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The Design and Development of  
Secondary Education Curriculum

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## ABSTRACT

There is surprising uniformity in the content and organization of the secondary curriculum worldwide. Despite great historical and cultural diversity among countries, patterns of curriculum organization and content which were developed in Europe, particularly in the United Kingdom and France, have greatly influenced secondary education around the world, with curriculum ideas originating in the United States gaining influence after World War II.

In general, the development of secondary curriculum over time has proceeded from the philosophical and theoretical to the practical and specific, from an emphasis on general mental discipline to an emphasis on practical skills, from private control to government control, and from a single curriculum for all students to diversity within the variety of curricula offered.

The average secondary school operates for five hours a day. For curriculum purposes this time is typically divided as follows: mother tongue 28%, mathematics 18%, natural science 18%, foreign languages 13%, social sciences 13%, and electives and other subjects 10%. The objectives of the secondary curriculum fall roughly into four areas: academic knowledge, employment/occupational skills, personal enhancement, and citizenship/life roles. University entrance requirements often control many aspects of this curriculum.

In theory, curriculum change proceeds from an analysis of societal needs to specification of educational objectives, specification curriculum organization and content based on these objectives, creation of instructional materials based on the results of this testing, and distribution of the materials. However, in practice, curriculum development usually proceeds in a much more random and idiosyncratic manner with important roles being played by individual leaders and special interest groups (both political and educational), significant recent events, fashion, and funding sources.

The official (legal or mandated) curriculum is the curriculum that appears in government documents; the formal curriculum is what teachers plan and then present in classrooms; the hidden (informal or implicit) curriculum is that which is taught without the intention of it being taught; and the learned (received or attained) curriculum is that content which the students actually master. The first of these receives most of the attention of curriculum planners, developers, and analysts; but until these four types of curriculum are brought more closely together and are dealt with by educators, there will be dysfunction in curriculum design, development and assessment.

The relationship among what is taught (curriculum), how it is taught (methodology), and with what it is taught (instructional materials) is much stronger than is often service teacher training and supervision are often weak and where teacher's guide and other teacher support materials are often scarce, what the teacher actually teaches becomes the curriculum, and the teacher often teaches what is in the textbook and little else.

Donor programs for secondary education have not traditionally given major emphasis to curriculum issues. This is because success in curriculum development is not easy to measure, good curriculum development is expensive of time and money, often curriculum does not have the "cachet" of other areas in education, donor aid is generally put in place by specialists in areas of education other than curriculum, and curriculum change often has political and even religious implications from which donor agencies naturally shy away. When curriculum reform is included in donor programs, results may be less than expected due to insufficient time, money, personnel, and technical expertise, and to opposing points of view or lack of true commitment on the part of local educators.

The main body of this document is followed by seventeen recommendations for donor agency activity in secondary curriculum development, recommendations which are divided into the areas of Philosophy, Process, Content, and Personnel Training, and by a brief description of the history and current status of secondary curriculum in Egypt, France, Great Britain, Guatemala, Japan, Kenya, Thailand, the USSR, and the United States.

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## 1. HIGHLIGHTS OF THE HISTORY OF SECONDARY EDUCATION CURRICULUM

The history of secondary education curriculum in Europe and the United States is instructive, since, in many respects, its evolution has guided patterns of curricular development in other parts of the world. Yet, as we shall see later in the Case Studies of secondary education in several nations, the process of curricular design and development has varied widely according to the extensive cultural and geographic diversity that exists worldwide. The purpose of this section is to set the stage for the conceptual and applied discussion throughout this paper by providing a concise overview of the evolution of secondary education curriculum in Europe, the United States, and developing countries, as well as the trends that are now emerging as the 1990s unfold.

### SECONDARY EDUCATION IN EUROPE AND THE UNITED STATES

In Europe, higher education, including secondary education, began with training in religion and philosophy. Its purpose was to prepare leaders, especially religious leaders—and its curriculum reflected this purpose. As time passed, general topics for more applied professions were added as part of secondary and higher education curricula, and the curriculum was broadened accordingly.

As these general topics were gradually added to the curriculum, they remained philosophical or theoretical in orientation. They were not studied as systems of empirical data, and proofs and validation of knowledge were theoretical rather than experimental. The medieval Trivium (grammar, rhetoric, and logic) and Quadrivium (arithmetic, music, geometry, and astronomy) were treated in this way. While the Trivium and Quadrivium are associated with higher education, there was little meaningful distinction between secondary and tertiary curriculum. Many early university students were of what is now considered to be secondary-school age.

The earliest secondary schools were based on Renaissance models, and the role of Latin and Greek was paramount. In 1599, the Jesuits implemented the first clear and complete specification of subjects and content as part of the counter-reformation. This curriculum was called the *Ratio Studiorum* (plan of studies), and it was initially implemented at the University of Salamanca in Spain.

These early European secondary schools were almost exclusively for males, focusing on intellectual training in its narrow sense. Their purpose was to promote logical thinking, refined forms of expression, and improved memory—in short, mental discipline. They paid little attention to the practical application of knowledge in vocational settings. Education sought largely to create an elite group of trained, liberally educated men prepared to assume leadership roles in any sphere.

The Enlightenment of the eighteenth century and the industrial revolution of the late eighteenth and early nineteenth centuries brought a new emphasis on science and technology and on empirical studies in general. Moreover, formal government involvement in secondary education grew, with concomitant involvement in curriculum. Yet education for vocational purposes continued to be imparted primarily through apprenticeship systems. Secondary schools with less prestige and a less rigorous curriculum, such as the *mittelschule* in Germany, the *college moderne* in France, and the *technical school* in England, appeared throughout the century. In the United States, private

secondary-level academies for the elite existed throughout the colonial period. The first public high school in the United States was established in Boston in 1821.

From the nineteenth century to World War II, the curriculum at the secondary level began to encompass more subjects and became more specific, detailing the content to be covered and the time allotted for doing so. During this period, emphasis on philosophy, divinity, classical languages, and ancient history began to wane, and was replaced with modern languages and literature, modern history, and scientific and technological subjects. Moreover, the objectives of secondary education and details of curricular content began to be specified more completely and carefully. At this time, most governments decided to educate a broader segment of their secondary-school age population, and included females for the first time. Secondary education became less elitist and more universal, although the curriculum was dominated by the needs of the socially and economically privileged rather than by the needs of the masses.

### **A BROADER AND MORE UNIVERSAL CURRICULUM**

In the two decades before World War II, the influence of John Dewey and the Progressive Movement though targeted at the primary education level, had a major influence on secondary-level education. The progressives helped increase curricular emphasis on the practicality and social usefulness of schooling and on "learning by doing." Moreover, separate lower and junior secondary schools were established to cater to the growing number of students entering the secondary level.

The trend to broaden the curriculum began earliest and went farthest in the United States. In the twentieth century, it was responsible for introducing many new practical and vocational subjects. In the second half of the century, courses in drivers' education, family living, consumer economics, and mathematics for everyday life appeared for the first time. As students with a greater range of ability, interests, and motivation entered the secondary level, "streaming" and "homogeneous grouping" became more prevalent. Academic secondary schools became more comprehensive and diversified. Courses and even course sequences in such vocational areas as graphic design, hair care and styling, automotive repair, carpentry and machine shop, and home economics began to appear.

The launching of the Sputnik satellite by the Soviet Union in 1957 was a powerful impetus behind increasing the amount of scientific topics taught in the Western secondary curriculum, the rigor with which they were taught, and the care taken in their organization and presentation. The Western world, particularly the United States, did not want "to fall behind the USSR" in scientific and technological achievement. Sputnik helped accelerate the "new curriculum movement" of the 1960s and 1970s, which reoriented curricular content around the structure of the academic disciplines as defined by academicians. This "structure of the disciplines" movement became associated with inquiry or discovery learning and with inductive as opposed to deductive teaching methodologies.

At the same time, experimentation with the organization of schools and with teaching methods became intertwined with curricular reform. This period saw the advent of the Leicestershire system and other "open" education systems, the School Without Walls, the Nuffield Foundation secondary science curriculum (which gave teachers great control over what was taught), programmed instruction, learning contracts in which students had partial control over their curriculum, competency-based systems, systems in which educational objectives were formulated according to behavioral frameworks, and other such innovations.

