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Curriculum Design

● FOCUSING QUESTIONS

1. What “myths” about education’s purposes do many educators and the general public seem to believe?
2. What influences people’s perceptions of education’s purposes?
3. What are the major components of curriculum design?
4. What are some sources of curriculum design?
5. How can curriculum design be defined?
6. Why is it essential to comprehend the horizontal and vertical organizations of curriculum design?
7. Which curriculum design is most common in U.S. schools? Is having such a dominant curriculum design positive or negative? Explain.
8. Which design do you think is most likely to change in the future?

Anyone charged with developing and delivering curriculum has a conception of curriculum and its components.

Opinions differ regarding how to design curriculum. David Orr discusses four myths about education that educators and the general public embrace, and curriculum’s proper aims.¹ The first myth is that education—the right curriculum and curriculum design—can eliminate ignorance. The second myth is that education and well-designed curricula can supply all the knowledge needed to manage society and the earth. The third myth is that educational curricula are increasing human goodness: well-designed curricula instill wisdom. The fourth myth is that education’s primary purpose is to enable students to be upwardly mobile and economically successful.² This myth is evident in much discussion about standards.

In response to Orr’s discussion of myths, some people might argue that education can *reduce* ignorance, *help* people manage society and the earth, *increase* wisdom, and *foster* upward mobility.

Connecting Conceptions

How one contemplates education, curriculum, and curriculum design is influenced by myriad realms of knowing and feeling. Individuals draw from their experiences, their lived histories, their values, their belief systems, their social interactions, and their imaginations.³

How do we choose from among diverse views of education, curriculum, and how to organize them? There is no simple answer. Educational thinkers and doers must ponder multiplicity.⁴

Components of Design

To design a curriculum, we must consider how its parts interrelate. Thinking about a curriculum plan “shape” or “gestalt,” and the arrangement of its parts, addresses the essence of curriculum design. A curriculum’s parts should promote the whole.

In designing a curriculum, we should consider philosophical and learning theories to determine if our design decisions are consonant with our basic beliefs concerning people, what and how they should learn, and how they should use their acquired knowledge.

Curriculum design is concerned with the nature and arrangement of four basic parts: objectives, content, learning experiences, and evaluation. These parts are rooted in Harry Giles’s “The Eight-Year Study.” Giles used the term *components* to show the relationship among the basic parts, but included learning experiences under “method and organization.”⁵ Curriculum design’s four components suggest these questions: What should be done? What subject matter should be included? What instructional strategies, resources, and activities should be employed? What methods and instruments should be used to appraise the results of the curriculum?

Curriculum design involves philosophical and theoretical, as well as practical, issues. One’s philosophy influences interpretation and selection of objectives, selection and organization of content, decisions about how to teach or deliver the curriculum content, and judgments about how to evaluate the success of the developed curriculum.

Some people argue that objectives suggest an undesirable willingness to control individuals and unwarranted certainty regarding outcomes. However, all curriculum makers need to reflect on the curriculum’s content.

Much current talk centers on engaging students in the construction, deconstruction, and reconstruction of knowledge. This refers to the components of method and organization. The component of evaluation also is widely discussed. Even if one argues that final measurement is impossible, one engages in some sort of assessment.⁶

In Ronald Doll’s view, curriculum design is the parent of instructional design.⁷ Curriculum arranges objectives, content, instruction, and evaluation. In contrast, instructional design “maps” out pedagogically and technologically defensible teaching methods, teaching materials, and educational activities that engage students in learning the curriculum’s content. What resources will be appropriate for

a particular lesson indicated in the curriculum plan? Which students should be involved in particular activities? Curriculum design draws from knowledge theory, social theory, political theory, and learning theory. Essentially, a curriculum results from a blend of curriculum design and instructional design.

Sources of Curriculum Design

Curriculum designers must clarify their philosophical, social, and political views of society and the individual learner—views commonly called curriculum's sources. As David Ferrero notes, educational action (in this case, curricular design) begins with recognizing one's beliefs and values, which influence what one considers worth knowing and teaching.⁸ If we neglect philosophical, social, and political questions, we design curriculum with limited or confused rationales.

Doll describes four foundations of curriculum design: science, society, eternal truths, and divine will.⁹ These sources partially overlap with curriculum sources identified by Dewey and Bode and popularized by Tyler: knowledge, society, and the learner.¹⁰

Science as a Source. Some curriculum workers rely on the scientific method when designing curriculum. Their design contains only observable, quantifiable elements. Problem solving is prioritized. The design emphasizes learning how to learn.

Much discussion of thinking processes is based on cognitive psychology. Advocated problem-solving procedures reflect our understanding of science and organization of knowledge. Some educators think the curriculum should prioritize the teaching of thinking strategies. With knowledge increasing so rapidly, the only constant seems to be the procedures by which we process knowledge.

Society as a Source. Curriculum designers who stress society as a curriculum source believe that school is an agent of society, and should draw its curriculum ideas from analysis of the social situation.¹¹ Curriculum designers must consider current and future society. In the United States, fostering democracy is an ongoing goal.

Schools must realize that they are part of, and designed to serve the interests of, their local community and larger society. Curriculum designers should not ignore social diversity: multiple cultures, ethnic groups, and social classes. Such diversity is increasingly evident as the United States incorporates diverse immigrant groups. Curriculum design operates within social, economic, and political contexts. The challenge is to address students' unique needs and the particular demands of diverse social groups while allowing students to gain understanding of the common culture and to acquire common, agreed-on competencies. Indeed, the search for a common curriculum presupposes that there is something general and universal for all to know.

Effective curriculum designers realize the need for collaboration among diverse individuals and groups. People from disparate backgrounds and cultures are demanding a voice regarding how education is organized and experienced. Society currently is a powerful influence on curriculum design. As Arthur Ellis notes, no

curriculum or curriculum design can be considered or created apart from the people who make up our evolving society.¹²

Moral Doctrine as a Source. Some curriculum designers look to the past for guidance regarding appropriate content. These persons emphasize what they view as lasting truths advanced by the great thinkers of the past. Their designs stress content and rank some subjects as more important than others.

Some people believe that curriculum design should be guided by the Bible or other religious texts. While this view was common in the schools of colonial America, it has had little influence in public schools for more than a century, primarily because of the mandated separation of church and state. However, many private and parochial schools still subscribe to this now, including a growing number of Islamic schools.

In this century, public schools are increasingly considering the relationship between knowledge and people's spirituality. Many people are criticizing Western society's emphases on science, rationality, and material wealth.

Dwayne Huebner has argued that education can address spirituality without bringing in religion. For him, to have spirit is to be in touch with life's forces, or energies.¹³ Being in touch with spirit allows one to see the essences of reality and to generate new ways of viewing knowledge, new relationships among people, and new ways of perceiving one's existence.

According to James Moffett, spirituality fosters mindfulness, attentiveness, awareness of the outside world, and self-awareness.¹⁴ Spiritual individuals develop empathy and insight. Curriculum designers who draw on spirituality reach a fuller understanding than those who rely only on science. Spiritual individuals develop empathy and compassion. They consider and promote the welfare of others. They welcome differing viewpoints.¹⁵ Spiritual curriculum designers ask questions about the nature of the world, the purpose of life, and what it means to be human and knowledgeable.

William Pinar comments that viewing curriculum as religious text may allow for a blending of truth, faith, knowledge, ethics, thought, and action. He feels that faith, ethics, and action need more emphasis.¹⁶

Knowledge as a Source. Knowledge, according to some, is the primary source of curriculum. Herbert Spencer placed knowledge within the framework of curriculum when he asked, "What knowledge is of most worth?"

