Curriculum Development:
Deductive Models

Fred C. Lunenburg
Sam Houston State University

ABSTRACT

Three models are presented in this article: Tyler's behavioral model, Beauchamp's managerial model, and Saylor, Alexander, and Lewis's administrative model. Models can assist curriculum developers to conceptualize the development process by pinpointing certain principles and procedures. The three models examined are deductive, linear, and prescriptive. Most curriculum makers adhere to all three approaches. The administrative model is a little more theoretical than the behavioral or managerial approaches.

Much of the professional literature stresses the need for supervisors and administrators to become more involved in curriculum development. The need to plan effective curricula is obvious, because curriculum is considered the heart of schooling. The difficulty, however, is that not everyone agrees what curriculum is or what is involved in curriculum development.

What is curriculum development? In its most simplified form, *curriculum development* is the process of planning, implementing, and evaluating curriculum that ultimately results in a curriculum plan. One way of developing a curriculum plan is through modeling. Models are essentially patterns that serve as guidelines to action. Models can be found for almost every form of educational activity. The education profession has models of administration, of supervision, of instruction, of evaluation, and others. There are models of curriculum development as well.

Using a model to develop curriculum can result in greater efficiency and productivity (Oliva, 2009). By examining models for curriculum development, we can analyze the phases essential to the process. The three models I selected for analysis were conceived by well known scholars in the field: Ralph W. Tyler (1949), George Beauchamp (1981), and J. Galen Saylor, William M. Alexander, and Arthur J. Lewis (1981). The models are deductive; they proceed from the general (e.g., examining the needs of society) to the specific (e.g., specifying instructional objectives). Furthermore, the models are linear; they involve a certain order or sequence of steps from beginning to end. Linear models need not be immutable sequences of steps, however. Curriculum

makers can exercise judgment as to entry points and interrelationships of components of the model. Moreover, the three models are prescriptive; they suggest what ought to be done and what is done by many curriculum developers.

Tyler: Behavioral Model

Probably the most frequently quoted theoretical formulation in the field of curriculum has been that published by Ralph Tyler in 1949. Tyler stated his curriculum rationale in terms of four questions that, he argued, must be answered in developing any curriculum plan of instruction:

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that will likely attain these purposes?
3. How can these educational experiences be effectively organized?
4. How can we determine whether the purposes are being attained?

These questions may be reformulated into a four-step process: stating objectives, selecting learning experiences, organizing learning experiences, and evaluating the curriculum. The Tyler rationale is essentially an explication of these steps.

Figure 1 outlines Tyler's conceptual framework. He proposes that educational objectives originate from three sources: studies of society, studies of learners, and subject-matter specialists. These data systematically collected and analyzed form the basis of initial objectives to be tested for their attainability and their efforts in real curriculum situations. The tentative objectives from the three sources are filtered through two screens: the school's educational philosophy and knowledge of the psychology of learning, which results in a final set of educational objectives.
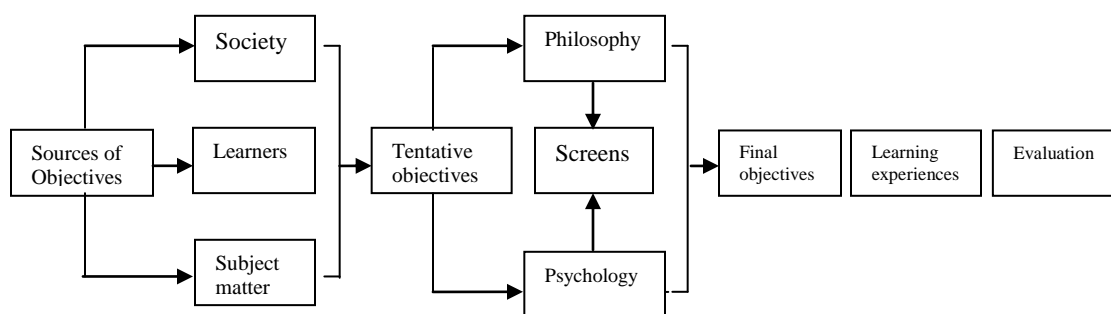

Figure 1. Designing the curriculum—a behavioral approach.