In general, the trend in the post-World War II period has been to divide students into streams, to make a single secondary school serve a wider variety of interests and abilities, to provide access to a diversified range of higher education through alternative curricula and to broaden the curriculum to include more subjects. Great Britain is a partial exception to this trend, as students tend to study only three subjects for their A Level Examinations. In the United States schools have begun to offer a rich array of classes in a single building and to counsel students into courses appropriate to their interests and abilities. Some critics see curricular development in the twentieth century as basically adding to and watering down traditional content as the quantity of knowledge increases and schools attempt to meet the needs of more students.<sup>1</sup>

## SECONDARY EDUCATION IN DEVELOPING COUNTRIES

Although the great universities of the Islamic world antedated the European universities founded in the middle ages, curricular evolution in the developing world is primarily the story of primary, not secondary or tertiary, education. Indigenous systems of socialization and education have always existed in all cultures, but in the developing world they did not involve formal academic secondary education to any significant extent until recently.

Colonial powers in the eighteenth, nineteenth, and early twentieth centuries educated only a very small portion of colonized peoples, and they educated this portion only at a basic level. In general, their interest was to produce complacent workers. Little education was necessary for this purpose; indeed, education could be seen as antithetical to it.

Colonial educational policy for those few individuals educated beyond the primary school tended to emphasize the production of middle-level clerical and administrative personnel. Hence, the curriculum stressed correct language, arithmetic and accounting abilities, and an adequate fund of general knowledge—as distinct from scientific, aesthetic, or vocational subjects. Great importance was placed on the authority of the teacher and of the spoken and written word.

The independence of colonial countries in the two decades after World War II brought a near universal recognition of the importance of education at all levels for a greatly increased proportion of local populations. After independence, ex-colonial countries kept old colonial curriculums for a surprisingly long time—indeed, some have been maintained intact until the present day. While newly independent countries struggled with educational policies, curriculum issues frequently were translated into language-of-instruction issues as governments attempted to unify societies which were often large, heterogeneous, and multilingual—thus the emphasis on Bahasa Indonesia in Indonesia, the "Three Language Formula" in India, and English in Nigeria. Socialist countries often emphasized political doctrine and practical skills for rural production, as in Tanzania and Cuba.

Industrialized countries have tended to adopt a more flexible approach to educational experimentation, including experimentation in curriculum. While curricular models in developing countries continued to come primarily from Europe and the United States and to be centralized at the

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<sup>1</sup> As one commentator says, "Educators themselves have been generally slow to innovate other than on the principles of substituting newish content for old and introducing limited reform in order partially to meet the changing needs of an expanding and diversifying school population" Skilbeck (1990). However, Great Britain, Australia, and New Zealand are exceptions to this statement.

national level, examples of local curricular development efforts occurred in, among other places, Omu in Nigeria and Bakht ur-Ruda in Sudan before independence, and in Sri Lanka and Botswana in the 1970s and 1980s.

The new curricular movement of the 1960s had certain influences on the developing world; many developing countries adopted the UNESCO biology project, the African Education Program and adaptations of PSSC Physics by the Education Development Center (USA), and the Nuffield Science Program, with mixed results. In the 1960s, 1970s and 1980s, several curricular development cells were established at the national level (in India, Indonesia, Kenya, Malaysia, and the Philippines). Some developing countries have experimented with comprehensive-type secondary schools (Nigeria, Liberia, and Egypt).

### **EMERGING TRENDS IN SECONDARY EDUCATION CURRICULUM**

As the 1990s unfold, some general trends in secondary curriculum are discernable in both industrialized and developing countries. These trends are central to policy formulation in secondary education, and many form the crux of this paper.

- A greater willingness to examine and reform the curriculum<sup>2</sup>
- Curricular reform based on nationalistic and political interests
- A willingness to decentralize curricular control and reform
- A retreat from vocational curricula as such toward making traditional and academic subjects more practical
- A new emphasis on values and moral/ethical education
- Increased emphasis on including higher-level thinking skills and an examination of attitudes and values in curricular designs
- Increased recognition of the importance of the application of knowledge to life and the transfer of knowledge gained among various disciplines and subjects
- A continued emphasis on science and technology, focusing particularly on computers and computer education<sup>3</sup>

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<sup>2</sup>Only in a few countries is curriculum currently a "hot topic." Curriculum tends to be debated primarily among educators, rather than among politicians or the general public. However, once curriculum revision begins, politicians often do involve themselves heavily in the process.

<sup>3</sup>Computer education is clearly one of the most important topics in curricular reform today, encompassing at least four aspects: (1) teaching students what computers are and how they work, (2) teaching students to program computers, (3) teaching students how to apply computers to various traditional subjects, and (4) teaching students about the importance of computers and how they fit into the modern world.

- **Increased attention to current social and political issues**
- **Increased emphasis on ecological and environmental concerns**
- **Greater consideration of international education and the interdependence of people and countries<sup>4</sup>**
- **Increased study of (and teaching in) the national rather than the colonial or international language, with more time devoted to learning languages in general**
- **An increasing willingness to reform the examination system, in turn, leading to the rearrangement or revision of both curricular content and teaching practice.**

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<sup>4</sup>Of the 63 countries in UNESCO's 1988-1989 survey of how countries interpret and incorporate educational aims and objectives into their curriculums, 36 described the development of specific curricular design and educational materials in international education, and 43 described specific efforts to increase human contact across cultures. This curricular focus has led to an increased emphasis on local history, culture, and sources as a basis for revision.

## 2. DEFINING THE SECONDARY EDUCATION CURRICULUM: ORGANIZATIONAL PARAMETERS, OBJECTIVES, AND MODELS<sup>3</sup>

The classes or grade levels to encompass secondary education vary considerably among countries. In a few countries the secondary level starts as low as grades 4 or 5, presumably when most students have established their basic literacy and numeracy skills. In other countries, the secondary level may begin as late as grades 8 or 9. However, in general, secondary education may be said to begin whenever in an educational system students (1) enter different types of further education or (2) continue in any type of education as opposed to leaving school permanently. That is, secondary education begins whenever education is no longer for all children or is no longer the same for all children and becomes diversified or is offered only to a subset of the total student population. Universal or nonselective education is often called "basic" education—which may actually be an extension of primary education and may be legally compulsory, even though in some countries many children may still not attend school. This section differentiates secondary education from other educational levels by defining its parameters, objectives, and models.

### DEFINING THE STRUCTURAL PARAMETERS OF THE SECONDARY LEVEL

The time parameters of secondary education sometimes depend on the labor-force needs of the country and the training levels required by such needs. Such decisions are often modeled after the patterns used by an ex-colonial power, a neighboring country, or a country perceived as an educational leader. Sometimes costs alone are the major determinant of the beginning of the secondary level. Basic education may end simply when not enough money is available to pay for education for all beyond a given grade. Alternatively, the weight of tradition may dominate the placement of secondary education—it is organized as it is, simply because it has been that way for a long time. This practice may be more common than is usually thought, because the reassignment of grades to specific educational levels usually requires major changes in patterns of financing and control, including authority in curricular development, school construction, the provision of instructional materials, and teacher training and placement.

In industrialized countries, the age of students at each grade level can be predicted fairly accurately. In Europe or North America, for instance, a huge percentage of ninth-grade students would be in the 13-year-old to 15-year-old age range. However, in developing countries, where dropouts, repeaters, and returnees to school are more prevalent and in which school starting ages, particularly in poor and rural areas, vary much more widely, the age ranges in any given grade may be large. Thus, the time parameters of the secondary level of education cannot universally be defined

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<sup>3</sup>In this document, the term *curriculum* simply denotes "that which is taught intentionally in secondary schools." Other uses of the term and other meanings are discussed in Section 5, "The Mandated and Taught Curriculums". Montero-Sieburth (1992) has defined curriculum as a plan of study, a set of courses, a plan for action that guides instruction, a set of intended or structured learning outcomes, planned and directed experiences, and as actual occurrences emanating from a set of objectives stipulated in curriculum guides... If there is a single insight that emerges from this diversity of definitions, it is that attempts at redefinition are of limited value. Obviously there is no universal definition of a curriculum that will encompass all the relevant meanings and experiences." *Curriculum* is essentially an American term, although it is now becoming used more widely. *Syllabus*, *course of study*, *program of studies*, *scope and sequence*, and even *timetable* are terms that various countries also use to denote the content which is taught.

according to the age range of students.