Those who place knowledge at the center of curriculum design realize that knowledge may be a discipline, having a particular structure and a particular method or methods by which scholars extend its boundaries. Undisciplined knowledge does not have unique content; instead its content is shaped according to an investigation's focus. For example, physics as a discipline has a unique conceptual structure and entails a unique process. In contrast, environmental education is undisciplined in that its content is drawn from various disciplines and adapted to a special focus.

The challenges to those who accept knowledge as the primary source of curricular design is that knowledge is exploding exponentially. But the time for engaging

students with curriculum is not increasing. Most schools still require 180 school day sessions. Spencer's question is now even more daunting. Not only must we rethink "what knowledge is of most worth?" but we must posit the following inquiries: "For whom is this knowledge of value?" "Is there any knowledge that must be possessed by the majority?" "What intellectual skills must be taught to enable common and uncommon knowledge to be utilized for individual and social good?"

The Learner as a Source. Some believe that the curriculum should derive from our knowledge of students: how they learn, form attitudes, generate interests, and develop values. For progressive curricularists, humanistic educators, and many curricularists engaged in postmodern dialogue, the learner should be the primary source of curriculum design.

Such curricularists tend to draw heavily on psychological foundations, especially how minds create meaning. Much cognitive research has provided curriculum designers with ways to develop educational activities that facilitate perceiving, thinking, and learning. Since the final years of the 1900s, microbiological research on the brain has had much significance for educators. We are learning that the educational environment can influence the anatomy of a child's brain. Quantity and quality of experiences physically affect brain development.¹⁷

Learner-focused curriculum design emphasizes students' knowledge. Individuals construct, rather than simply acquire, knowledge, and they do so in unique ways with specific unique conclusions. They may use the same words to answer a question, but their deep comprehension of the material is quite distinct.¹⁸ As a source of curriculum design, the learner-centered approach overlaps with approaches that focus on knowledge or science, in that the science-based approach emphasizes strategies for processing knowledge, and the knowledge-based approach emphasizes how individuals process information. Of course, all sources of curriculum design overlap to some extent. Learner-based curriculum design seeks to empower students and foster their individual uniqueness.

Conceptual Framework: Horizontal and Vertical Organization

Curriculum design, the organization of curriculum's components, exists along two basic organizational dimensions: horizontal and vertical. *Horizontal* organization blends curriculum elements—for example, by combining history, anthropology, and sociology content to create a "Contemporary Studies" course or by combining math and science content.

Vertical organization refers to the sequencing of curriculum elements. Placing "the family" in first-grade social studies and "the community" in second-grade social studies is an example of vertical organization. Frequently, curricula are organized so that the same topics are addressed in different grades, but in increasing detail and at increasingly higher levels of difficulty. For instance, the mathematical concept of set is introduced in first grade and revisited each succeeding year in the elementary curriculum. See Curriculum Tips 6.1 for ways to create a broad curriculum design.

CURRICULUM TIPS 6.1

Points to Consider When Contemplating Curriculum Design

Curriculum design reflects the curriculum's architecture. Here are some useful points to consider in "building" an effective curriculum design.

1. Reflect on your philosophical, educational, and curriculum assumptions with regard to the goals of the school (or school district).
2. Consider your students' needs and aspirations.
3. Consider the various design components and their organization.
4. Sketch out the various design components to be implemented.
5. Cross-check your "selected" design components (objectives, content, learning experiences, and evaluation approaches) against the school's mission.
6. Share your curriculum design with a colleague.

Although design decisions are essential, in most school districts overall, curricular designs receive little attention. Often, curricularists do little "designing" other than to recommend content that reflects their philosophical and political views, which frequently are not carefully formulated. Few educators realize how socioeconomic, political, and cultural factors influence their choices about horizontal and vertical organization.¹⁹ However, a growing numbers of curricularists believe that designs should reflect diverse voices, meanings, and points of view.²⁰

Design Dimension Considerations

Curriculum design addresses relationships among curriculum's components. It should achieve scope, sequence, continuity, integration, articulation, and balance.

Scope

Curriculum designers need to consider a curriculum's breadth and depth of content—that is, its scope. In *Basic Principles of Curriculum Instruction*, Ralph Tyler referred to scope as consisting of all the content, topics, learning experiences, and organizing threads comprising the educational plan.²¹ John Goodlad and Zhixin Su reiterated this definition, pointing out that it refers to the curriculum's horizontal organization.²² Scope includes all the types of educational experiences created to engage students in learning. It includes both cognitive and affective learning (and some would add spiritual learning).²³ Sometimes a curriculum's scope is limited to a simple listing of key topics and activities.

A curriculum's full scope can extend over a year or more. A curriculum whose scope covers only months or weeks usually is organized in units. Units are divided into lesson plans, which usually organize the information and activities into a period of hours or minutes.²⁴

When teachers and other educators are deciding on curriculum content and its degree of detail, they are considering the curriculum's scope. In many ways, the current knowledge explosion has made dealing with scope almost overwhelming. Also, student diversity places increasing demands on teachers regarding which content and activities to include. Some teachers respond to content overload by ignoring certain content areas or excluding new content topics. Others attempt to interrelate certain topics to create curriculum themes.

When considering scope, we need to consider learning's cognitive, affective, and psychomotor domains. (We might add the moral or spiritual domain.) We must determine what will be covered and in what detail within each domain. We must decide also which domain should be the most emphasized. Traditionally, the cognitive domain, drawing on the realm of knowledge, has been most emphasized. At the secondary level of schooling, we frequently draw on disciplines of knowledge and their main concepts to determine the curriculum's scope. However, the affective domain (dealing with values and attitudes) and the psychomotor domain (dealing with motor skills and coordination) are receiving growing attention.

Sequence

When considering sequence, curricularists seek a curriculum that will foster cumulative, continuous learning. Specifically, curricularists must decide how content and experiences can build on what came before.²⁵

There is a long-standing controversy over whether the sequence of content and experiences should be based on the logic of the subject matter or the way individuals process knowledge. Those arguing for sequence based on psychological principles draw on research on human growth, development, and learning. Piaget's research has provided a framework for sequencing content and experiences (or activities) and for relating expectations to students' cognitive levels.²⁶ Most school districts consider students' stages of thinking in formulating curriculum objectives, content, and experiences by grade levels. The curriculum is thus sequenced according to Piaget's theory of cognitive development.

Curriculum designers are also influenced by current research on brain development. We are learning that experiences within the educational environment greatly affect the individual's brain. Curricular experiences should maximize brain development. An infant's brain has more synaptic connections, links between neurons, than an adult's brain. From ages 2 to 12, these connections strengthen but decrease in number. Only the hardiest dendrites (the parts of the nerve cell that accept messages) become part of the adult brain.²⁷ It is, therefore, essential that educators give careful thought to the contents and experiences that are sequenced in the educational program.

Curricularists faced with sequencing content have drawn on some fairly well accepted learning principles. In 1957, B. Othanel Smith, William Stanley, and Harlan Shores introduced four such principles: simple-to-complex learning, prerequisite learning, whole-to-part learning, and chronological learning.

1. *Simple-to-complex learning* indicates that content is optimally organized in a sequence proceeding from simple subordinate components to complex components

highlighting interrelationships among components. Optimal learning results when individuals are presented with easy (often concrete) content and then with more difficult (often abstract) content.

