Chapter 9

THE NUCLEUS OF A CURRICULUM THEORY

The first two editions of this book were criticized, in part, because, in the judgment of the critics, I had failed to state a curriculum theory in full or that I had not made it clear what my curriculum theory was. I had thought that I had evidenced these things, but apparently the message did not get communicated well. Hence, in this edition, the final chapter is devoted to a statement of my curriculum theory as it has evolved in my thinking up to this point in time.

This statement of my curriculum theory will be set forth by following some of the admonitions for theorists set forth in Chapter 2. It should already be quite clear to the reader that I consider curriculum as a field to be essentially two dimensional: one part concerned with curriculum design and the other with curriculum engineering. Curriculum as a field of study is concerned with the historical antecedents, and with research and theory-building activity necessary to further explain those two dimensions. Within each of these dimensions, I shall begin by setting forth the definitions of key terms that are essential to one's understanding of the theory. The definitions will be followed by a set of propositions that I think are warranted either by assumption, by postulate, or by generalization from research literature. A statement will be included beneath each proposition delineating its character.

Basic Definitions

Meanings associated with certain basic terms are crucial to understanding my position on curriculum design and curriculum

engineering. These should be clear to the reader by now, but I include them here as reminders since they are so crucial to my position. They include: a curriculum, curriculum design, a curriculum system, curriculum engineering, and curriculum as a field of study.

A curriculum is a written plan depicting the scope and arrangement of the projected educational program for a school. Optimally, the curriculum should contain: (1) a statement of intention for use of the document as a guiding force for planning instructional strategies, (2) statements outlining the goals for the school for which the curriculum was designed, (3) a body of culture content that has the potential for the realization of the goals, and (4) a statement of an evaluation scheme for determining the worth and the effectiveness of the curriculum and the curriculum system.

Curriculum design is the substance and organization of goals and culture content so arranged as to reveal potential progression through levels of schooling.

A curriculum system is a system for decision making and action with respect to the three primary curriculum functions: curriculum planning, curriculum implementation, and curriculum evaluation.

Curriculum engineering consists of all the processes and activities necessary to maintain and improve a curriculum system including leadership by persons occupying such positions as superintendent, principal, and curriculum director.

Curriculum as a field of study refers to the continuous exploration of curriculum design, curriculum engineering, their historical antecedents, and the necessary research and theory building to further explain them.

CURRICULUM DESIGN

Curriculum design was defined above as the substance and organization of goals and culture content so arranged as to reveal potential progression for learners through levels of schooling. So used, the word *design* is a noun rather than a verb form, and consequently, the language used to describe design must be focused upon an object — the curriculum. By choosing to use only the noun form, I must assign the verb form *designing* to the

processes of curriculum planning. This means that curriculum planning groups must select, or create, a design for the curriculum they plan.

Design Definitions

The key term for curriculum design is *a curriculum.* Since it was defined above, it need not be repeated here, but all of the following definitions expand upon the concept of a curriculum.

Curriculum contents refer to all of the components of a curriculum. The term is used here in much the same sense that a table of contents is used to depict the chapters of a book.

Goals are those statements within a curriculum that indicate the ends toward which the school is to strive.

Culture content is that portion of man's total knowledge that is selected to be used in the school as a means of achieving the goals that have been set forth. Culture content may be classified in three categories. *Cognitive culture content* consists of the substantive elements of our culture reflected through key concepts and generalizations derived from man's accumulated knowledge. *Affective culture content* consists of those elements of our culture that are value-oriented. *Inquiry and skill culture content* consists of those processes and ways of behaving essential for communication and for conducting inquiry into problems of the culture. The syntactics associated with the basic disciplines are included here.

Subjects are simply ways of organizing culture content into homogenous realms for teaching purposes. Mathematics, social studies, language arts, science, music may be spoken of as subjects.

Disciplines are basic branches of knowledge that are organized to facilitate their instruction and their development. Physics, history, philosophy, mathematics, anthropology are examples.

Processes is a general term for inquiry processes, syntactics, skill behaviors, and other learning processes. Herein, they are treated as culture content in equal status with cognitive and affective culture content.

Fusion is a process of reducing the number of realms of culture content to be included in a curriculum by integrating two or more extant realms. Frequently cited results of fusion are the social studies, the language arts, persistent life situations, molar problems, and the core curriculum.

The term *scope* is used to refer to the magnitude of goals and culture content in a curriculum. Magnitude may be thought of as breadth at various levels for which curriculum entries are pertinent as well as the breadth of the entire curriculum for a school.