Almost all countries divide the secondary level of education into a first, or lower, segment and a second, or higher, segment. These segments may be denoted by different names, with a particularly varied set of names for the lower segment: middle, intermediate, lower secondary, junior high, upper elementary, etc. In different countries, these labels may encompass different grades, student ages, curricula, and objectives, and may be related to the educational levels above and below them in a variety of ways. The higher or upper secondary level is usually labelled as such, or may be termed *senior high school* in areas influenced by American nomenclature. It is also sometimes referred to as the *pre-university* level.

Whatever names are used, the secondary level typically comprises a six- to seven-year period. In countries where primary education ends at grade 5 or 6, there tend to be separate lower and upper secondary levels, each of either three or four years in duration. In countries where primary or basic education ends at or near grade 8, this primary or basic education is usually followed by either three or four years of secondary education. Sometimes, this three- or four-year period is considered to be a single secondary level, and it is sometimes divided into two years of lower secondary and two years of upper secondary. These two basic models of educational structure account for approximately 95 percent of the structures used worldwide. Fewer countries impose an educational structure that ends after only ten years of primary and secondary education. Countries that impose thirteen years of education have usually added an extra year to the primary level.<sup>6</sup>

The following table shows the number of years of secondary education in 199 different countries:

Table 1. Duration of General Secondary Education

Number of Years	Number of Countries
2	2
3	2
4	25
5	32
6	67
7	63
8	6
9	2

Source: UNESCO Statistical Yearbook, 1991, pp. 2-10.

<sup>6</sup>A standard "textbook" definition of secondary education is: "Secondary education is the schooling designed for students in the age range from 12 to 20 who are enrolled in a high school or academy. In public schools it includes schools referred to as high schools (grades 9-12), junior high schools (grades 7-9), and junior-senior high schools (grades 7-12). Secondary schools, for some authorities, also include middle schools (grades 5 to 8 or some other combinations including grades 7 and 8) and junior or community colleges. Private or religiously controlled secondary schools including youths aged 12 to 18 are referred to as academies or independent schools." (See *Encyclopedia of Educational Research*, 1982.)

## **THE OBJECTIVES OF THE SECONDARY EDUCATION CURRICULUM**

The curriculum for the upper or higher secondary sequence in academic or general secondary schools is determined largely by university entrance requirements and by the final examinations that traditionally mark the end of secondary schooling. These examinations are usually set by national authorities and are frequently keyed to university entrance requirements. Thus, curricular planners at this level usually work with few degrees of freedom, and curricular change usually involves substitutions or minor adjustments in specific curricular topics within well-defined courses. This practice contrasts with vocational/technical schools (or vocational/technical streams within general or diversified schools), which are often an end in and of themselves (or "terminal") and whose curricular change is characterized by considerable latitude.

In lower secondary schools, however, the curriculum differs. These schools are expected to prepare students for the upper level, but the manner in which they do so and the content of their standard courses is marked by adaptability and flexibility. When the lower secondary level is attached to primary education in a basic education sequence or is considered to be terminal, the curricular structure is highly flexible. In such cases, curriculum often focuses on "life skills" and contains many topics in practical arts and crafts, agriculture, home economics, nutrition and child care, and simple vocational skills (tailoring, carpentry, equipment maintenance, etc.).

One feature that unites both levels of secondary education is a commonality of stated curriculum goals and objectives. Indeed, with the diversity of educational structures worldwide, it is interesting that curricular objectives are remarkably similar across both industrialized and developing countries, and even across all primary and secondary grades.

Curricular objectives consist of four main categories.

### **Academic**

- To prepare students for the next level of education, and for further education in general
- To provide an intellectual foundation for life's activities and pursuits
- To prepare liberally educated men and women who are life-long learners

### **Employment/Occupational**

- To prepare students for the world of work and for constructive employment
- To orient students toward appropriate and productive career paths
- To help students to integrate and use knowledge in occupational tasks

### **Personal Enhancement**

- To help students enjoy learning and to enrich their lives through learning

- To promote the physical and psychological health and personal happiness of students
- To encourage students to explore their interests and to develop their natural abilities to the fullest

#### **Citizenship/Life Roles**

- To prepare students for social roles and family life
- To help students become productive citizens and to participate appropriately in the governmental process
- To instill in students appropriate moral and ethical principles and to inculcate pertinent codes of behavior

However, this categorization can be misleading; an objective such as "To help students acquire knowledge, skills, and attitudes that are helpful to the development and well-being of society and of the individuals within it" clearly falls to some extent within all four categories.

The argument can be made that academic objectives are also eventually employment/occupational objectives, since formal education must end for any student at some point, as which time he or she will enter the world of work at some level. Some educators feel that an academic curriculum is the best preparation for any type of occupation and for life in general (see Box 1). Others feel that the increasing demand for education forces all learning to be academic in nature, even when it is dysfunctional to learning occupational competencies and life skills (see Box 2).

One difference worth noting is that objectives pertaining to personal growth and satisfaction are more prevalent in industrialized countries, while those pertaining to the acquisition of specific knowledge and skills are more common in developing countries.

#### **CURRICULAR MODELS**

The extent to which Western models dominate the secondary curricula of all parts of the world is quite remarkable. The single most dominant model comes from Great Britain, probably given the magnitude of its colonial empire. For the same reason, French models are the second most common. Both countries were considered to be educational leaders in colonial times, and this reputation and tradition continues today. Germany has also been highly respected, particularly in the areas of science and technology and in tertiary education, and German models have been copied widely in some areas. Finally, as the United States moved into a position of world leadership after World War II, American models of secondary curricular planning were emulated frequently. When the models of past colonial overlords were rejected, they were more frequently replaced with American rather than indigenous alternatives. Russian models, themselves heavily influenced by European practices, have dominated curricular design in Eastern Europe in the 1950-1990 period.

The rejection of indigenous models is notable. As one example, Rabindranath Tagore, the Bengali poet, philosopher, and social critic and first winner of the Nobel Prize for Literature, decided to establish schools in India based on Indian rather than Western culture. After an analysis of Indian culture, he decided that at its heart was not language, mathematics, or other constructs used in the

West—but rather the dance. He founded schools in which dance was the center of the curriculum and other subjects were organized around this construct. These schools became well known and, in fact, exist until this day—but they have always been considered curiosities and have been relegated to the footnotes of academic history. Not even someone as respected and heeded as Tagore could get such ideas accepted as viable alternatives to Western curricula. Their total effect on Indian education was and remains negligible.

Five to six hours of instruction per day is a rough average of the time spent in academic studies at the secondary level. Time spent in school tends to be greater in Europe, North America, and Asia than in Africa, the Middle East, and Oceania. Variations are, of course, great in certain areas. An average arrangement of this time is as follows:

Table 2. Distribution of Instructional Time

Subject Matter	Percentage of Time
Mother Tongue	28
Mathematics	18
Natural Sciences	18
Foreign Language(s)	13
Social Sciences	13
Electives and Other	10

When various streams or tracks are offered in general secondary education, as in the French model (see the Case Studies), the variations tend to pertain more to the amount of time devoted to each subject area than to the subject areas covered in the stream or track. Thus, both the humanities and the physical science/math tracks in France will study languages and science, but will study quite different amounts of each.

The American and European models of general secondary education differ in two ways—student choice and the variety of electives. European models tend to be more prescriptive. Once a student enters a stream or track in European systems, he or she will find that the course of study is specified in detail, with very few options. The most common exception is the choice of foreign languages. Conversely, in the United States, the student will often have a wide variety of choices in a given subject matter area, and will be required only to choose a specific number. Thus, for instance, the social sciences requirement for graduation from a U.S. secondary school might allow a student to choose any two courses from a list containing U.S. history, black studies, a survey of European history, anthropology and world cultures, economics, geography of the local area, personal finance, psychology and family relations, the ancient world, environmental studies, and modern world problems.

In addition, more time is traditionally allotted in U.S. general secondary schools for elective courses. Students, particularly in larger schools, can often choose elective courses from a bewildering array of subjects in arts, crafts, and practical skills, in addition to more academic areas.

## BOX 1

Yet even if education has become a critical factor in global economic competition, and sometimes a focus of the strategic concern of governments seeking to restructure or firmly steer their economies, a more humanistic vision is not excluded. Uncertainty about the relationship between education and employment has reinforced arguments in favor of providing all young people with a broad general education that could serve as a basis or foundation for further learning in later life—in specialized school or training institutions, on the job, in the community or at home. Although the contents of such an education might vary among different societies, the possibility exists of widely shared purposes. The consensus reached at the World Conference for All (Jomtien, 1990) on meeting basic learning needs is the most recent demonstration of that possibility. The common challenges facing education in all societies derive from the specifically human character of education itself, and in some countries currently undergoing radical political and economic change there are signs of a powerful reaction in favor of the 'humanization of education.' The challenge is to give concrete expression to that objective in terms of educational structures, contents and methods.