2. *Prerequisite learning* is similar to part-to-whole learning. It works on the assumption that bits of information must be grasped before other bits can be comprehended.

3. *Whole-to-part learning* receives support from cognitive psychologists. They have urged that the curriculum be arranged so that the content or experience is first presented in an overview that provides students with a general idea of the information or situation.

4. *Chronological learning* refers to content whose sequence reflects the times of real-world occurrences.²⁸ History, political science, and world events frequently are organized chronologically.

In 1976, Gerald Posner and Kenneth Strike furnished the field of curriculum with four other types of sequencing: concept-related, inquiry-related, learning-related, and utilization-related.²⁹ The *concept-related* method draws heavily on the structure of knowledge. It focuses on concepts' interrelationships rather than on knowledge of the concrete. In the *inquiry-related* sequence, topics are sequenced to reflect the steps of scholarly investigation.

Instructional designers have incorporated the inquiry-related sequence into what they call case-based reasoning, which was developed to maximize computers' capabilities.³⁰ The computer would apply previous learning to new situations. Similarly, people advance their knowledge by processing and organizing new experiences for later use. According to the inquiry-related model, if people fail to use acquired information, they must recognize a failure in reasoning or a deficiency in knowledge. In essence, this is how scholars advance inquiries. In the *learner-related* sequence, individuals learn through experiencing content and activities. *Utilization-related* learning focuses on how people who use knowledge or engage in a particular activity in the world actually proceed through the activity.

Continuity

Continuity is vertical repetition of curriculum components. For example, if reading skills are an important objective, then, in Tyler's words, "it is necessary to see that there is recurring and continuing opportunity for these skills to be practiced and developed. This means that over time the same kinds of skills will be brought into continuing operation."³¹

Ideas and skills that educators feel students should develop over time reappear over the length of the curriculum. This continuity ensures that students will revisit crucial concepts and skills.³² For instance, becoming a skilled reader requires numerous encounters over time with various types of reading materials. Similarly, one does not learn how to conduct experiments unless one engages in such activities at various points in the curriculum; each subsequent experiment provides the opportunity to become more sophisticated in the processes. One learns to think deeply by having myriad experiences in which thinking and questioning are enriched.

Continuity is most evident in Jerome Bruner's notion of the "spiral curriculum." Bruner noted that the curriculum should be organized according to the interrelationships among the basic ideas and structures of each major discipline. For students to grasp these ideas and structures, "they should be developed and redeveloped in a spiral fashion," in increasing depth and breadth as pupils advance through the school program.³³

Integration

Integration refers to linking all types of knowledge and experiences contained within the curriculum plan. Essentially it links all of the curriculum's pieces so that students comprehend knowledge as unified rather than atomized.³⁴ Integration emphasizes horizontal relationships among topics and themes from all knowledge domains.

Curriculum theorists and practitioners tend to disproportionately emphasize integration, advocating an interdisciplinary curriculum, essentially a curriculum that would not be characterized as standard curriculum content. In some ways curriculum integration is not simply a design dimension, but also a way of thinking about schools' purposes, curriculum's sources, and the nature and uses of knowledge.³⁵

Advocates of curriculum integration do not advocate a multidisciplinary curriculum. In their view, such a curriculum still artificially compartmentalizes knowledge.³⁶ These advocates argue that the curriculum should be organized around world themes derived from real-life concerns; lines between the subject content of different disciplines should be erased.

Certainly, some integration is necessary. In the 1960s, Hilda Taba pointed out that the curriculum was disjointed, fragmented, segmented, and detached from reality. She noted that a curriculum that presents information only in bits and pieces prevents students from seeing knowledge as unified.³⁷

Postmodernism, constructionism, and poststructuralism will nurture continued discussion of curriculum integration. These movements advance the idea that knowledge cannot be separated from its reality; people cannot disconnect themselves from their inquiries, and the curriculum cannot exist as separate bits.

Articulation

Articulation refers to the vertical and horizontal interrelatedness of various aspects of the curriculum, to the ways in which curriculum components occurring later in a program's sequence relate to those occurring earlier. For instance, a teacher might design an algebra course so that it relates algebra concepts to key concepts presented in a geometry course. Vertical articulation usually refers to the sequencing of content from one grade level to another. Such articulation ensures that students receive necessary preparation for coursework. Horizontal articulation (sometimes called correlation) refers to the association among simultaneous elements, as when curriculum designers develop relationships between eighth-grade social studies and eighth-grade English.

When they engage in horizontal articulation, curriculum makers seek to blend contents in one part of the educational program with contents similar in logic or subject matter. For example, curricularists might link mathematical and scientific

thinking. Much of the current emphasis on integrating the curriculum is an effort at horizontal articulation.

Articulation is difficult to achieve, and few school districts have developed procedures by which the interrelationships among subjects are clearly defined.

Also, within school districts it is sometimes difficult to achieve articulation from one school to another. Similarly, there is a need for greater articulation among school districts. Often, students new to a school district are retaught material they learned in their former school at a lower grade level, or they miss a particular concept or topic because it was addressed in a lower grade at their new school.

Balance

When designing a curriculum, educators strive to give appropriate weight to each aspect of the design. In a balanced curriculum, students can acquire and use knowledge in ways that advance their personal, social, and intellectual goals.

Doll points out that achieving balance is difficult because we are striving to localize and individualize the curriculum while trying to maintain a common content.³⁸ Keeping the curriculum balanced requires continuous fine-tuning as well as balance in one's philosophy and psychology of learning. See Curriculum Tips 6.2.

Representative Curriculum Designs

Curriculum components can be organized in numerous ways. However, despite all the discussion about postmodern views of knowledge and creating curricula for social awareness and emancipation, most curriculum designs are modifications and/or

CURRICULUM TIPS 6.2

Guidelines for Curriculum Design

The following statements identify some steps that can be taken in designing a curriculum. These statements, drawn from observations of school practice, are applicable to whatever design is selected.

1. Create a curriculum design committee comprising teachers, parents, community members, administrators, and, if appropriate, students.
2. Create a schedule for meetings to make curriculum-design decisions.
3. Gather data about educational issues and suggested solutions.
4. Process data on available curriculum designs, and compare designs with regard to advantages and disadvantages such as cost, scheduling, class size, student population characteristics, students' academic strengths, adequacy of learning environments, and match with existing curricula. Also assess whether the community is likely to accept the design.
5. Schedule time for reflection on the design.
6. Schedule time for revision of the design.
7. Explain the design to educational colleagues, community members, and, if appropriate, students.

interpretations of three basic designs: (1) subject-centered designs, (2) learner-centered designs, and (3) problem-centered designs. Each category comprises several examples. Subject-centered designs include subject designs, discipline designs, broad field designs, correlation designs, and process designs. Learner-centered designs are those identified as child-centered designs, experience-centered designs, romantic/radical designs, and humanistic designs. Problem-centered designs consider life situations, core designs, or social problem/reconstructionist designs.

Subject-Centered Designs

By far, subject-centered designs are the most popular and widely used. Knowledge and content are well accepted as integral parts of the curriculum. Schools have a strong history of academic rationalism; also, the materials available for school use reflect content organization.

Among designs, subject-centered designs have the most classifications. Concepts central to a culture are more highly elaborated than peripheral ones. In our culture, content is central to schooling; we thus have many concepts to interpret our diverse organizations.

Subject Design. The subject design is both the oldest and best known school design to both teachers and laypeople. Teachers and laypersons usually are educated and/or trained in schools employing it. The subject design corresponds to textbook treatment and teachers' training as subject specialists. It also is emphasized because of the continued stress on school standards and accountability.