Once the first step of stating and refining objectives is accomplished, the rationale proceeds through the steps of selection and organization of learning experiences as the means for achieving outcomes, and, finally, evaluating in terms of those learning outcomes. Tyler recognizes a problem in connection with the selection of learning experiences by a teacher or curriculum designer. The problem is that by definition a learning experience is the interaction between a student and her environment. That is, a learning experience is to some degree a function of the perceptions, interests, and previous experiences of the student. Thus, a learning experience is not totally within the power of the teacher to select. Nevertheless, Tyler maintains that the teacher can control the learning experience through the manipulation of the environment, which results in stimulating situations sufficient to evoke the kind of learning outcomes desired.

The final step in Tyler's rationale, evaluation is the process of determining to what extent the educational objectives are being realized by the curriculum. Stated another way, the statement of objectives not only serves as the basis for selecting and organizing the learning experiences, but also serves as a standard against which the program of curriculum and instruction is appraised. Thus, according to Tyler, curriculum evaluation is the process of matching initial expectations in the form of behavioral objectives with outcomes achieved by the learner.

Beauchamp: Managerial Model

George Beauchamp (1981) recognized the following procedures for curriculum development described by Tyler: the process of determining objectives, selecting and organizing learning experiences, and evaluating the program of curriculum and instruction. Two additional ingredients are included in Beauchamp's design model: a set of rules designating how the curriculum is to be used and an evaluation scheme outlining how the curriculum is to be evaluated. The essential dimensions of his position of curriculum development are shown in Figure 2.
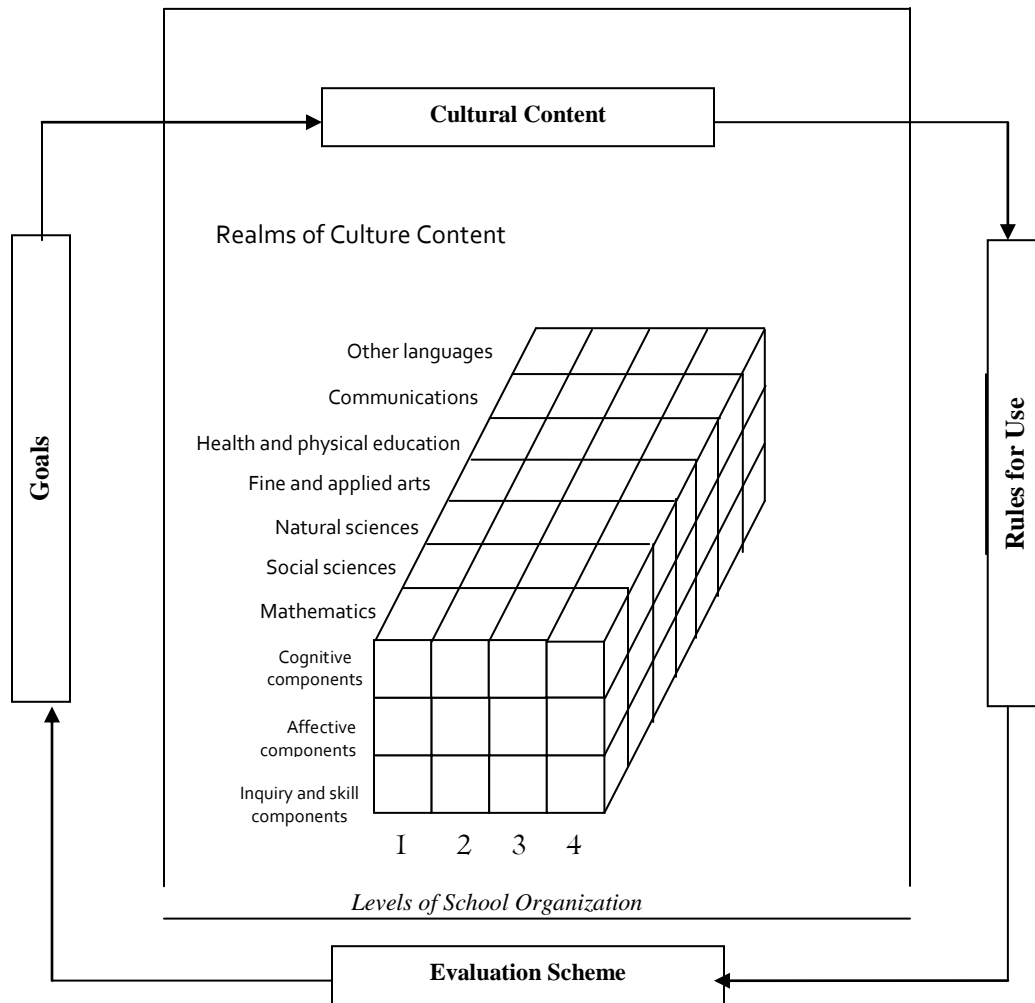
Figure 2. Designing the curriculum—a managerial approach.