UNESCO, *World Education Report*, 1991, Paris, UNESCO, 1991, pp. 64-65.

Such courses vary from automotive repair to photography and from jazz dancing to driver education. Some, such as astronomy, may be taught quite rigorously for university-bound students. Others, such as personal finance or current events, may be taught at a basic level for terminal-curriculum students. Still others, such as English as a Second Language or remedial mathematics, may be offered in order to meet the special needs of one segment of the school's students.

In the United States less academic components of the curriculum are often delivered semi-formally through an extensive program of extracurricular activities and special-interest clubs. In larger and wealthier secondary schools, up to twenty sports teams can be organized for both young men and young women; clubs can vary from chess and stamp collecting to architecture, environmental protection, and ballroom dancing; school-sponsored activities can include opportunities as diverse as wilderness exploration, jazz band, school newspaper, drama, student government, and ethnic cooking.

### 3. THE REFORM AND REVISION OF CURRICULUM

#### BOX 2

The upward push of demand reinforces the built-in tendency of education at any one level to be preparation for the next. As a corollary, the content becomes more theoretical and abstract and less practical; experience drawn on is more universal and less local; and cognitive, or purely mental, skills are emphasized over attitudes and manual, social and leadership skills. This education is dysfunctional for most types of employment - wage and non-wage - and for playing other roles needed in a developing society.

*Education Sector Working Paper, World Bank, 1974, p. 21.*

Statements by educators, politicians, and other advocates of the reform and revision of curriculum are relatively frequent. The following is typical of such statements:

There is a need for regularly evaluating, reviewing and adjusting curricula, textbooks, methods and teaching-learning processes with a view to improving the quality of education, keeping pace with rapid scientific and technological progress and the resulting developments in knowledge and know-how, and producing individuals who can, through self-directed learning, orientate themselves in changing industrial, agricultural and social processes, and who may themselves promote such changes and progress in society and take an active part in them...

International Conference on Education, 40th Session, *Final Report*, UNESCO, Geneva, 1986, p. 36.

However, the proper direction for this reform and revision can cause controversy. Boxes 3 and 4 present representative views in this debate, which has not changed greatly in the past twenty years.

A curriculum is not "good," "appropriate," or "effective" in and of itself. Curriculum does not exist in isolation. A curriculum is good, appropriate, or effective only relative to its ability to help an education system meet its goals and objectives, whether those goals and objectives are stated or implied. To the extent that these are met, a curriculum is good; to the extent that they are not met, a curriculum is inadequate. This section of the paper focuses on several of the catalysts behind curricular reform, and the process through which such reform is made.

#### CATALYSTS FOR REFORM

The most commonly held theories of curricular development maintain that the curriculum reform process begins with an examination of national goals and priorities. In theory, this examination is usually precipitated by the perception of national leaders that a changed political situation requires changed goals, that enough time has elapsed since the last goal-setting exercise to

**BOX 3**

It is also generally agreed that the academic model which is still highly regarded in so many countries, and which, under certain social and temporal circumstances, has produced the results expected of it, is today out of date and obsolete, not only so far as the working classes are concerned, but even in its utility to young people from the bourgeois class for which it was originally devised. It implacably reproduces the quirks of preceding generations. It relies excessively on theory and memory. It gives a privileged role to conventional written and repetitive expression, to the detriment of the spoken word, of spontaneity and creative research. It arbitrarily isolates the humanities (considered as non-scientific) from the sciences (considered as non-humanistic), and persistently fails to recognize the advent of the "scientific humanities." It divides so-called general education from so-called technical education, displaying a preference for abstraction which would appear to embody the social prejudices of the aristocracy against practical application regarded as servile - just as Plato condemned the founders of mechanics. It remains extraordinarily allergic to all practical work.

Faure, E., et. al., *Learning To Be*, Harap, 1972, p. XXX.

**BOX 4**

Reform of structures would naturally entail a concomitant reform of the content of education. Based on a reconciliation of the pupils' interest and needs, on the one hand, and with the needs of each country's social and economic development, on the other, the new curricula for secondary education should be planned from the point of view of an integrated education designed to awaken in the pupil an awareness of the essential unity of the different aspects of activity. The aim of these curricula should be general training rather than the transmission of information. By a judicious admixture of difficulties and a motivating presentation of concepts, they should enable the pupils constantly to aspire to greater achievements. The content of both general and vocational education should be linked with the development of the community and be brought into line with modern developments in production and with social advancement. There should be a close link between theory and practice in the curricula. In both cases emphasis should be placed on those elements of knowledge which are basic and have a wide range of application.

International Conference on Education, 34th Session, *Final Report*, UNESCO, Geneva, 1973, p. 25.

justify a new examination of national goals, that neighboring countries or countries that are presumed to be "leaders" are currently engaging in educational reform, or that other reasons which often have little or nothing to do with education itself necessitate the reform process.

In practice, national examinations and reformulations of goals almost never happen. They are simply too expensive, time consuming, unwieldy, confusing, and fraught with political danger to occur more than very occasionally in either industrialized or developing countries. Rather, curricular

reform is normally fueled by a series of more specific or more focused concerns.<sup>7</sup> These concerns may be associated with the force of individual leaders or practitioners, broader forces at the national level, or the exigencies of the educational system itself.

### **Individual Leaders and Practitioners**

- Politicians, educators, or both perceive that the national educational priorities and objectives must be reformulated or redirected.
- Politicians, national leaders, or prominent and vocal special-interest groups insist that certain curricular changes be made. Their reasons may be either political or educational (but usually the former), but, because they have power and influence, their recommended changes almost invariably occur.
- Occasionally, a very committed person, often a prominent noneducator, adopts curricular reform as a personal crusade. Due to the effort and persistence of such a person, revisions in the curriculum are made. This scenario occurs most often in smaller and poorer countries. As a prominent analyst of organizational development once remarked, "For significant change to occur, you need a maniac with a mission" (Peters and Waterman, 1982).
- In some countries—usually but not always in developing countries—the turnover of educational leaders is great. When a new leader takes office, curricular change is a quick and visible way to announce his or her presence and authority.

### **National Forces**

- Certain subjects or topics that are not currently in the curriculum suddenly acquire national or international prominence. Given their importance, they are introduced into the curriculum—sometimes with care and preparation, but often hastily and by decree. Examples in the past fifteen years include ecological and environmental concerns, computers, population studies, peace and conflict control, urbanization, and, where cultural mores allow, sex education and AIDS and drug education.
- Money, either from local funds or from a donor agency, suddenly becomes available. Such money is earmarked specifically for partial or general curricular change. To reap the available money, the country makes the curricular changes. In theory, of course, the need for change is agreed upon by national authorities and donor agencies together. At times, the host country may not fully understand the magnitude or implications of the curricular change before it agrees to the specific grant or loan or to the reform procedures specified in such grants or loans.
- A specific social need may suddenly or gradually occur, which may be met partially

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<sup>7</sup>Figure 1 at the end of this section shows the web of forces that influence the curricular development process.

or wholly through curricular change. For example, millions of mines in roads must be cleared in rural areas of Afghanistan before refugees can return to that country. A heavy, though temporary, emphasis in curricular redesign is the inclusion of subject matter on recognizing mines and the procedures for deactivating those mines.

- In a more general sense, a national cataclysm may occur which may disjoint society. In the resultant social changes, revisions in education and curriculum design may be involved. Iraq, Liberia, and Afghanistan are current examples.
- National pride may motivate curricular change. No matter how good or how poor the current curriculum is perceived to be by politicians and educators, they may feel that they want and need a curriculum which is distinctively their own. The curriculum revision process begins, and, ironically, after this process proves to be more expensive, time consuming, and perplexing than expected, traditional, often old colonial, models are reverted to.
- The necessity of competing in regional and global markets may fuel curricular reform—usually couched in terms of upgrading job skills and labor-force training. As such, it influences both general and vocational secondary schools. Sometimes, the need is not so much to compete as simply to keep up. The race in the West to keep pace with the USSR after it launched the Sputnik satellite in 1957 was mentioned earlier. When a recent survey of the math and science achievement of students in South Korea showed that the country was second to Japan in these areas, authorities in the country immediately called for curricular reform. The data which prompt such decisions are often suspect, but the appeal is as much emotional as rational. Presently, the "economic primacy" of motivation for curricular changes of this type is due to the worldwide recession and to the emergence of Germany, Japan, and other Asian economic powers from which traditional economic leaders fear competition.