An early spokesperson for the subject curriculum was Henry Morrison, who was New Hampshire's superintendent of public instruction before he joined the University of Chicago. Morrison argued that the subject matter curriculum contributed most to literacy, which should be the focus of the elementary curriculum. He also believed that such a design allowed secondary students to develop interests and competencies in particular subject areas. However, he believed that a variety of courses should be offered to meet students' diverse needs.³⁹

William Harris, superintendent of the St. Louis schools in the 1870s, also fostered subject-based curriculum design. Under his guidance, St. Louis schools established a subject-oriented curriculum. One educator notes that most Americans would recognize this curriculum design (which he classifies as the conservative liberal arts design) as the type they experienced in school. In the mid-1930s, Robert Hutchins indicated which subjects such a curriculum design would comprise: (1) language and its uses (reading, writing, grammar, literature), (2) mathematics, (3) sciences, (4) history, and (5) foreign languages.⁴⁰

In the subject matter design, the curriculum is organized according to how essential knowledge has developed in various subject areas. With the explosion of knowledge and the resulting specializations in various knowledge fields, subject divisions have increased in number and sophistication. For instance, history is now divided into cultural, economic, and geographic history. English can be divided into literature, writing, speech, reading, linguistics, and grammar.

Such subject design rests on the assumption that subjects are best outlined in textbooks. The teacher usually assumes the active role in lecturing, direct instruction, recitation, and large group discussion. Usually, discussion proceeds from simple to complex ideas. Logic is emphasized.

Advocates of this design defend the emphasis on verbal activities, arguing that knowledge and ideas are best communicated and stored in verbal form. They also note that the subject design introduces students to essential knowledge of society. Also, this design is easy to deliver because complementary textbooks and support materials are commercially available.

Critics, however, contend that the subject design prevents program individualization and deemphasizes the learner. Some argue that this design disempowers students by not allowing them to choose the content most meaningful to them.⁴¹ Curricular content is presented without consideration of context. Other critics contend that stressing subject matter fails to foster social, psychological, and physical development and to some extent promotes a scholarly elite. Another drawback of the subject design is that learning tends to be compartmentalized and mnemonic skills tend to be stressed. The subject design stresses content and neglects students' needs, interests, and experiences. Also, in delivering such a curriculum, teachers tend to foster student passivity.

Dewey was concerned about divorcing knowledge from the learner's experiences and essentially transmitting secondhand knowledge and others' ideas.⁴² For Dewey, the curriculum should emphasize both subject matter and the learner.

Discipline Design. The discipline design, which appeared after World War II, evolved from the separate-subject design. This new design gained popularity during the 1950s and reached its zenith during the mid-1960s. As is the case of the separate-subject design, the basis of the discipline design is with contents' inherent organization. However, whereas the subject design does not make clear the foundational basis on which it is organized or established, the discipline design's orientation does specify its focus on the academic disciplines.

Arthur King and John Brownell, proponents of the discipline design, indicate that a discipline is specific knowledge that has the following essential characteristics: a community of persons, an expression of human imagination, a domain, a tradition, a mode of inquiry, a conceptual structure, a specialized language, a heritage of literature, a network of communications, a valuative and affective stance, and an instructive community.⁴³

This stress on disciplined knowledge emphasizes science, mathematics, English, history, and certain other disciplines. Advocates view the school as a microcosm of the world of intellect, reflected by such disciplines. The methods by which scholars study the content of their fields suggest the ways in which students will learn that content. In other words, students would approach history as a historian would, and students would investigate biological topics by following procedures used by biologists.

Proponents of the discipline design stress understanding the conceptual structures and processes of the disciplines. This is perhaps the essential difference between the discipline design and the subject-matter design. With the discipline

design, students experience the disciplines so that they can comprehend and conceptualize; with the subject-matter design, students are considered to have learned if they simply acquire information. Sometimes it is difficult to determine whether a classroom has a subject-matter or discipline design. The key distinguishing characteristic seems to be whether students actually use some of the discipline's methods to process information.

Bruner notes, "Getting to know something is an adventure in how to account for a great many things that you encounter in as simple and elegant a way as possible."⁴⁴ This "getting to know" relies on students' engaging with a discipline's content and methods. So engaged, students analyze the components of the disciplined content and draw conclusions (albeit, incomplete ones).

The discipline design encourages students to see each discipline's basic logic or structure—the key relationships, concepts, and principles—what Joseph Schwab called the "substantive structure"⁴⁵ and Philip Phenix called the "realms of meaning."⁴⁶ Considering structure or meaning allows a "deep" understanding of the content and a knowledge of how it can be applied. Harry Broudy called such knowledge (e.g. problem-solving procedures) "applicative knowledge."⁴⁷

Students who become fluent in a discipline's modes of inquiry master the content area and are able to independently continue their learning in the field. Such students do not need the teacher to continually present information. Supporters of this design wish students to function as "little" scholars in the school curriculum's respective fields. When learning mathematics, students would be neophyte mathematicians. When studying history, they would employ the methods of historiography.

The emphasis on disciplines and structure led to Bruner's classic book *Process of Education*. The very title suggests that learning should emphasize process or procedural knowledge. Bruner states that a subject's curriculum "should be determined by . . . the underlying principles that give structure to that subject."⁴⁸ Organizing the curriculum according to the discipline's structure will elucidate relationships, indicate how elementary knowledge is related to advanced knowledge, allow individuals to reconstruct meaning within the content area, and furnish the means for advancing through the content area.

Bruner believed that "any subject can be taught in some effectively honest form to any child at any stage of development."⁴⁹ He argued that students can comprehend any subject's fundamental principles at almost any age. Bruner's view has been criticized as romantic. Developmentalists have disagreed with his thesis that "intellectual activity anywhere is the same."⁵⁰ They point out that the thinking processes of young children differ in kind and degree from those of adolescents and adults. Young boys and girls also differ in how they process information.

Many individuals both within and outside the educational community believe that the discipline design is appropriate for all students, college bound or not. The discipline design gives students opportunities to learn knowledge essential for effective living. An academic course of study meets all students' needs. Our society requires literate individuals with the skills necessary to function in an information age. The curriculum should educate students, not train them for a job (as vocational education does). In a crowded curriculum there is neither time nor room for courses in the various trades or even for environmental studies.⁵¹

Many have criticized the discipline design for assuming that students must adapt to the curriculum rather than the other way around. Some also argue that the view that curriculum knowledge should mirror disciplined knowledge sustains the biases and assumptions of those who wish to maintain the status quo.⁵² The discipline design also is criticized for its underlying assumption that all students have a common or a similar learning style.

Perhaps this design's greatest shortcoming is that it causes schools to ignore the vast amount of information that cannot be classified as disciplined knowledge. Such knowledge—dealing with aesthetics, humanism, personal–social living, and vocational education—is difficult to categorize as a discipline.

Broad-Fields Design. The broad-fields design (often called the *interdisciplinary design*) is another variation of the subject-centered design. It appeared as an effort to correct what many educators considered the fragmentation and compartmentalization caused by the subject design. Broad-fields designers strove to give students a sweeping understanding of all content areas.⁵³ They attempted to integrate content that fit together logically. Geography, economics, political science, anthropology, sociology, and history were fused into social studies. Linguistics, grammar, literature, composition, and spelling were collapsed into language arts. Biology, chemistry, and physics were integrated into general science.