According to Beauchamp (1981), a curriculum possesses five properties or characteristics: (a) It is a written document; (b) it contains statements outlining the goals for the school for which the curriculum was designed; (c) it contains a body of culture content or subject matter that tentatively has the potential for the realization of the school's goals; (d) it contains a statement of intention for use of the document to guide and direct the planning of instructional strategies; and (e) it contains an evaluation scheme. Thus, by definition, a curriculum is a written plan depicting the scope and arrangement of the projected educational program for a school.

As shown in Figure 2, provision is made for a statement of goals, or purposes, for the school. Beauchamp argues that at the level of curriculum planning, it is recommended that these goal statements be phrased in general terms, whereas the preparation of specific behavioral objectives should be left to the level of instructional planning.

A large part of a curriculum would consist of the organization of the culture content. Beauchamp designates the realms of culture content as languages, communications, health and physical education, fine and applied arts, natural sciences, social sciences, and mathematics. The culture content is also identified in terms of characteristics other than school subjects. These he refers to as cognitive components, affective components, and inquiry and skill components consistent with Bloom's (1956), Krathwohl, Bloom, and Masia's (1964), and Harrow's (1972) taxonomy domains. These characteristic components are included so that culture content may be more specifically related to goals and ultimately to behavioral objectives during the instructional planning stage.

Across the bottom of the model four levels of school organization are shown. Typically these would be labeled in terms of the administrative organization of the school district or individual school, such as grade levels (primary, elementary school, middle school, high school), or ordinal years. This three-way organization of the culture content would require decision makers and curriculum planners to be cognizant of such design characteristics as scope, sequence, and vertical and horizontal articulation.

Two additional components are included in Beauchamp's model. One is a set of rules or statements designating how the curriculum is to be used and how it is to be modified based on experience in using the curriculum. An evaluation scheme constitutes the final component of the model. The evaluation scheme is designed to provide feedback data for the products and processes of the curriculum system and the instructional system. Outputs immediately lead back to the curriculum system and the instructional system, thus providing a dynamic cycle of feedback and correction to the fundamental processes of schooling: curriculum and instruction.

Saylor, Alexander, and Lewis: Administrative Model

Galen Saylor and his associates (1981) adopt an administrative approach to curriculum development. They describe and analyze curriculum plans in terms of the relations of ends and means, the attention to pertinent facts and data, and the flow of activities or procedures from beginning to end. Figure 3 depicts their conceptual model of the curriculum development process.
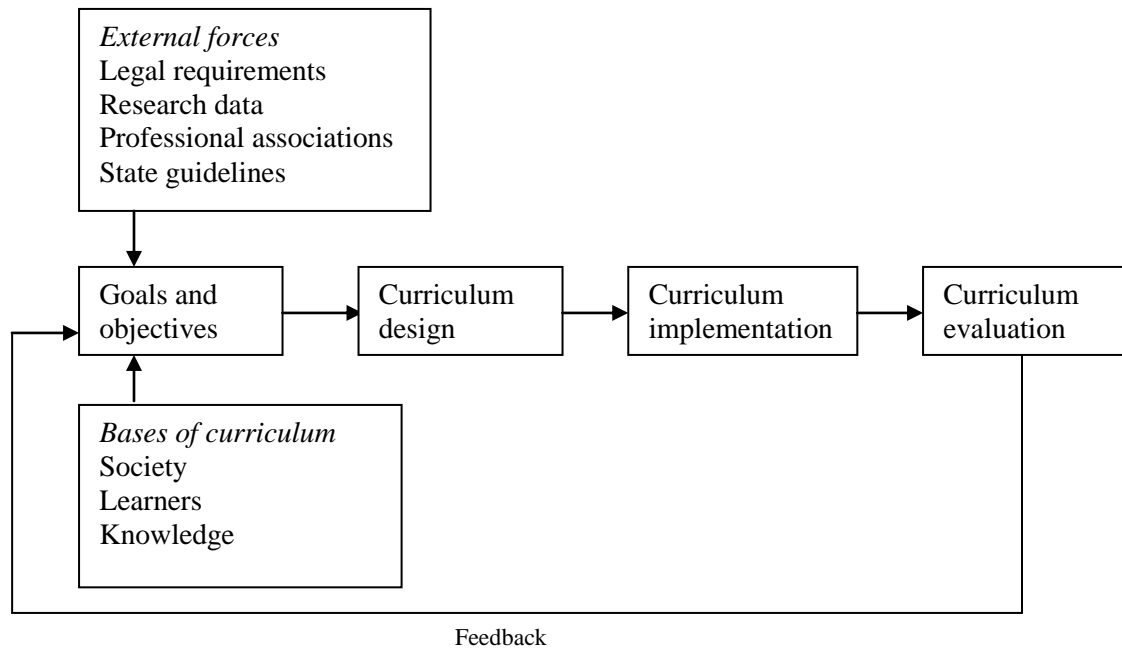
Figure 3. Designing the curriculum—an administrative approach.