### **Educational Forces**

- In theory, the development of textbooks and other educational materials should follow rather than precede the statement of objectives and the design of a curriculum, but this does not always happen. In many countries, textbooks are written primarily by well-known and often influential university professors. While they are usually asked to follow specific curricular guidelines in their writing, they often honor this request as much in the breach as in the observance. Because the textbook is the main, sometimes the only, teaching material in many developing countries, whatever is written therein becomes the *de facto* design and content of the curriculum.
- Most developing countries evaluate student achievement both infrequently and poorly. As the realization of the importance of student assessment grows and as the skills to do so adequately increases, minimally acceptable evaluation becomes more available. However, as with textbooks, evaluation can become "the tail that wags the dog." That is, what the evaluators decide to evaluate becomes the *de facto* curriculum, prompting teachers to provide instruction only or primarily in this curriculum, to ensure that their students will do well on national or other broad-based examinations. Student performance on such tests may influence teacher promotion and reward

systems, the flow of money to schools, and other such areas of vital concern to secondary administrators and teachers.

- A prominent or highly visible event occurs that calls attention to educational situations which imply curriculum revision. The Education For All conference in 1990 in Thailand is an example of such an event, although its focus on universal basic education affected the primary level much more than the secondary level.

## PROCESS OF REFORM

Whatever may motivate a change in curriculum, the process that developing countries use to effect it tends to be a variant to the following procedure. The authority empowered to make a curricular change (almost always one or more highly placed officials in a central Ministry of Education, which in some countries in recent years has tended to decentralize some curricular decisions to regional or provincial authorities) calls together a committee of educators to specify and elaborate the change. This group usually consists of officials from the Ministry or other central authority, noted scholars in relevant fields from universities or other institutions of higher education, and secondary teachers of the relevant subject matter. Normally, the Ministry officials tend to administrative details, the scholars make the major decisions about elaborating changes in curricular design and content, and the teachers "speak only when spoken to"—which is not usually often.

This type of committee rarely determines how curricular changes fit into the curriculum as a whole, and the necessary articulation with other subjects taught at that grade level (*horizontal* articulation) and with the same subject taught at other grade levels (*vertical* articulation) is often missing. An approval process back through the Ministry usually exists, which may be substantive or *pro forma* in nature—but normally the latter. The committee work usually culminates informational material about the curricular changes authorized, which is sent to relevant teachers, administrators, and government offices, as well as guidelines for the writers or developers of the textbooks or other educational materials necessary to support the changes.

The content of textbooks can be crucial for defining the curriculum as actually taught, since adequate explanations and teacher-guide materials are often not provided to teachers. It is not uncommon for the scholars of the curriculum-revision committee to be contracted to write or revise the texts necessary to support the curricular change (as in Egypt and Pakistan). They can be contracted in a variety of legal and quasi-legal ways; and, when they are, it can lead to obvious conflicts of interest. In some cases, the committee itself or other entities within the Ministry will conduct a search for materials, usually restricted to materials published inside the country that provide the necessary new content. If such materials are found, whether or not they are adequate, they may be used as such or copied directly into textbooks with or without attribution.

The luxury of trial testing new curricular designs and educational materials seldom exists in developing countries, due to monetary, time, and technical constraints. Even if done, the results of testing are often incompletely or inaccurately fed back into revisions of the curriculum or materials. In such countries, curricular decisions are rarely based on what is and is not working in the schools.

While a full discussion of instructional materials is beyond the scope of this paper on curricular design and content, it should be noted that the revision process in developing countries frequently culminates in the production of materials that contain factual inaccuracies and whose content coverage is inadequate, pedantic, and too abstract for the target students; moreover, in countries where texts are not given free of charge by governments, the cost of the material is sometimes beyond the means of poorer students. In an effort to save scarce funds, production sources use flimsy paper, small typefaces, poor printing, small and difficult to interpret graphics, and thin margins, thus reducing the motivational nature of the materials. There are, of course, exceptions to this gloomy picture; and more and more countries, using both their own and donor money, are taking major steps to improve both the quantity and quality of textbooks and to provide supplementary instructional materials in addition to texts (as in Indonesia, Liberia, and Egypt).

This situation in developing countries contrasts sharply with the situation in industrialized countries, in which thriving and usually sophisticated textbook industries exist, and teachers and other educational authorities can choose among a variety of attractive and accurate texts and supplementary materials. However, regardless of the country, the link between curricular design and instructional materials is always a vital one, since each helps define and direct the other.

#### 4. KEY CONCEPTUAL TRADEOFFS IN ACTUALIZING THE CURRICULUM

Several key conceptual trade-offs dominate much of secondary curriculum thinking. Each of these tradeoffs involve several inherent questions that must be addressed by curricular designers before a standard curriculum can be established. The trade-offs are often particularly difficult in developing countries, where money for education is scarce and a choice for one side of the trade-off truly precludes most or all consideration of the other.

These conceptual trade-offs can be divided roughly into three categories: *organization*, or the structural components of the curriculum; *content*, or the orientation of the curriculum; and *control*, or the execution of the curriculum. These categories are not mutually exclusive, and several of the concepts can be placed almost as logically in one category as in another.

##### ORGANIZATION

- An Inflexible Curriculum versus Student Choice in the Courses To Be Pursued. If a set, or "core," curriculum is followed, student learning can be relatively uniform, enabling specified educational objectives to be planned and delivered carefully. However, the interests, abilities, and needs of students differ greatly; they do not all learn at the same speed or in the same ways. A set, consistently delivered curriculum forces a uniformity on students which contradicts such diversity. How can curricular planners honor this diversity while producing the specific learning outcomes required by a developing society? Should the curriculum be lock-step for all, or should students have many elective courses in a "cafeteria format" and choices within required courses? If electives and choice are included, how extensive should they be, and at what grade level should they begin?
- The Study of a Few Subjects in Depth versus the Study of Many Subjects More Superficially. Should secondary students study a few subjects in considerable depth or more subjects in less depth? How much general education is important? Is the answer the same for all students? At what age or stage should specialized as opposed to general studies begin?
- One Curricular Content for All versus Tracking and Streaming. At what stage of their education should students be removed from a common curriculum designed for everyone and placed in specialized tracks or streams? When streaming starts, how different should the streams be? How easy should it be for students to cross from one stream to another?
- A Single Secondary School Serving Many Purposes versus Separate Secondary Schools for Each Purpose. Should students with different needs, abilities, and interests who receive assorted curriculums in order to meet these differences be placed together in a single, all-purpose secondary school? Do the financial economies realized by this comprehensive school concept outweigh the problems of attempting to handle vast diversity in a single place? Do students gain or lose by learning the same subjects in the company of others whose abilities, interests, and motivations are much like their own?
- Learning from Reading and Listening versus Learning from the Environment. In secondary schools, knowledge is traditionally found in books and in lecture notes. However, curricular developers must ascertain the locus of knowledge, and whether the school should orchestrate opportunities to learn in the community. Where are the walls of the school? Should the school use the social and physical environment that surrounds the school as an arena or a

laboratory for learning? If so, how can a curriculum be constructed to meet this need efficiently and effectively?

- **Formal Education versus Nonformal Education.** Nonformal education at the secondary level is growing in many parts of the world. Distance education through television and radio (as in American Samoa, Thailand, Malawi, The Allama Iqbal Open University secondary programs in Pakistan, and the Chinese Television University), community schools (Harambee schools in Kenya and self-help schools in Nigeria and India), correspondence schools (The Malawi Correspondence College), and night schools all show promise of delivering secondary education to a growing number of students at reduced costs. Yet curricular modifications are often necessary in these systems; and without face-to-face contact, quick feedback on the progress of students, and reasonable classroom size, the standard curriculum tends to produce less satisfactory results.
- **Integrated Courses versus Separate Courses.** As the amount of knowledge expands, it is difficult to fit this new knowledge into the present curriculum, often already overcrowded with content. One way to resolve this difficulty is to integrate previously isolated subjects or topics within a traditional subject. Such integration upsets many educators, particularly academically oriented scholars and other traditionalists, who feel that time-tested courses and traditional subject matter areas, each with its own unique way of discovering, presenting, and validating knowledge, are being violated in the cause of a dubious expediency.
- **The Infusion of New Materials into Old Subjects versus Establishing New Subjects.** When important new topics or areas of study are developed (AIDS or the dynamics of urbanization), or when old areas acquire new relevance and importance (population studies, ecology, and the environment), they can either be established as separate subjects in the curriculum or be infused into existing subjects. (See Box 5 for an example of the latter.) If the former is chosen, curricula that are usually already overcrowded will not have room for new subjects, lest previous knowledge areas be threatened. Educators are reluctant to do so, especially if their own "pet" subject is threatened. If the latter is chosen, the power and importance of the new subject may become lost or distorted when mixed with other areas. When an important new subject is recognized, how and where is it best put into the curriculum?