The idea for the broad-fields design was both bold and simple. Essentially, educators could simply meld two or more related subjects, already well known in the schools, into a single broader field of study. However, this design was a change from traditional subject patterns. Although it first appeared at the college level in the 1910s, it became most popular at the elementary and secondary levels. This continues to be the case. Today the broad-fields design is seen at the college level only in introductory courses, but it is widespread within the K–12 curriculum.

Broudy and colleagues offered a unique broad-fields design during the Sputnik era. They suggested that the entire curriculum be organized into these categories: (1) symbolics of information (English, foreign languages, and mathematics), (2) basic sciences (general science, biology, physics, and chemistry), (3) developmental studies (evolution of the cosmos, of social institutions, and of human culture), (4) exemplars (modes of aesthetic experience, including art, music, drama, and literature), and (5) “molar problems” that would address typical social problems.⁵⁴ This last category would entail an annual variety of courses depending on current social problems.

The broad-fields design still brings together well-accepted content fields. Some curricularists would prefer that broad fields consist of related conceptual clusters rather than subjects or disciplines combined in interdisciplinary organization. These clusters can be connected by themes. Some educators are calling for the organization of curriculum as integrated thematic units. Others are using the term *holistic curriculum*.⁵⁵

The broad-fields design can be interpreted as saying that the separate subject is dead. Rather, we should have a design that draws on emergent clusters of problems and questions, which will engage students in constructing and reconstructing information.⁵⁶

Much broad-fields design focuses on curriculum webs, connections among related themes or concepts. Many years ago, Taba discussed the concept of webs when urging teachers to create cognitive maps in constructing curriculum.⁵⁷

The broad-fields design may be the most active in the future, allowing for hybrid forms of content and knowledge in the curriculum and for student participation in constructing knowledge.

Like other designs, this design has its problems. One is breadth at the expense of depth. A year of social studies teaches students a greater range of social science concepts than a year of history. But is the resulting knowledge of social sciences superficial? Certainly, a year of history builds more historical knowledge than a year of social studies. Is it necessary to have great depth at the elementary level? Is it not the purpose of the curriculum to acquaint students with the complete field of social science?

The issue of depth is even more central when one expands the broad-fields design to an integrated curriculum design. Just how much depth will students get following or constructing webs of related concepts? How much depth can one attain in science by following the theme of dinosaurs or machines? In whole language, will students attain a sufficiently deep appreciation of reading, writing, and listening? The philosophies of schools and educators will influence their responses.

Correlation Design. Correlation designers do not wish to create a broad-fields design but realize there are times when separate subjects require linkage to avoid fragmentation of curricular content. Midway between separate subjects and total content integration, the correlation design attempts to identify ways in which subjects can be related yet maintain their separate identities.

Perhaps the most frequently correlated subjects are English literature and history at the secondary level and language arts and social studies at the elementary level. While studying a historical period, students read novels related to the same period in their English class. Science and mathematics courses are also frequently correlated. Students in a chemistry course may have a unit in math that deals with the mathematics required to conduct an experiment. However, the content areas remain distinct, and the teachers of these courses retain their subject-matter specialties.

In the 1950s and 1960s, many found the notion of correlation design attractive. Harold and Elsie Alberty discussed correlated curriculum at the secondary level. They presented a correlation design with an “over-arching theme.” This thematic organizer retained subjects’ basic content, but it was selected and organized with reference to broad themes, problems, or units.⁵⁸ It required that classes be scheduled within a block of time. Teachers of the various content areas to be correlated could then work together and have students work on assignments drawing from the correlated content areas. Subjects can be combined in innovative ways. For example, it is possible to relate literature and art that depict similar content. Science can be taught through literature. Courses in computer science might be correlated with courses in art, music, or economics.

Currently, few teachers use correlation design, possibly because it requires that they plan their lessons cooperatively. This is somewhat difficult to accomplish

because teachers have self-contained classes at the elementary level and often do not have time for such collaboration. At the secondary level, teachers are organized into separate departments that tend to encourage isolation. Teachers must also meet time schedules dictated by specific classes and so may have little time to work with other teachers on team teaching. Also, most class schedules do not allow a block of time sufficient for students to meaningfully study correlated subjects. Modular scheduling and flexible scheduling, which would allow for this, have not been widely accepted.

Process Designs. As previously discussed, attention is often given to the procedures and processes by which individuals obtain knowledge. Students studying biology learn methods for dealing with biological knowledge, students in history classes learn the ways of historiography, and students investigating anthropology learn ethnographic procedures appropriate for studying culture and society.

Although advocates of the disciplines design urge students to learn process, other educators are suggesting curricular designs that stress the learning of general procedures applicable to all disciplines. Curricula for teaching critical thinking exemplify this procedural design.

Educators always have suggested that students be taught to think. Curricular designs need to address how learners learn and the application of process to subject matter. "The good thinker, possessing attributes enabling him or her to create and use meaning . . . possesses a spirit of inquiry, a desire to pose questions central to the world. The good thinker ponders the world, actual and desired, querying things valued and desired."⁵⁹ Process designs focus on the student as meaning maker.

Process designs emphasize those procedures that enable students to analyze reality and create frameworks by which to arrange derived knowledge. Often the organizational frameworks differ from the way the world appears to the casual observer.⁶⁰ There is much dialogue about involving students in their learning and empowering them to be the central players in the classroom. However, there is much debate regarding the nature of the process to be stressed. Some postmodernists criticize process designs that privilege the scientific method and imply the existence of a fully objective reality. Students must realize that methods of inquiry result in a world that, to some extent, they construct.⁶¹

In process designs that reflect a modern orientation, students learn the process of knowledge acquisition in order to reach some degree of consensus. However, people such as Jean Francois Lyotard argue that we engage in process not to reach consensus but to search for instabilities. Postmodern process design stresses statements and ideas that are open to challenge; designs are organized so that students can continually revise their understandings.⁶²

Bruner and others call this continual revision *hermeneutic composition*. The challenge of a process curriculum is to analyze the validity of one's conclusions, determine the "rightness" of one's interpretation of a text or content realm by reference not to observed reality but to other interpretations by scholars.⁶³ The authors of this text believe that one could engage in hermeneutic analysis and determine the rightness of conclusions based on the observation of actual phenomena.

A postmodern process-design curriculum has students do more than simply analyze their conclusions. It encourages them to unravel the processes by which they investigate and reach conclusions. Students are to study their information-processing methods in order to gain insights into how knowledge is generated.⁶⁴ Postmodern process design emphasizes the role of language in constructing as well as representing reality. Process designs may be the most dynamic in the future. It is quite likely that they will increasingly meld with designs identified as learner centered.

Learner-Centered Designs

All curricularists wish to create curricula valuable to students. In response to educational planners who valued subject matter, educators in the early 1900s asserted that students are the program's focus. Progressives advocated what have come to be called learner-centered designs. These designs are found more frequently at the elementary than the secondary school level. In elementary schools teachers tend to stress the whole child. At the secondary level the emphasis is more on subject-centered designs, largely because of the influence of textbooks and the colleges and universities at which the discipline is a major organizer for the curriculum.

Child-Centered Design. Advocates of child or student-centered design believe that students must be active in their learning environments and that learning should not be separated from students' lives as is often the case with subject-centered designs. Instead, the design should be based on students' lives, needs, and interests.

