experiences that need to be organized for practical, efficient, and effective learning.

Probably all theorists would agree that, within each major subject or field of study, the learning experiences from one week to the next, from one semester to the next, from one year to the next, should be organized so that the subsequent experiences build on the earlier ones. This may be referred to as "vertical organization." An example would be the way in which the experiences in reading during the second grade are related to those in the first grade, and those in the third grade are related to those in the first and second grades, and so on. But how far should this vertical organization extend? Is it necessary for the intermediate grades to build upon the primary grades, for the junior high school to build upon the intermediate grades, for the senior high school to build upon the junior high school, the college to build upon the senior high school, and the university and graduate school to build upon the college? Obviously, each school

does build upon the work of the preceding school, but should conscious effort be made to organize experiences across these levels so as to produce a maximum cumulative effect? A comprehensive theory of organization would need to treat this question in terms both of possible values to be attained and of feasibility.

The question of the extent of learning experiences to be organized also involves the extent of horizontal organizations, that is, the relationships among the learning experiences in the several subjects and areas of the pupil's life. For example, to what extent should the work in arithmetic be reinforced by work in science, or the writing taught in English be reinforced by the writing activities in the various content fields?

Probably most curriculum specialists would maintain that there should be some planning of relationships among the learning experiences of the several subjects which the pupil is taking concurrently. But there seems to be little agreement regarding the plans that should be made to relate the activities of the curriculum with those of the extracurriculum, or the activities of the school with those outside the school. It is certainly true that, when the pupil's activities outside the school are in conflict with his learning experiences within the school, maximum learning does not result, but no adequate formulation of theory on the desirable and practicable degree of horizontal organization has thus far been made. Clearly, the extent to which the learning experiences within the school and outside the school, from one year to another, and from one school to a higher school, need to be planned so as to provide effective organization is a subject of importance for any theory which is to guide practice.

THE ORGANIZING ELEMENTS

A third matter for treatment in a comprehensive theory of organization is the specification of the elements of learning experiences that are actually to be related in an effective organization. These elements are the threads, the warp and woof, of the fabric of curriculum organization. Obviously, effective organization does not mean simply that the student has the same experience week after week and year after year. This would be boring and not likely to produce the maximum cumulative effect. On the other hand, there does need to be some connection between the experiences of this week and those of last week, and the elements which provide this connection need to be recognized and consciously planned for.

In examining many curriculum guides and course of study, I have identified some of the more common kinds of elements that are now used as the basis for the organization of learning experiences. Concepts comprise one of these common types of elements. For example, the concept of the interdependence of human beings occurs again and again in many courses of study, beginning with the kindergarten and running through the senior high school. This concept of

interdependence is one which can be understood in a limited way by kindergarten children as they learn to depend upon each other for setting the table and for sharing blocks, and as they see something of the role of the grocer and the baker in providing some of their needs and their families, in turn, help the grocer and baker by paying for food. This concept of interdependence can be broadened and deepened as the children move from the primary school up through the senior high school, until eventually it is expected that the student will have a conception of the interdependence of peoples upon each other all over the world, including the interdependence of nations. A curriculum which plans for this is using the concept of interdependence as a thread that helps tie together the organization of the social studies from the primary grades through the senior high school. The concept serves as the vertical warp of the curriculum fabric. This particular concept also serves, in some courses of study, as an organizing element for horizontal organization. Interdependence is brought out not only in the social studies but in the language arts, on the playground, and in some of the other parts of the school curriculum as well. In this sense, the use of the same element in the several fields helps tie together the organization at a horizontal level; that is, the concept serves as the horizontal woof of the curriculum fabric. In going over current courses of study and curriculum guides, I have noted several hundred concepts which are being used as organizing elements to tie together the curriculum structure.

A second type of organizing element to be found in current courses of study is that of skills. A skill like reading serves as an element that is acquired at a very simple level in the early grades and is broadened and deepened as the pupil moves on through the elementary school and the high school. The conscious effort to provide for continued emphasis on this skill at an ever broadening and deepening level truly makes this skill an element of organization helping to tie together the curriculum. This skill, too, usually serves both as an element of vertical organization and as an element of horizontal organization, since reading skill is commonly emphasized in the content subjects as well as in the language arts. Many other skills are to be found as organizing elements in current courses of study, including study skills, arithmetic skills, and social skills.