## BOX 5

In the USSR environmental protection is incorporated into a number of training courses and educational activities. In encouraging a scientific world outlook (in the fields of biology, chemistry and geography), the relationship between man, society and the environment is considered, and man's effects on nature are described. The course on the foundations of the Soviet state and law considers legislative acts and governmental decrees on the use of natural resources and environmental protection. Moral and aesthetic education stresses moral aspects of man's relationship with the environment, man's attitude to animals, awareness of the beauty of nature and the necessity to conserve it, understanding of the humanist value of ecological problems for the current and future development of mankind, etc.

Malkova, Z.A., and B.L. Vulfson, International Yearbook of Education, UNESCO, International Bureau of Education, 1988, p. 106.

## CONTENT

- Education for All versus High Quality Education.<sup>8</sup> Most countries have based their academic education on the needs of their elites, as opposed to the needs of their masses. Yet most countries want to educate as many of their future citizens as possible. At the same time, they want to offer high-quality education. But not every student has the ability or the motivation to absorb high-quality, academically oriented education. To what extent does high-quality education mean education for the elite only? Which will help a country more: many people given a mediocre education, or a few given an excellent education? And does the answer to this depend on what type of excellence is emphasized? At what age or stage should a country shift the educational focus from the many to the few?
- Academic Education versus Vocational Education. Can education ever be justified if it has no vocational payoff at all? Academic education, even in its purest form, is supposed to make its recipients more worthwhile and productive citizens—in their jobs, as in other aspects of their lives.<sup>9</sup> Even if they are being prepared for the next level of education, at some point their education will end and they will enter the world of work. What is the line between academic and vocational education? Is all education vocational in some sense? Should all students have some vocational education? If so, how much and at what stage of their educations? Few developing countries will have the luxury of making the training of philosophers or purely abstract thinkers a primary educational goal. How can both "job preparation" objectives and "human enhancement" objectives be met? Do all students need the same amount of each? How easy should it be for students to switch between academic and vocational education once they have started in either area?
- The Inclusion versus the Exclusion of Curricular Content. As knowledge grows rapidly, it is

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<sup>8</sup>This issue has been well explored in Gardner (1984).

<sup>9</sup>See Box 1 in Section 2.

clear that all knowledge cannot be included in the secondary curriculum (or in any curriculum). It is utopian to believe that even the most talented students can master the basics of all subjects. Some type of specialization, often at an increasingly early age, is necessary. What criteria can be used to make inclusion/exclusion decisions for curricular content? Should the same content be chosen for all students? How are such choices best made?

- Traditional Curriculum versus New Basic Curriculum at the Lower Secondary Level. In Asia, Latin America, and occasionally in Africa, the lower secondary level is being attached to the primary level to form a longer period of required "basic" education. This is being done without changing the lower secondary curriculum to fit its new purpose.<sup>10</sup> Is this wise? What should the basic education curriculum be for students who are already literate and numerate but who may not go on to further schooling after their basic education ends?
- Developing Curriculum versus Assessing Curriculum. Accurately assessing how well a curriculum meets its stated and implied objectives and revising the curriculum based on this assessment is an integral part of the curriculum-development process. However, in most countries, tests developed at the national level currently assess only a narrow range of the curricular content. This narrow range is then emphasized by the teachers to the exclusion of other, perhaps equally important, parts of the curriculum. Test experts are technical specialists, and they seldom know much about teachers, students, or classrooms. Teachers and testers seldom talk with each other, and, when they do, they seldom "talk the same language."
- European versus Indigenous Models of Curriculum. Many educational experts in both industrialized and developing countries believe that European models of curriculum design and execution are best. Thus, an exploration of indigenous options is usually not considered to be worthwhile or productive. In what ways and to what extent should developing countries emulate the curriculums of developed countries? The political and educational leaders of many developing countries want to aim high and to have a curriculum just like the supposedly best in the world. But will what works best in countries not necessarily much like their own also work best for them?

## CONTROL

- Political versus Educational Control of Curriculum. Who should control the structure and content of a curriculum? Politicians? University professors? Teachers? When teachers are in control, the curriculum tends to emphasize flexibility, focusing on the possibility of meeting individual needs. The content and its sequencing tends to reflect the realities of classrooms and true possibilities for learning. To be successful, teachers controlling the curriculum implies highly trained teachers, a usually difficult prerequisite in developing countries. When University professors are in control, the latest knowledge may be included in the curriculum, but curricula tend to be very academic, abstract, and overloaded with content, and the content is usually too difficult for students at the grade level where it is placed. When politicians are in control, nationalism, social and economic development, and the political status quo may be served, but curricular decisions tend not to be based on educational experience, learning theory, adolescent psychology, or other factors relevant to successful learning.

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<sup>10</sup> See UNESCO, World Education Report 1991, page 65.

- **Free Education versus Cost Recovery For Educational Services.** In countries with small upper and middle classes (which characterizes most developing countries), the costs of secondary schooling, even if modest, can be so high that the majority of the population cannot commit their scarce family resources to sending their children to this level of education. An attractive curriculum that is relevant and worthwhile to both parents and students can be a powerful motivation to convince families to invest the necessary funds in secondary education. Costs to the government for secondary education are generally much higher than are the costs of primary education, given the need for at least minimal laboratories, libraries, supplementary materials and equipment, simple sports facilities, and so forth at the secondary level. It is often both politically and financially difficult to recover even part of these costs from poor parents. Parent-supported self-help schools, such as those that were successful in Zambia in the 1980s, can help resolve this problem.
- **Government Education versus Private Education.** The issue of public as opposed to private (including religious) schooling is not basically a curricular issue. However, one of the reasons that parents may choose private education is their perception that private schools offer a higher-quality and more relevant curriculum. They may also choose such schools because they perceive that the language of instruction is more desirable in terms of propelling students into prestigious occupations and other attractive life options. This is true of the English Medium schools in India and Pakistan. The language of instruction influences the delivered curriculum. The "received" curriculum—that is, what the students actually learn—is slowed down when they are learning in a second language. Language policy is of course often a political issue.

## 5. THE MANDATED AND THE TAUGHT CURRICULUMS

At least three levels or types of curricula are relevant to this study:

1. The official legal mandated curriculum that appears in government curriculum documents.
2. This mandated or explicit curriculum as it is actually taught in classrooms by teachers who have varying degrees of familiarity with and interest in it.
3. The hidden or implicit curriculum, defined as that which is taught without the intention of its being taught.

This section categorizes and compares each of these types of curricula.