According to Arthur Ellis, attending to students' needs and interests requires careful observation of students and faith that they can articulate those needs and interests. Also, young students' interests must have educational value.⁶⁵

People with this view consider knowledge as an outgrowth of personal experience. People use knowledge to advance their goals and construct it from their interactions with their world. Learners actively construct their own understandings. Learning is not the passive reception of information from an authority. Students must have classroom opportunities to explore firsthand physical, social, emotional, and logical knowledge.⁶⁶ This view has a long history. John Locke noted that individuals construct bodies of knowledge from a foundation of simple ideas derived from their experiences. Immanuel Kant postulated that aspects of our knowledge result from our cognitive actions; we construct our universe to have certain properties.⁶⁷ The shift in emphasis from subject matter to children's needs and interests was part of Rousseau's educational philosophy as expressed in his 1762 book, *Emile*. Rousseau believed that children should be taught within the context of their natural environment, not in an artificial one like a classroom.⁶⁸ Teaching must suit a child's developmental level.

Proponents of child-centered design draw on the thinking of some other pedagogical giants. Heinrich Pestalozzi and Friedrich Froebel argued that children would attain self-realization through social participation; they voiced the principle of learning by doing. Their social approach to education furnished a foundation for much of Francis Parker's work.

Child-centered design, often attributed to Dewey, was actually conceived by Parker, who laid its foundations. Parker had studied pedagogy in Germany, and he knew the work of Pestalozzi and Froebel. Like Rousseau, Parker believed that effective education did not require strict discipline. Rather, the instructional approach should be somewhat free, drawing on the child's innate tendency to become engaged in interesting things. Teachers who involved children in conversations would find that they could effectively participate in their own learning. Parker put his views of teaching into practice in developing science and geography curricula. He urged geography teachers to have children experience the content as a geographer out in the field would, by making observations, recording them in sketchbooks, and analyzing them. Parker was superintendent of schools in Quincy, Massachusetts, and his approach to curriculum was called the Quincy system.⁶⁹

Dewey's early thinking entailed similar notions. In 1896, he put some of his ideas into action in his laboratory school at the University of Chicago. The curriculum was organized around human impulses: the impulses to socialize, construct, inquire, question, experiment, and express or create artistically.⁷⁰

The emphasis on the child displaced the emphasis on subject matter. Also, when subject matter was presented, it no longer was separated into narrow divisions but was integrated around units of experience or social problems. The idea that solving a problem required methods and materials from several subject fields was inherent in the child-centered, experience-centered curriculum. This new emphasis on the learner also led to "life needs," "life-adjustment education," "persistent life situations," "common learnings," and "core"⁷¹ methods of organizing bodies of knowledge and subject matter. The idea was to integrate subject matter from various fields to understand and solve social problems, and to meet students' developmental needs.

Child-centered curriculum design flourished in the 1920s and 1930s, primarily through the work of the progressives such as Ellsworth Collings (who introduced the child-centered curriculum into the public schools of McDonald County, Missouri) and William Kilpatrick (who created the "project method," which engaged children in their learning at the Lincoln School in New York City).⁷² Although the "Project Method" was written up and extensively discussed in the literature, it gained only limited acceptance.

Today some schools employ child-centered designs. However, as John Goodlad and Zhixin Su point out, such designs are often found to contradict a view of curriculum as primarily content-driven.⁷³ There are attempts by some curricularists to have more educators accept child-centered design by way of negotiated curriculum, which involves student-teacher negotiations regarding what content will address what interests. Teachers and students participate in planning the unit, its purposes, the content focuses, the activities, and even the materials to be used.⁷⁴

Having students negotiate the curriculum empowers them. It gives them opportunities to construct their own curricula and learning.⁷⁵

Experience-Centered Design. Experience-centered curriculum designs closely resemble child-centered designs in that children's concerns are the basis for organizing children's school world. However, they differ from child-centered designs in

that children's needs and interests cannot be anticipated; therefore, a curriculum framework cannot be planned for all children.

The notion that a curriculum cannot be preplanned, that everything must be done "on the spot" as a teacher reacts to each child, makes experienced-center design almost impossible to implement. It also ignores the vast amount of information available about children's growth and development—cognitive, affective, emotional, and social.

Those favoring a child or experience-centered curriculum heavily emphasize the learners' interests, creativity, and self-direction. The teacher's task is to create a stimulating learning environment in which students can explore, come into direct contact with knowledge, and observe others' learning and actions. Learning is a social activity. Students essentially design their own learning; they construct and revise their knowledge through direct participation and active observation.⁷⁶

At the beginning of the 1900s, Dewey noted that children's spontaneous power, their demand for self-expression, cannot be suppressed. For Dewey, interest was purposeful. In *Experience and Education*, he noted that education should commence with the experience learners already possessed when they entered school. Experience was essentially the starting point for all further learning.⁷⁷ Dewey further noted that children exist in a personal world of experiences. Their interests are personal concerns, rather than bodies of knowledge and their attendant facts, concepts, generalizations, and theories.

Even so, Dewey never advocated making children's interests the curriculum or placing children in the role of curriculum makers. He commented, "The easy thing is to seize upon something in the nature of the child, or upon something in the developed consciousness of the adult, and insist upon that as the key to the whole problem."⁷⁸

Dewey wanted educators to analyze children's experiences and see how these experiences shaped children's knowledge. One searched for starting points, places where the child's natural interests could be linked to formalized knowledge. Dewey wanted educators to think of the child's experience as fluid and dynamic. Thus, the curriculum would continually change to address students' needs.⁷⁹

Dewey contended that the subjects studied in the curriculum are formalized learnings derived from children's experiences. The content is systematically organized as a result of careful reflection.

Those who subscribe to experience-centered curriculum design have faith in each student's uniqueness and ability. They believe that an open, free school environment will stimulate all students to excel. Students in optimal school environments are self-motivated; the educator's role is to provide opportunities, not to mandate certain actions. Thomas Armstrong speaks of creating a genial classroom environment, one that exudes a festive atmosphere and capitalizes on students' natural disposition to learn. Such an environment celebrates students' freedom to choose. It does not demand that they think and study in particular ways in order to succeed. This does not mean that students are left to drift in their academic efforts. The teacher who has designed an experience-centered curriculum has designed potential experiences for students to consider. Students are empowered to shape their own learning within the context furnished by the teacher.⁸⁰

Romantic (Radical) Design. More recently, reformers who advocate radical school modification have stressed learner-centered design. These individuals essentially adhere to Rousseau's posture on the value of attending to the nature of individuals and Pestalozzi's thinking that individuals can find their true selves by looking to their own nature. Although their thinking appears progressive, they draw primarily on the views of more recent philosophers: Jurgen Habermas, a German philosopher, and Paulo Freire, a radical Brazilian educator.

Generally, the radicals consider current society corrupt, repressive, and unable to cure itself. In their view, schools have used their curricula to control students and indoctrinate rather than educate and emancipate them. Curricula are organized to foster in students a belief in and desire for a common culture that does not actually exist⁸¹ and to promote intolerance of difference.

Freire's *Pedagogy of the Oppressed* influenced the thinking of some present-day radicals. Freire believed that education should enlighten the masses about their oppression, prompt them to feel dissatisfied with their condition, and give them the competencies necessary for correcting the identified inequities.⁸²

Many radicals draw on the theory of Jurgen Habermas, who emphasizes that education's goal is emancipation of the awarenesses, competencies, and attitudes that people need to take control of their lives. In this view, educated people do not follow social conventions without reflection. In writing about Habermas and his critical theory of education, Robert Young notes that the theme of emancipation dates back to Roman times and was also expressed by many Enlightenment philosophers. Students must accept responsibility for educating themselves and demand freedom.⁸³

Radical curricularists believe that individuals must learn ways of engaging in a critique of knowledge. Learning is reflective; it is not externally imposed by someone in power. Knowledge does not reside in a unit plan or course syllabus.