A third type of element which sometimes appears in curriculum guides and courses of study is that of values. When values serve as the organizing element, the educational program is planned to develop loyalty to certain ideals or interest in certain objects and activities. One value which is commonly stressed in social-studies courses is respect for the dignity and worth of every individual regardless of his race, religion, occupation, nationality, or social class. This value is emphasized in the kindergarten, through the elementary school, and on through the senior high school. It thus serves as an element of vertical organization. It is also commonly found as an element for horizontal organization, since it is a value which is emphasized not only in the social studies but in

the language arts, in the various content fields, and on the playground and in extracurriculum activities. Values appear to represent the organizing elements related to objectives such as the development of attitudes, interests, and appreciation.

There may be other organizing elements which are being used in curriculum building, but I have not been able to identify them. In any event, it is important as part of a comprehensive theory of organization to indicate just what kinds of elements will serve satisfactorily as organizing elements. And in a given curriculum it is important to identify the particular elements that shall be used.

THE ORGANIZING PRINCIPLES

The fourth subject with which a comprehensive theory of organization must deal is the specification of the organizing principles—the generalizations regarding the way in which experiences of one level can be effectively related to those of another level and the experiences of one area can be effectively related to those in another area. As was suggested earlier, an effective curriculum will not have the same experiences at each level. This would be boring and ineffectual. Instead, it is necessary that subsequent experiences build upon the earlier ones but that they go more broadly and deeply into the matters with which they deal. What kind of connection between experiences can provide for this broadening and deepening in the vertical organization? What kind of connection between experiences can provide for appropriate reinforcement on the horizontal level? No comprehensive statement of theory on these questions has been formulated. However, examination of current curriculum guides and courses of study reveals certain organization principles which seem to be in use.

One commonly found in the primary grades is to begin with experiences close to the personal life of the child and then move out into the home, then into the school, then into the community, and ultimately into the state and nation. This might be referred to as an extension geographically from the learner's immediate personal life. This principle, no doubt, has validity for certain purposes, but we see at once that it is not a universally applicable principle. Some kinds of learning require experience and perspective before the pupil can understand even though the learning concerns matters very close at home. Thus, adolescents are much more sensitive with reference to their own immediate behavior and relations to their parents than they are to the behavior of people they do not know. Hence, it is probably less effective to begin with these sensitive spots than to examine human relations in other cultures or other groups before moving to those which are so vital in the adolescents' own lives.

Another inadequacy of this principle lies in the fact that in some cases the child's ability to comprehend certain aspects of an experience is not dependent

upon geographic closeness. Children may more easily understand the primitive culture of the Indian or the Eskimo than the complex organization of their own local urban community. It seems quite clear, then, that the principle of geographic expansion is not adequate as a sole organizing principle for the curriculum.

A second organizing principle commonly found in current courses of study is the chronological one. This is to be found particularly in history, where the learning experiences of this month relate to periods of time that are later than those of last month, while the experiences of next month will deal with periods more recent than those of this month. It is probably true that, when the purpose is to give students an understanding of a consecutive narrative, a chronological organization is useful; but it is hard to see that chronological organization is the best means of developing understanding of basic concepts or of supplying training in skills.

A third organizing principle sometimes followed, particularly in the early stages of learning, is to provide a great many concrete experiences before abstractions are brought in, and then to have pupils abstract the desired concepts from these concrete experiences. Mary Boole's early work with English children in teaching arithmetic showed clearly that, in the case of both computation and mathematical concepts, it is valuable to provide a great deal of concrete experiences with objects, varied in number and size, from which the pupil is led to abstract various notions of number and quantity. However, at what point simple abstractions can serve as the basis for more difficult abstractions without the use of further concrete experiences has not been worked out, either theoretically or empirically. Hence, the way in which this principle can best be used as a basis for organization up through the grades needs to be indicated.

A fourth principle to be found in current courses of study is to begin with experiences that involve simple reactions and then move on to more complex ones. The principle of moving from the simple to the more complex appears to be acceptable to many theorists, but the problem of determining what is simple and what is more complex from the standpoint of the learner is by no means easy. An operational definition of this principle is necessary in order to make use of it, and such definitions are lacking.