### THE MANDATED CURRICULUM VERSUS THE ACTUAL CURRICULUM

Due to several factors, the curriculum which students actually receive differs markedly from the curriculum that educational authorities and official educational documents maintain is taught. These factors are:

- An occasional lack of completeness or clarity in the statements of what is to be taught
- The absence of official curricular guidelines
- Nonadherence to these guidelines when they are available
- A lack of sufficient content knowledge among the teachers who provide the instruction
- The absence of adequate preservice training to inform teachers of the official curriculum and to prepare them to teach it acceptably
- Deficient supervision of teachers once they begin to teach
- The absence of incentives for teachers to follow the curricular guidelines.
- Inadequate or skewed coverage of the official curriculum in the textbooks and other instructional materials available to the schools

It is difficult to characterize the differences between these two types of curriculum in a clear and succinct manner. In an effort to do so, the following pairs of statements are offered. In each pair, the first statement presents an idea often expressed in the mandated curriculum. The second statement indicates what actually tends to happen in the classrooms of developing countries.<sup>11</sup>

◆	OFFICIAL	Teaching will be active and dynamic; students will have a range of choices and be involved heavily in "hands on" activity and discovery.
	ACTUAL	The teacher is (relatively) active and the students are passive. Few activities take place, and those that do are initiated and dominated by the teacher. The students receive knowledge from the teacher; they do not discover it for themselves. Learning consists principally of memorization and of repeating what is

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<sup>11</sup>In Section 6, "The Relationship Between Instructional Methodology and Curricular Content," the connection between the first and second of these types of curriculum is discussed in detail.

memorized.<sup>12</sup>

- ◆ OFFICIAL Teachers will consider the different abilities, interests, and needs of students.  
ACTUAL Students are treated as an undifferentiated mass. All students in a class are taught the same thing in the same way, at the same speed and at the same time.
- ◆ OFFICIAL When feasible, students will be grouped for instruction in ways appropriate to the task at hand.  
ACTUAL Students are taught as a single class in its entirety.
- ◆ OFFICIAL Affective areas of values, attitudes, and feelings will be taught in addition to instruction in cognitive areas.  
ACTUAL Cognitive areas are emphasized to the exclusion of the affective. Acquiring information and knowledge is emphasized to the exclusion of learning skills or clarifying values and attitudes.
- ◆ OFFICIAL Teaching methods will be lively and varied. A variety of instructional materials will be used, including audio-visual aids, laboratories, libraries, and the latest technology, including computers. Appropriate low-cost teacher-made aids will be created and used.  
ACTUAL Instruction is mechanical. Teaching methods consist almost entirely of listening to lecture presentations and to reading written material, almost invariably textbooks.<sup>13</sup>
- ◆ OFFICIAL Instruction will include training in higher-level thinking skills, problem solving, and decision making.  
ACTUAL Instruction focuses almost entirely on the acquisition of information and knowledge. Methods for *using* this knowledge are entirely or mostly ignored.
- ◆ OFFICIAL Options within course material will be provided.  
ACTUAL Options within course material are very rarely provided.
- ◆ OFFICIAL The local environment, both physical and social, will be used to illustrate and supplement instruction.  
ACTUAL The local environment is almost never used for any purpose.
- ◆ OFFICIAL A practical emphasis will be given to instruction, including academic and general subjects.

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<sup>12</sup>Lecturing and memorization have produced good achievement results among students in Japan and China.

<sup>13</sup>"Verbal methods have long been the main teaching technique used in school. The spoken word, the textbook and other books have always been associated with the school and remain so in spite of the technical retooling of the teaching process. According to certain teaching research, over 70 per cent of information comes to pupils from the teacher's words." (see Malkova, and Vulfson, 1988, citing research in Zorina, L.J., Slovocitelja Vcebnom Processe, Moskva, Znanie, 1984, p. 2.)

- ACTUAL** Little practical emphasis is given to any subject.
- ◆ **OFFICIAL** Learning will be related to the lives of the students. Examples during instruction will be drawn from local life and typical local experiences.
- ACTUAL** Instruction is abstract and theoretical. Little or no connection is made between the subjects learned and the lives of the students. Examples are drawn from textbooks, and are often remote from and sometimes even incomprehensible to the students.
- ◆ **OFFICIAL** Where possible, content areas will be interrelated in order to illustrate the connections and to reinforce learning among them.
- ACTUAL** Content areas are taught in isolation. Few if any attempts are made to correlate or connect different subjects.
- ◆ **OFFICIAL** Attempts will be made to stimulate the creativity and imagination of students.
- ACTUAL** Teachers offer disincentives for expressions of creativity and imagination.
- ◆ **OFFICIAL** Learning will frequently be evaluated on the basis of teacher-made tests.
- ACTUAL** Learning is seldom evaluated with teacher-made tests. When teacher-made tests are used, they are often poorly constructed. Students frequently have only a vague idea of their strengths and weaknesses as they progress through the required material.
- ◆ **OFFICIAL** Schools will offer a rich array of outside and extracurricular activities to supplement and enrich the formal curriculum.
- ACTUAL** Schools offer few outside or extracurricular activities. Those that are offered are seldom related in meaningful ways to the formal curriculum.
- ◆ **OFFICIAL** Teachers will plan lessons carefully and follow curricular guidelines for instruction.
- ACTUAL** Except for a few teachers, lessons are not planned carefully, and the curricular guidelines for instruction, even when they are known, are not followed strictly. Teachers teach what they know and what they are comfortable with.
- ◆ **OFFICIAL** Teachers will follow the timetable strictly.
- ACTUAL** Double shifts, frequent absences among teachers and students, late starts and early ends to the school day, a focus on administrative rather than educational needs, and other factors of this sort make "time on task" much less than is mandated.
- ◆ **OFFICIAL** Teachers will cooperate with each other in order to plan and coordinate student learning and to ensure that subjects reinforce each other.
- ACTUAL** Teachers teach in isolation from each other, with little cooperation or joint planning for any purpose.

Clearly, students frequently learn different things and in different ways than those planned by curricular developers.

If the first of these two types of curriculum is described as the "formal," "official," "legal," "intended" or "mandated" curriculum, the second can be described as the "actual," "offered," "implemented," or "explicitly taught" curriculum.

### **THE HIDDEN CURRICULUM**

The third type of curriculum is variously called the informal, implicit, or hidden curriculum. This curriculum can be described as "that which is taught without the intention of its being taught"<sup>14</sup> Note that this type of curriculum is not specified in the official guidelines. Indeed, it may run directly counter to the hopes and expectations of curricular planners. It acquires its power not through single experiences by students, but by its constant repetition throughout all the years of secondary education. Indeed, the hidden curriculum is much the same at the primary level. Thus, the unintended messages of the hidden curriculum are relentlessly "pounded home" to students over a ten- to twelve-year period. The study of this hidden curriculum was popular during the 1970s and 1980s in the United States and, to a lesser extent, in Europe.

As illustrated by statements above on actual classroom practices, the following are some of the "hidden curriculum" teachings offered to students as they pass through six or more years of secondary education.

- The teacher is the main and often the sole source of learning.
- Learning is passive; learning means the memorization and repetition of information. Learning does not involve the manipulation or use of information or ideas.
- Learning takes place in large groups inside of classrooms.
- All students learn in the same way.
- Learning is associated with separate categories; it is not interrelated.
- Learning is largely unrelated to everyday events and to local life.
- Learning is verbal in nature.
- Learning does not involve feelings or judgments.
- Learning does not involve creativity or imagination.
- It is unimportant that students know how well they are progressing as they learn.

While many more examples of the hidden curriculum could be given, these are sufficient to illustrate the idea. By definition, they are not taken into account in official curricular documents. Even less are they considered by noneducators or by donor agencies. Yet they have powerful effects on what and how students learn.

Until these gaps among the mandated, explicitly taught, hidden, and learned curriculums are narrowed, students, teachers, curricular developers, and donor agencies will be making assumptions about teaching and learning that do not really hold true in actuality. To the extent that they base decisions on these assumptions, they will frequently not be able to achieve their goals.

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<sup>14</sup>There is yet a fourth type of curriculum, which focuses not on what is taught in any of these three curricula but rather on what is actually learned by students. This is usually called the "learned," "received," or "attained" curriculum. Obviously, it is of great importance, since the achievement of students is the pay-off. However, a consideration of the "learned" curriculum is beyond the scope of this paper.

## 6. THE RELATIONSHIP BETWEEN INSTRUCTIONAL METHODOLOGY AND CURRICULAR CONTENT

A much closer and more important relationship exists between the curriculum (*what is taught*) and instructional methods (*how it is taught*) than noneducators or educators with specialties in areas other than curriculum and instruction often realize. While curriculum and instruction can be separate in theory, they are closely intertwined in practice. The important point is simply that teachers may not know what it is they are supposed to teach. If they do not know what they are supposed to teach, they may have little reason actually to teach this if it is easier to teach something which they know better, for which they have instructional materials, or with which they are generally more comfortable. *"what the teacher teaches becomes the curriculum rather than what is stated in official curriculum documents. And since the teacher's main teaching tool is the textbook (indeed, it is often the only teaching tool available), what the textbook contains becomes the curriculum.* Thus, the connection between curriculum and teaching is both much closer and much more important than is often realized. This intimate connection must be considered carefully by education officials and donor agencies alike.

This section discusses three factors that are critical to this relationship: curricular policy, supervision and incentives, and teacher training.