Perhaps the biggest difference between mainstream educators and radicals is that radicals view society as deeply flawed and believe that education indoctrinates students to serve controlling groups. For example, schools neglect to incorporate into the curriculum issues and problems related to race and gender relations, the environment (both social and natural), crime and violence, and economic imperialism.⁸⁴ Many radicals view the Western intellectual tradition, and its standard curricula, as imperialistic and oppressive (e.g., with regard to women). Curricula with a radical design address social and economic inequality and injustice and foster respect for diversity.⁸⁵ They are overtly political.

Humanistic Design. Humanistic designs gained prominence in the 1960s and '70s, partly in response to the excessive emphasis on the disciplines during the 1950s and early '60s. Humanistic education appeared in the 1920s and '30s as part of progressive philosophy and the whole-child movement in psychology. After World War II, humanistic designs connected to existentialism in educational philosophy.

Humanistic psychology developed in the 1950s in opposition to the then-dominant psychological school of behaviorism. This new psychological orientation emphasized that human action was much more than a response to a stimulus, that meaning was more important than methods, that the focus of attention

should be on the subjective rather than objective nature of human existence, and that there is a relationship between learning and feeling.

Within this context, the Association for Supervision and Curriculum Development (ASCD) published its 1962 yearbook, *Perceiving, Behaving, Becoming*.⁸⁶ This book represented a new focus for education, an approach to curricular design and instructional delivery that would allow individuals to become fully functioning persons. Arthur Combs, the yearbook's chairperson, posed some key questions: What kind of person achieves self-realization? What goes into making such a person?⁸⁷ The emphasis was on empowering individuals by actively involving them in their own growth.

The ASCD's 1977 yearbook, *Feeling, Valuing, and the Art of Growing*, also stressed the affective dimensions of humanistic educational designs and emphasized human potential. It suggested that educators must permit students to feel, value, and grow.⁸⁸

Abraham Maslow's concept of self-actualization heavily influenced humanistic design. Maslow listed the characteristics of a self-actualized person: (1) accepting of self, others, and nature; (2) spontaneous, simple, and natural; (3) problem-oriented; (4) open to experiences beyond the ordinary; (5) empathetic and sympathetic toward the less fortunate; (6) sophisticated in interpersonal relations; (7) favoring democratic decision making; and (8) possessing a philosophical sense of humor.⁸⁹ Maslow emphasized that people do not self-actualize until they are 40 or older, but the process begins when they are students. Some educators miss this point and think that their humanistic designs will have students attain self-actualization as an end product.

Carl Rogers's work has been another major humanistic force. Rogers advocates self-directed learning, in which students draw on their own resources to improve self-understanding and guide their own behavior. Educators should provide an environment that encourages genuineness, empathy, and respect for self and others.⁹⁰ Students in such an environment will naturally develop into what Rogers called fully functioning people. Individuals able to initiate action and take responsibility are capable of intelligent choice and self-direction. Rogers stressed knowledge relevant to problem solving. Classroom questions foster learning and deep thinking. The quest is collaborative and the inquiries multidisciplinary. There is no need to "stay within discipline lines." Mistakes are accepted as part of the learning process. Conclusions are regarded as temporary. Students approach problems with flexibility and intelligence; they work cooperatively but do not need others' approval.⁹¹

In the 1970s, humanistic education absorbed the notion of *confluence*. Confluence education blends the affective domain (feelings, attitudes, values) with the cognitive domain (intellectual knowledge and problem-solving abilities). It adds the affective component to the conventional subject-matter curriculum.⁹²

Confluent education stresses participation; it emphasizes power sharing, negotiation, and joint responsibility. It also stresses the whole person and the integration of thinking, feeling, and acting. It centers on subject matter's relevance to students' needs and lives.

Humanistic educators realize that the cognitive, affective, and psychomotor domains are interconnected and that a curricula should address these dimensions. Some humanistic educators would add the social and spiritual domains as well.⁹³

Some humanistic designs stress intuition, creative thinking, and a holistic perception of reality. They produce curricula that prioritize the uniqueness of the human personality but also transcendence of individuality. As Phenix notes, such a curriculum presents reality as a "single interconnected whole, such that a complete description of any entity would require the comprehension of every other entity."⁹⁴

James Moffett suggests that a curriculum that emphasizes spirituality enables students to enter "on a personal spiritual path unique to each that nevertheless entails joining increasingly expansive memberships of humanity and nature."⁹⁵ He cautions that society must foster morality and spirituality, not just knowledge and power. Transcendent education is hope, creativity, awareness, doubt and faith, wonder, awe, and reverence.⁹⁶ See Curriculum Tips 6.3.

For humanists, education should address pleasure and desire such as aesthetic pleasure. Emphasizing natural and human-created beauty, humanistic curriculum designs allow students to experience learning with emotion, imagination, and wonder. Curricular content should elicit emotion as well as thought. It should

CURRICULUM TIPS 6.3

The Curriculum Matrix

In designing a curriculum, keep in mind the various levels at which we can consider the curriculum's content components. The following list of curriculum dimensions should assist in considering content in depth.

1. Consider the content's intellectual dimension. This is perhaps curriculum's most commonly thought of dimension. The content selected should stimulate students' intellectual development.
2. Consider the content's emotional dimension. We know much less about this dimension, but we are obtaining a better understanding of it as the affective domain of knowledge.
3. Consider the content's social dimension. The content selected should contribute to students' social development and stress human relations.
4. Consider the content's physical dimension, commonly referred to as the *psychomotor domain of knowledge*. Content should be selected to develop physical skills and allow students to become more physically self-aware.
5. Consider the content's aesthetic dimension. People have an aesthetic dimension, yet we currently have little knowledge of aesthetics' place in education.
6. Consider the content's transcendent or spiritual dimension, which most public schools almost totally exclude from consideration. We tend to confuse this dimension with formal religion. This content dimension does not directly relate to the rational. However, we need to have content that causes students to reflect on the nature of their humanness and helps them transcend their current levels of knowledge and action.

Source: Adapted from Arthur W. Foshay, "The Curriculum Matrix: Transcendence and Mathematics," *Curriculum* (Autumn 1990), pp. 36–46.

address not only the conceptual structures of knowledge but also its implications. The curriculum design should allow students to formulate a perceived individual and social good, and encourage them to participate in a community.⁹⁷

Although humanistic curricular designs have great potential, they have many of the same weaknesses as learner-centered designs. They require that teachers have great skill and competence in dealing with individuals. For many teachers, they also require almost a complete change of mindset because they value the social, emotional, and spiritual realms above the intellectual realm. Also, available educational materials often are not appropriate.

One criticism of humanistic design is that it fails to adequately consider the consequences for learners. Another criticism is that its emphasis on human uniqueness conflicts with its emphasis on activities that all students experience. Yet another criticism is that humanistic design overemphasizes the individual, ignoring society's needs. Finally, some critics charge that humanistic design does not incorporate insight from behaviorism and cognitive developmental theory.

Problem-Centered Designs

The third major type of curriculum design, problem-centered design, focuses on real-life problems of individuals and society. Problem-centered curriculum designs are intended to reinforce cultural traditions and address unmet needs of the community and society. They are based on social issues.⁹⁸

Problem-centered designs place the individual within a social setting, but they differ from learner-centered designs in that they are planned before the students' arrival (although they can then be adjusted to students' concerns and situations).