The term *sequence* is used to speak of the ordinal arrangement of the culture content elements in a curriculum. The more severe consideration in sequence occurs when certain culture content is prerequisite for others. Therefore, sequential or ordinal arrangement is important within and between levels for which the curriculum is designed as well as for the entire school.

Articulation is a process of relating the realms of culture content within and among the various levels of school organization. Articulation is necessary both vertically and horizontally within that organization.

Levels of organization refers to the manner in which pupils are organized for purposes of instruction. Conventionally, these levels have been grades. In a non-graded situation, the levels may have other names.

Rationale refers to the explanation for the organization of any given realm of culture content. If a realm of culture content is social studies, the rationale is the explanation for the selection and distribution of its elements. If a realm is to be identified as molar problems, the rationale must explain the selection and scope of those problems.

Design Propositions

In addition to definitional statements, my theory of curriculum design can be expanded by the formulation of propositions. In Chapter 2, a proposition was described as a formal statement affirming or denying something about a subject. Such statements as postulates, generalizations, and hypotheses were indicated to be special cases of the proposition. By way of organization, I shall first indicate my propositions, and beneath each statement, a further explanation of it and an indication of the degree of confidence in which I hold it will be added. This is necessary since some of the propositions are assumptive or prescriptive statements; whereas, others approach the level of firm generalizations.

Proposition # 1

A curriculum is a written document.

A curriculum must be a written document in order for maximum use to be made of it. A curriculum is a conceptualized plan for the total educational program of the school. As such, it becomes the central force for the development of instructional strategies by all teachers who teach in the school. A curriculum should be constantly under appraisal and revision. It must be written to be so used and treated.

Proposition #2

The major purpose for having a curriculum is to establish a basic environmental structure from which teachers will develop teaching strategies for specific classroom groups.

The essence of the basic environmental structure is reflected in the form and arrangement of curriculum design. Teachers will provide for learning opportunities and instructional materials in their instructional strategies. The basic environmental structure described in the curriculum provides a holistic base for all instruction.

Proposition #3

To be most effective as an instrument for directing instruction, a curriculum should optimally consist of four parts: (1) a set of directions for teachers about the use of the curriculum within the curriculum system, (2) a listing of the educational goals for the school, (3) a body of culture content selected in the anticipation that the culture content will be instrumental in the achievement of the designated goals, and (4) a scheme for the evaluation and revision of the curriculum.

This proposition presents what I consider to be the optimal ingredients of a curriculum. They were illustrated in Figure 9, page 129, and the parts were described in the accompanying discussion. There should be no need for further explication here other than to emphasize the dynamics of the design. Goals are selected. Realms of culture content believed to be useful in the achievement of the goals are selected and organized. The curriculum is used as intended. The curriculum is evaluated, thus providing data for revision of the several parts. Revision data cause the goals, the culture content, and the use of the curriculum to be

reconsidered. In this way, a dynamic cycle of curriculum analysis is invoked.

Proposition #4

A curriculum should contain four categories of goals: cognitive, syntactical, affective, and applicative.

The statement of educational goals in a curriculum must be sufficiently broad to encompass the full range of the intended educational program. It assumes that any educational program would anticipate cognitive, syntactical, affective, and applicative learnings. Cognitive goals would refer to the basic concepts of knowledge, key ideas, generalizations, principles, and laws. Syntactical goals would refer to modes of inquiry for solving problems in the areas of organized knowledge such as observation, classification, inference, prediction, as well as the psychomotor skills of communication and expression. Affective goals would refer to those values, beliefs, emotions, attitudes, and appreciations deemed important for inclusion in the curriculum. Applicative goals would refer to those aspirations for learnings associated with social and personal problems of living, particularly problems demanding that knowledge and skills developed in the first three categories be applied.

Proposition #5

The culture content of a curriculum is selected and organized because that culture content is believed to be most useful for teachers to use in achieving the stated goals.

Our culture content has become so massive that, to a very great extent, the process of curriculum planning is one of selecting from the total mass. The governing criteria for selection are the evolving purposes of schools. We should never forget that the increasing tempo of generating knowledge, coupled with the constantly changing social environment, demands consistent evaluation and subsequent modification of our response to the question of what should the schools teach. Furthermore, the selection of culture content for the curriculum is a much too important decision to be left to the whimsies of individual teachers at the level of planning instructional strategies. Curriculum planners are obligated to conceptualize the educational program for a school by

determining goals and devising an organized body of culture content they believe will be useful in the attainment of the goals.

Proposition #6

Goals, or objectives, and related culture content for schools are political decisions. Curriculum planners must verify those they use through political channels.