As shown in Figure 3, the selection of *educational goals and objectives* is influenced by (1) external forces, including legal requirements, research data, professional associations, and state guidelines, and (2) bases of curriculum, such as society, learners, and knowledge. (Note the similarity to Tyler's sources.) Curriculum developers then choose the combinations of curriculum design, implementation strategies, and evaluation procedures that are calculated to maximize the attainment of goals; review feedback from the plan in effect through instruction; and re-plan the elements of the curriculum as indicated by the data.

Curriculum design involves decisions made by the responsible curriculum planning group(s) for a particular school center and student population. Having collected and analyzed essential data and identified goals and objectives, curriculum planners create or select a general pattern—a curriculum design—for the learning opportunities to be provided to students. Among their alternatives is a subject design utilizing specific studies in the specified curriculum area, a scope and sequence plan built around a selection of persistent topics or themes, an analysis of the essential skills necessary for knowledge and competence in the subject area, and a selection of problems (in cooperation with students) related to the area of study. The design plan ultimately anticipates the entire range of learning opportunities for a specified population.

Curriculum implementation involves decisions regarding instruction. Various teaching strategies are included in the curriculum plan so that teachers have options. Instruction is thus the implementation of the curriculum plan. There would be no reason for developing curriculum plans if there was no instruction. Curriculum plans, by their very nature, are efforts to guide and direct the nature and character of learning

opportunities in which students participate. All curriculum planning is worthless unless it influences the things that students do in school. Saylor argues that curriculum planners must see instruction and teaching as the summation of their efforts.

Curriculum evaluation involves the process of evaluating expected learning outcomes and the entire curriculum plan. Saylor and his colleagues recognize both formative and summative evaluation. Formative procedures are the feedback arrangements that enable the curriculum planners to make adjustment and improvements at every stage of the curriculum development process: goals and objectives, curriculum development, and curriculum implementation. The summative evaluation comes at the end of the process and deals with the evaluation of the total curriculum plan. This evaluation becomes feedback for curriculum developers to use in deciding whether to continue, modify, or eliminate the curriculum plan with another student population. The provision for systematic feedback during each step in the curriculum system—and from students in each instructional situation—constitutes a major contribution to Saylor and associates administrative model of curriculum development.

Conclusion

Three models were presented in this article: Tyler's behavioral model, Beauchamp's managerial model, and Saylor, Alexander, and Lewis's administrative model. Models can assist curriculum developers to conceptualize the development process by pinpointing certain principles and procedures. The three models examined were deductive, linear, and prescriptive. Most curriculum makers adhere to all three approaches. The systems model is a little more theoretical than the behavioral or managerial approaches.

References

Beauchamp, G. A. (1981). *Curriculum theory* (4th ed.). Itasca, IL: F.E. Peacock.
Bloom, B. S. (1956). *Taxonomy of educational objectives: Handbook I, Cognitive domain*. New York, NY: Longman.
Harrow, A. J. (1972). *A taxonomy of the psychomotor domain*. New York, NY: Longman.
Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1964). *Taxonomy of educational objectives: Handbook II, Affective domain*. New York, NY: Longman.
Oliva, P. F. (2009). *Developing the curriculum* (7th ed.). Boston, MA: Allyn and Bacon.
Saylor, J. G., Alexander, W. M., & Lewis, A. J. (1981). *Curriculum planning for better teaching and learning* (4th ed.). New York, NY: Holt, Rinehart, & Winston.
Tyler, R. W. (1949). *Basic principles of curriculum and instruction*. Chicago, IL: University of Chicago Press.