With problem-centered design, a curricular organization depends in large part on the nature of the problems to be studied. The content often extends beyond subject boundaries. It must also address students' needs, concerns, and abilities. This dual emphasis on both content and learners' development distinguishes problem-centered design from the other major types of curriculum design.

Some problem-centered designs focus on persistent life situations. Others center on contemporary social problems. Still others address areas of living. Some are even concerned with reconstructing society. The various types of problem-centered design differ in the degrees to which they emphasize social needs as opposed to individual needs.⁹⁹

Life-Situations Design. Life-situations curriculum design can be traced back to the nineteenth century and Herbert Spencer's writings on a curriculum for complete living. Spencer's curriculum emphasized activities that (1) sustain life, (2) enhance life, (3) aid in rearing children, (4) maintain the individual's social and political relations, and (5) enhance leisure, tasks, and feelings.¹⁰⁰ The Commission on the Reorganization of Secondary Education, sponsored by the National Education Association, recommended this design in 1918. The commission outlined a curriculum that would deal with health, command of fundamentals, "worthy home membership," vocation, citizenship, leisure, and ethical character.

Three assumptions are fundamental to life-situations design: (1) dealing with persistent life situations is crucial to a society's successful functioning, and it makes educational sense to organize a curriculum around them; (2) students will see the relevance of content if it is organized around aspects of community life; and (3) having students study social or life situations will directly involve them in improving society.

One strength of life-situations design is its focus on problem-solving procedures. Process and content are effectively integrated into curricular experience. Some critics contend that the students do not learn much subject matter. However, proponents counter that life-situations design draws heavily from traditional content. What makes the design unique is that the content is organized in ways that allow students to clearly view problem areas.

Another strong feature of life-situations design is that it uses learners' past and present experiences to get them to analyze the basic aspects of living. In this respect the design significantly differs from experience-centered design, in which learners' felt needs and interests are the sole basis for content and experience selection. The life-situations design takes students' existing concerns, as well as society's pressing problems, as a starting point.

Life-situations design integrates subject matter, cutting across separate subjects and centering on related categories of social life. It encourages students to learn and apply problem-solving procedures. Linking subject matter to real situations increases the curriculum's relevance.

However, it is challenging to determine the scope and sequence of living's essential aspects. Are major activities of today going to be essential activities in the future?

Some critics believe that life-situations design does not adequately expose students to their cultural heritage; moreover, it tends to indoctrinate youth to accept existing conditions and thus perpetuates the social status quo. However, if students are educated to be critical of their social situations, they will intelligently assess, rather than blindly adhere to, the status quo.

Some critics contend that teachers lack adequate preparation to mount life-situations curriculum. Others argue that textbooks and other teaching materials inhibit the implementation of such a curriculum. Further, many teachers are uncomfortable with life-situations design because it departs too much from their training. Finally, life-situations organization departs from the traditional curriculum promoted by secondary schools, colleges, and universities.

Reconstructionist Design. Educators who favor reconstructionist design feel that the curriculum should foster social action aimed at reconstructing society; it should promote society's social, political, and economic development. These educators want curricula to advance social justice.

Aspects of reconstructionism first appeared in the 1920s and '30s. George Counts believed that society must be totally reorganized to promote the common good. The times demanded a new social order, and schools should play a major role in such redesign. Counts presented some of his thinking in a speech entitled "Dare

Progressive Education Be Progressive?"¹⁰¹ He challenged the Progressive Education Association to broaden its thinking beyond the current social structure and accused its members of advocating only curricula that perpetuated middle-class dominance and privilege. Counts expanded on his call for a reconstructed society in *Dare the Schools Build a New Social Order?* He argued that curricula should involve students in creating a more equitable society.¹⁰²

Harold Rugg also believed that schools should engage children in critical analysis of society in order to improve it. Rugg criticized child-centered schools, contending that their laissez-faire approach to curriculum development produced a chaos of disjointed curriculum and rarely involved a careful review of a child's educational program.¹⁰³ In the 1940s, he observed that the Progressive Education Association still overemphasized the child. The association's seven stated purposes all referred to the child; not one took "crucial social conditions and problems" into consideration.¹⁰⁴

Theodore Brameld, who advocated reconstructionism well into the 1950s, argued that reconstructionists were committed to facilitating the emergence of a new culture. The times demanded a new social order; existing society displayed decay, poverty, crime, racial conflict, unemployment, political oppression, and the destruction of the environment.¹⁰⁵ Such an argument certainly remains relevant. Brameld believed that schools should help students develop into social beings dedicated to the common good.

The primary purpose of the social reconstructionist curriculum is to engage students in critical analysis of the local, national, and international community in order to address humanity's problems. Attention is given to the political practices of business and government groups and their impact on the workforce. The curriculum encourages industrial and political changes.

Today educators who believe that curricula should address social inequality and injustice tend to call themselves reconceptualists rather than reconstructionists. However, like reconstructionists, they believe that the curriculum should provide students with the learning requisite for altering social, economic, and political realities.

● Conclusion

Curriculum design, especially currently, is a complex activity both conceptually and in its implementation. Designing a curriculum requires a vision of education's meaning and purposes. Curriculum design must be carefully considered so that the curriculum will impart essential concepts, attitudes, and skills.

Educators do not have to start from scratch when considering curriculum design. They can choose from subject-, learner-, and problem-centered designs, each of which has a history and is associated with a particular philosophy. Many schools blend these designs to address the particular needs of students and communities. The future likely will bring entirely reconceptualized curriculum designs. However, they most likely will contain the same basic components of design. Table 6.1 presents an overview of the major designs currently in use.

TABLE 6.1 OVERVIEW OF MAJOR CURRICULUM DESIGNS

DESIGN	CURRICULAR EMPHASIS	UNDERLYING PHILOSOPHY	SOURCE	SPOKESPEOPLE
<i>Subject-Centered</i>				
Subject design	Separate subjects	Essentialism, perennialism	Science, knowledge	Harris, Hutchins
Discipline design	Scholarly disciplines (mathematics, biology, psychology, etc.)	Essentialism, perennialism	Knowledge, science	Bruner, Phenix, Schwab, Taba
Broad-fields design	Interdisciplinary subjects and scholarly disciplines	Essentialism, progressivism	Knowledge, society	Broudy, Dewey
Correlation design	Separate subjects, disciplines linked but their separate identities maintained	Progressivism, essentialism	Knowledge	Alberty and Alberty
Process design	Procedural knowledge of various disciplines; generic ways of information processing, thinking	Progressivism	Psychology, knowledge	Adams, Dewey, Papert
<i>Learner-Centered</i>				
Child-centered design	Child's interests and needs	Progressivism	Child	Dewey, Kilpatrick, Parker
Experience-centered design	Child's experiences and interests	Progressivism	Child	Dewey, Rugg, and Shumaker
Radical design	Child's experiences and interests	Reconstructionism	Child, society	Freire, Habermas, Holt, Illich
Humanistic design	Experiences, interests, needs of person and group	Reconstructionism, existentialism	Psychology, child, society	Combs, Fantini, Maslow, Rogers
<i>Problem-Centered</i>				
Life-situations design	Life (social) problems	Reconstructionism	Society	Spencer
Reconstructionist design	Focus on society and its problems	Reconstructionism	Society, eternal truths	Apple, Brameld, Counts, Rugg