The policy making agency for any school district is the Board of Education. Curricula for the schools under the jurisdiction of the Board of Education are fundamental policy of the district. Therefore, the agency for screening and approval of all curriculum decisions is the school board. Likewise in every educational institution other than public elementary and secondary schools, there will be some policy-making group bearing responsibility similar to the school board for the curriculum for that institution. This proposition is axiomatic for all decisions relative to the contents of a curriculum.

Proposition #7

Culture content in a curriculum may be organized in terms of realms, components, and levels of organization.

The culture content of a curriculum is described in a variety of ways. Sometimes culture content elements are spoken of as subject matter; at other times they are referred to as fused components of the various disciplines; but perhaps the most commonly used term is school subjects. I have used the term culture content to refer to any and all of these designations that may be chosen as a basis for organization of knowledge that is intended to be used with school students in response to stipulated goals. The realms of culture content may be stipulated in terms of conventional disciplines, fused disciplines that have been brought together, molar problems, or any other way of designating the nature of the various culture content packages that may be used. Curriculum planners may also wish to indicate in their design the cognitive, affective, and inquiry or skill components that are expected to emerge from exposure to the realms of culture content. Both the realms of culture content and the components of culture content should be organized to fit the organizational pattern of a school.

Proposition #8

The rationale for the form and arrangement of the realms of culture content in a curriculum must be reflected in the curriculum design.

Each of the realms of culture content in a curriculum should have a rationale, or an explanation, for its form and arrangement. There are so many different possibilities for the selection and arrangement of culture content that curriculum planners should make clear what it is they have selected and how they have organized it. Scope and sequence arrangements are but part of the explanation. Each of the realms of culture content may have different rationales and not in any way jeopardize the overall intent of the curriculum planners.

Proposition #9

The younger the learners for whom the curriculum is designed the more fused the culture content should be.

This proposition is an assumption on my part. It seems to me that for the younger children in school, learning can be more efficient and useful in a wider variety of situations if the number of subjects is reduced and the interrelationships among various culture content ingredients are reflected through their applications in more common domains. The younger the minds of the learners, the less adept they are at making transitions from highly and individually organized separate subjects or disciplines.

Proposition #10

For students in the secondary school, the culture content should be organized by a combination of established disciplines in the sciences, the social sciences, and the humanities, units devoted to molar problems, and specialized vocational content.

The reasons for this proposition should be self-evident. The greater maturity of the secondary school student will allow him to study in the individual disciplines and to make certain transitions between or among them on his own power. In addition, secondary schools of America cannot ignore teaching about molar problems and their potential solutions as well as more specialized vocational content. The balance to be maintained among these is greatly dependent upon where the secondary school students go and what they do when they leave the secondary school.

Proposition #11

> *The design of a curriculum and the organizational pattern of the school need to be in harmony in order to facilitate the implementation of the curriculum.*

The relationship here should be clear. It is one thing to create a curriculum design to fit a graded type school. It is quite another to plan a curriculum that will fit some version of a non-graded school. What needs to be kept in mind is that the curriculum should be a useful tool to teachers for purposes of developing their teaching strategies. If their teaching strategies are going to be applied to students organized in a graded manner, teachers have one kind of a problem. They have another if the school is organized in various levels of non-graded structure. It simply makes sense that the organizational pattern of the school and the organizational pattern expressed in curriculum design should be in harmony.

Proposition #12

> *The choice of culture content can be made independently of instructional methods, but the choice of instructional method is dependent upon the nature of the culture content.*

I set forth this proposition to offset the argument that methodological considerations need to be included in curriculum design. The methods of teaching are greatly dependent upon the nature of the content to be taught. We have known and recognized this for a long time. On the other hand, the choice of culture content in a curriculum is in response to the goals. And the choice of that culture content can be made independently of instructional methods that may follow. It must be said that curriculum planners may anticipate in general the nature of instructional method, but the inclusion of a prescription of method is not a part of curriculum design.

CURRICULUM ENGINEERING

In the basic definitions set forth at the beginning of this chapter, curriculum engineering was defined to consist of all of the processes and activities necessary to maintain and improve a curriculum system including leadership by persons occupying such positions as superintendent, principal, and curriculum director.

The curriculum engineering processes are applied to the curriculum system which has been defined as a system for decision making and action with respect to the three primary curriculum functions: curriculum planning, curriculum implementation, and curriculum evaluation. In this section, I will proceed in the same way that I did in the section on curriculum design by establishing particular definitions appropriate to curriculum engineering and follow those with a series of propositions that are particularly appropriate for curriculum engineering as I see them at the present time.