In summarizing, it can be said that, although organizing principles are often used to guide the planning of courses of study, there has been no precise definition of these principles, nor any adequate appraisal of them either in terms of the learning theory they imply or in terms of their effect, as shown by actual trial in school experimentation, in providing efficient cumulative learning. Hence, the nature of sound organizing principles is an important subject to be dealt with in any comprehensive theory of the organization of learning experience.

THE ORGANIZING STRUCTURES

A fifth subject with which a comprehensive theory must deal is that of the appropriate organizing structures which can be used effectively at various levels of school and college work. By "structure" I mean the way in which the time of the school is divided up so as to provide a series of periods in which learning experiences are set up and organized. In most schools there is a clearly defined structure in which the pupil's day is divided into approximately equal periods for each of the several school subjects. This differentiation of the school day may provide for many specific subjects, sometimes eight to ten — such specific subjects as reading, spelling, language, penmanship, arithmetic, nature study, geography, history, and the like. Other schools may set up four or five larger structural divisions, so-called "broad fields" like the language arts, mathematics, science, social studies, and the fine arts. Some schools do not divide up the day in any formal plan. They have an undifferentiated structure. This is found most often in the kindergarten.

In setting up the organizing structure of the curriculum, consideration must be given not only to the way of dividing up the school day into specific subjects, broad fields, or an undifferentiated period, but also to vertical differentiation. In some schools each daily lesson, in itself, is the basis for the vertical differentiation of the curriculum structure. This was quite common in the training programs of the armed services. A certain subject might be treated in thirty lessons, each lesson being a unit to itself. On the other hand, in American elementary and secondary schools there has been an increasing tendency to employ larger structural units. A learning unit organized around one or more problems and continuing for several weeks is a fairly common type of curriculum structure. Some schools divide courses into topics which may run for several days or several weeks.

Although the obvious trend seems toward the unit structural organization, there has been no adequate comparison of the relative values of the various structures. Some criteria for evaluation have, however, been suggested, such as: (1) flexibility, to permit modification of plans in the light of pupil needs and significant situations that may arise, (2) ease of planning vertical and horizontal relations, and (3) contribution to pupil motivation. (It is recognized, of course, that motivation is affected by other factors as well as the organizing structure of the curriculum.)

The problem of appropriate structures for the organization of learning experiences in the curriculum requires a clear and comprehensive theoretical formulation. Such a theory should indicate what the basic considerations are and the criteria to be used in judging the relative values of the several possible structures. Until this is done, the selection of curriculum structures will be made in terms of personal preference rather than on the basis of considered theory

supported by principles of learning and by evidence obtained from experience and experimentation.

CRITERIA FOR A THEORY OF ORGANIZATION

The foregoing discussion has dealt with the need for a theory of curriculum organization and has suggested topics to be treated in such a theoretical formulation. It may also be helpful to suggest some of the criteria which an adequate theory of organization should meet.

In the first place, a satisfactory theory of organization should outline the nature of an organizing scheme that can achieve an efficient cumulative effect in curriculum learning and explain why such a scheme is effective. This means that the theory should explain what is required for effective sequence (vertical organization) and effective integration (horizontal organization), and why.

In the second place, the theoretical constructs outlined and the explanations must be consistent with defensible theories of behavior and of learning and be appropriate to the curriculum objectives sought.

Much debate on curriculum organization is now guided largely by rules of thumb and by opinions arrived at without sufficient basis in research. It is not possible for the curriculum to be maximally effective without careful planning and appropriate organization. The practice of curriculum construction needs to be guided by a theory which has been carefully developed, utilizing an acceptable philosophy of education, based upon known principles of learning, and taking into account the results of school experience and experimentation. Our educational institutions have more serious responsibilities than they have ever had before. The sheer existence of our society depends upon an educated citizenship that must have knowledge, ideals, habits, and intelligence far greater than has been required in any other age. The only possibility of meeting these imperative demands for an educated citizenship, with all that this implies, is an efficient curriculum that produces the maximum cumulative effect in the time which schools can devote to education. Sound theory is needed to guide the making of this effective organization.