Engineering Definitions

Curriculum planning consists of all the processes necessary to plan for and to write a curriculum. The processes include the choosing of an arena for the curriculum planning, the selection and organization of personnel to do the planning, the execution of working procedures necessary to relate input information to the curriculum decisions resulting in the curriculum itself.

Curriculum implementation refers to those processes necessary to insure that the curriculum is used by teachers as a point of departure for the development of their teaching strategies.

Curriculum evaluation consists of those processes necessary to judge the effectiveness of the curriculum that was planned as well as the effectiveness of the curriculum system itself.

Arena is the term I use to describe the geographic-social environment in which curriculum planning, curriculum implementation, and/or curriculum evaluation is undertaken. The most common choices available to a theorist as potential arenas for curriculum planning, implementation, and evaluation are the nation, the state, the school district, or the individual school. The arena for curriculum planning may be different from the arena for curriculum implementation, and both may be different from the arena for curriculum evaluation. When such is the case, we can say that the arena is split among the curriculum functions.

Involvement refers to the selection and utilization of persons who are to do curriculum planning, curriculum implementation, and/or curriculum evaluation.

Input consists of the knowledge and human resources necessary to the curriculum planning processes.

Output refers to the output of the curriculum system. The principal output of a curriculum system is a curriculum.

Engineering Propositions

The following propositions are related to the purposes and functions of curriculum engineering. I shall continue the organization used in the treatment of design propositions by first stating each proposition and following it with a brief explication.

Proposition #13

> *The general purpose of a curriculum system as one of the several systems of schooling is to provide a framework for deciding what shall be taught in the schools and to provide for employing those decisions as points of departure for developing instructional strategies.*

This proposition is assumptive and axiomatic to my curriculum theory. My contention is that the primary curriculum question is "What shall be taught in the schools?." The answer to this question should be conceived holistically; that is, it should be conceived in terms of the wholeness of a school or a school district, preferably a school. This is an application of the Gestalt principle that the whole is greater than the sum of all its parts. A curriculum in terms of what shall be taught in a school represents a conception of what the education of the pupils who are to attend that school should be in its totality. Instruction in the individual classrooms within that school for children at various age levels are atomistic parts of the total educational plan carried out within the domain of the instructional system. It is a secondary purpose of a curriculum system to insure that the curriculum decisions are used by teachers for developing unique instructional strategies for children under their jurisdiction using the curriculum as a point of departure.

Proposition #14

> *A distinction must be made between curriculum planning and inputs that may influence decisions at the level of curriculum planning.*

In order to identify and maintain control over curriculum planning efforts within a curriculum system it is necessary to

recognize that it is one thing to perform the acts of curriculum planning but that it is quite another to consider those inputs that may influence the decisions of the curriculum planners. Great identity confusion frequently is perpetrated by referring to persons and agencies that may supply useful information to curriculum planners as being part of the curriculum planning effort. The crux of this proposition lies in the assumption that a curriculum is to be planned and that the persons selected from the arena in which the curriculum is to be planned are the curriculum planners. Anyone else, or any idea, is an input, or influence upon the curriculum planning decisions.

Proposition #15

> *Curriculum engineering is markedly facilitated when the arena for planning and implementing are the same.*

This proposition is at the level of a generalization. Research has established that teachers who have participated in curriculum planning are more apt to use the curriculum as a point of departure for developing instructional strategies and to be more willing and enthusiastic to do so. The more removed the arena for curriculum planning is from the arena in which the implementation effort is directed, the less identity teachers feel with the curriculum and the more they resist its implementation.

Proposition #16

> *Curriculum implementation is greatly facilitated when planning groups include classroom teachers who must do the implementing.*

This proposition is a corollary to proposition #2. When the planning group and the implementing group are one and the same, curriculum implementation is greatly facilitated if only through the identification of the classroom teachers with the curriculum as well as their dedication to use it because they feel that curriculum to be the result of their own labors. Again, this proposition is a generalization from existing research.

Proposition #17

> *A reciprocal relationship exists between the selection of people to be involved in curriculum planning and the choice of the arena within which the curriculum is to be utilized.*

The first choice for curriculum engineers is the choice of the arena within which the curriculum is to function. In the United States, the most frequent choices are the school district or the individual school building. More simply, the question is whether the curriculum shall be planned for an entire district or whether the curriculum shall be planned for an individual school. Once the arena choice is made, then discussion can take place about who is to be involved in the curriculum planning. Normally, only persons from the chosen arena will be selected. Those external to that arena would be considered as resource people to the persons who actually are to make the curriculum decisions. On the other hand, it is possible that curriculum engineers may wish to decide upon who shall be involved in curriculum planning prior to the arena choice. In that case, selection and involvement of people in curriculum planning is a top priority consideration in the minds of the curriculum engineers, and the selection may then markedly influence the arena choice.

Proposition #18

> *The re-education of teachers about new and potential curriculum content is better accomplished through teacher participation in curriculum planning than by means used when teachers do not participate in curriculum planning.*

Planning groups are greatly affected by the exchange of ideas with one another in the planning process. Planning groups are exposed to information that others normally are not, and the input information is specifically pointed to that school's efforts. The general type of in-service workshop is less adequate for the re-education of teachers if one only considers the longevity of those workshops in comparison with the practice of continuous curriculum planning and revision over a long period of time.

Proposition #19

> *The more removed the curriculum planning function is from classroom teachers, the more restrictive the curriculum is upon the professional judgment of teachers.*

A curriculum that is planned remotely from the classroom teacher who must implement it is considered by the teacher who implements it to be a mandate from elsewhere. The teacher is less

familiar with the content and implication of the curriculum. Both of these considerations contribute to the rejection of the curriculum as a point of departure for the development of teaching strategies and to the use of unimaginative teaching strategies. A remotely planned curriculum tends to make a follower of the classroom teacher rather than a creative professional person, but when a curriculum has been planned by teachers who are to do the implementing, the teachers themselves have created the curriculum probably with instructional aspirations in mind.

Proposition #20

Planning, implementation, and evaluation constitute an annual curriculum cycle, and feedback from evaluation efforts plus innovative ideas will produce change in the curriculum with each new cycle.

This proposition is quite self-explanatory. It is assumed that the planning function never ceases. Experience with implementation and evaluation provides feedback to the planning function for curriculum change. The planning function should provide avenues for the input of ideas from external sources as well as the feedback from internal sources. To some extent, it should be expected that curriculum will be changed each year, that is, each time it is implemented.

Proposition #21

The assignment of leadership responsibility and accountability for curriculum engineering functions is mandatory for the perseverance of a curriculum system.

The functions of a curriculum system are completely dependent upon constant leadership; therefore, responsibility and accountability for them are critical elements of curriculum engineering. Some of our research has shown that the effects of leadership may actually negate other effects of curriculum engineering when the demand for leadership responsibility and accountability is not sustained.

Proposition #22

The optimal arena for curriculum planning, implementation, and evaluation is the individual school unit.

In substance, this proposition is a generalization derived from most of the foregoing propositions on curriculum engineering. Leadership and teaching personnel in a school unit meet each other in a face-to-face situation every day. All may be involved in these curriculum functions readily, and the involvement is facilitated by their singular purpose in the conduct of the school. The significance of problems of articulation among school units within a school district are dimmed by the obvious advantages to be gained by using the individual school as the arena for curriculum functions.

Proposition #23

> *The most obvious and necessary output of a curriculum system is a planned curriculum, and it is the only visible output.*

It is useless to talk about curriculum planning without thinking about what the result of the planning shall be. It is axiomatic to my theory that a curriculum, as an output of a curriculum system, is a written document. The curriculum is the only concretely visible output in that it is substantive and readable. Other outputs, such as improved teacher insight and improved rapport within the teacher group, are more intangible and have to be observed indirectly.

FINAL COMMENT

The above definitions and propositions represent the development of my curriculum theory up to the present time. The definitions are operational for the most part. They have to be if they are to be useful as a directive force for research design. The propositions are axioms, descriptions, assumptions, or generalizations. Some have been tested in research; all are subject to more research. Obviously, research is needed to extend our knowledge of relationships among observed phenomena within the domain of curriculum and to extend our knowledge of relationships among curriculum phenomena and phenomena in other systems of schooling. So far there is a paucity of predictive and causal relationships established, but we are working on them.

Beginning with the first edition of this book in 1961, I have been suggesting that others who purport to be curriculum theorists

do the same type of thing I have attempted in this chapter and in this book, namely, to set forth the ingredients of their theories in the form of definitions and other theoretical statements that would lead to research hypotheses to be tested, and subsequently, to generalizations about the curriculum field. One of the main reasons for the chaotic condition of curriculum research is the lack of theory direction in its conduct. There is no reason to search for a single theoretical explanation of curriculum. What is needed are curriculum theories which emanate from different definitions, structures, and propositions so that curriculum events in practice may be guided by rational explanation rather than trial-and-error or bandwagon approaches.