### CURRICULAR POLICY DOCUMENTS

The curriculum is generally expressed in a policy document published by a central educational authority. The format, content, and orientation of these documents vary considerably. Some outline the required content according to specific grade levels, and suggest the appropriate amount of time to be devoted to major topics in each subject. Such documents are succinct and explicit and can be very helpful to teachers, supervisors, and administrators. Yet, most curriculum documents are lengthy, verbose, theoretical, and abstract. They are rarely written with significant input by teachers, but rather are the work of Ministry of Education officials and university-level professors (see section 3, "The Reform and Revision of Curriculum"). In these documents, entire chapters are frequently devoted to discussions of the history and importance of education in the country for which they are written, national aspirations and priorities, general and specific educational goals and objectives,<sup>15</sup> the relationship between the curriculum and the total educational enterprise, and general directions for teachers on how material is to be presented.

Some curriculum documents also contain lengthy lists of suggested activities and the materials required for these activities, and some even contain samples of lesson plans that teachers can use. When well done, such material can be quite helpful. However, all too often, such material is poorly organized, overdetailed, and impractical given the realities of the classroom, the available materials, and the abilities of teachers.

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<sup>15</sup>As the terms are used by educators, "goals" are usually broad and general statements of desired educational effects, while "objectives" are narrower and more pointed expressions of specific educational outcomes in terms of student thought and behavior. The distinction approximately parallels the difference between "strategy" and "tactics." Objectives are frequently divided into the areas of knowledge, skills, and affect, with "affect" pertaining roughly to values and attitudes.

Not only are such documents lengthy, but they are also expensive to produce in quantity. Thus, there may never be a sufficient number of them to distribute to all of the teachers, supervisors, and administrators for whom they are intended. When they are distributed properly, teachers may look at them once or twice, become confused and overloaded with the large number of ideas and directives provided, and generally forget about them thereafter.

## **SUPERVISION AND INCENTIVES**

The supervisory corps in most countries is not trained to guide and improve the performance of teachers, but rather, in one or another version of the old British "inspectorate" model, to monitor administrative and noninstructional details in order to ensure that rules are followed, attendance is regular, equipment is maintained, and so forth. Due to poor roads and insufficient transportation, the absence of financing and adequate training for supervisors, an insufficient number of supervisory personnel, and other such factors in developing countries, supervision does not usually do its intended job of improving education. If the teacher corps is reduced in the presence of financial hardship, schools may close or class size may become unmanageable. But if the number of supervisors is reduced, educational business can continue more or less as usual.

Many secondary teachers in developing countries may have second and even third jobs. At the least, they have family and community responsibilities that consume much of their time away from school. In addition, they will normally receive few, if any, extrinsic rewards for preparing good lessons; and intrinsic rewards tend to work less forcefully in developing countries. After the first few years of teaching, most teachers feel that their experience is now sufficient to enable them to do their jobs adequately, and they are unmotivated to spend their time in lesson preparation. The result is that most teachers have little time or inclination to attempt to improve their performance by using elaborate curricular statements or teacher's guides, even if they possess them. And the fact that they will be poorly supervised or unsupervised acts as a further disincentive to put effort into their jobs. Fortunately, there are exceptions to this gloomy description. Unfortunately, these exceptions are not frequent. Hence supervision is often one of the first areas to be reduced when money is scarce.

## **TEACHER TRAINING**

In developing countries, the instructors in institutions that provide preservice teacher training often have not fully mastered the official curriculum documents. And, even if they have mastered them, the instructors may not themselves understand the material that must be presented. As with secondary teachers in their classrooms, financial constraints may prevent the distribution of the relevant curriculum documents in adequate numbers to preservice training institutions, the documents may be lost or forgotten, the quality and quantity of the supervision of their instruction are insufficient, and motivation to present the more difficult or complex content may be absent. Thus, secondary teachers may be ill prepared at the beginning to teach the required curriculum. As one teacher once remarked to this author, "what we teach is what we know."

Again, this tendency is more marked at the lower secondary level, where teachers may be prepared in a variety of ways at a variety of institutions than at the upper secondary level, where the most typical preparation is the local equivalent of a bachelor's degree (B.A. or B.Sc.) However, even at this level, some of these problems can occur. Again, the pattern described operates much more powerfully in developing countries than in industrialized countries. In the latter, teacher training is usually planned, delivered, and supervised much more carefully.

The causality between curriculum and instruction is powerful in both directions. The curriculum—what teachers are supposed to teach, or what they think they are supposed to teach, or what they are willing to teach—is a strong determinant of their classroom behavior and their teaching methodology. Likewise, how they teach becomes an important part of the curricula—mandated, implemented, or hidden—that students receive. Thus, even though there is a clear distinction between the *what* and the *how* of teaching, in many instances it is less useful to think of "curriculum" and "instruction" as two separate but related entities, and more useful to think of "curriculum/instruction" as a single entity. The "two sides of the same coin" image is also apt, as long as one remembers that there is only a single coin.<sup>16</sup>

## 7. THE INFLUENCE OF DONOR AGENCIES ON THE DEVELOPMENT OF SECONDARY CURRICULUM

In the past twenty-five years, the aid programs of donor agencies for secondary education have not focused on curricular development. Several factors are responsible.

- Curriculum is a "soft" area. It is impossible to "measure" the curriculum itself. The purpose of a curriculum is to help an educational system meet its goals and objectives. When such goals and objectives are stated as subjectively as "to help students become effective citizens who participate appropriately in the political processes of the community and nation," or "to help students enjoy learning and become life-long learners," determining whether a curriculum is doing its intended job is difficult at best. Thus, to the extent that a curriculum is measured at all, it is measured in terms of increases in the scores of students on various achievement tests, usually national tests devised by authorities who are far away from classrooms and student learning. In developing countries, national tests are seldom valid or reliable because the technical expertise to construct them well is lacking, they are administered and scored improperly, and budgets are not always adequate for the tests to reach all the students they are meant to assess. As pointed out above in Section 3, the failure of students to perform well on tests is seldom the reason that a curriculum is revised. Another way to say all this is that the success of loans and grants is measured more in terms

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<sup>16</sup>Montero-Sieburth (1992) presents a strong argument for the interrelationship among curriculum, materials, and teacher behavior, arguing that teachers create curriculum through their control over the delivered curriculum and that curriculum cannot be understood apart from the context in which it is delivered. She maintains that this is particularly true in developing countries where teachers frequently operate in considerable isolation from central and even local educational authorities.

of efficiency than of effectiveness. Curriculum development and reform is not easily measurable in efficiency terms.

- A full cycle of curricular development takes a long time, since it entails formulating specific objectives, designing the scope and sequence of content, developing the necessary materials to support the scope and sequence, training teachers to use these materials, trial testing the materials, revising materials and teacher training procedures on the basis of these trial tests, and disseminating student and teacher guide materials to an entire country. Many donor agencies are unwilling to wait for the completion this full cycle, especially when they are unsure how to recognize success once the cycle is finished. One reason for this unpredictability is that necessary research on curricular background and content often cannot be identified until its development has begun.<sup>17</sup>
- Frequently, investing time and money in curricular development does not have the political cachet within the government of the donor country that characterizes other types of investments. Administrators of donor agencies may receive few rewards or incentives for such investments when other, more politically popular educational activities are competing for grant or loan money and for the time and effort of administrators.
- Officials in donor agencies tend to be specialists in administration, management, economics, law, and other areas, rather than in education. Those educators who are on the staffs of donor agencies tend to be specialists in similar fields, such as education management, educational economics, and so forth, rather than in curricular design and development, educational materials development, preservice and in-service teacher training, the supervision of teachers, or testing and measurement. Thus, when loans and grants are put in place, curricula and related issues may not naturally come to the fore.
- To varying degrees in different countries, curricular development is a political (and occasionally religious) process, as well as a technical educational domain. Issues ranging from actual or supposed threats on national sovereignty to the destruction of local folkways, to religious purity may become involved as curricular reform is contemplated and tried. This is particularly true in the various areas of social sciences and wherever moral, ethical, or values/attitudinal topics are considered. On the one hand, donor agencies, tend to ignore this political/religious aspect, since they focus on the technical aspects of curriculum development; on the other, they may recognize it all too well and thus choose not to become deeply involved in the more external forces operating behind curriculum development activities.

When donor agencies do invest in curricular development, they tend to impose (directly or indirectly) technically attractive though often unworkable developmental models on recipient countries. These models do not work well because:

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<sup>17</sup>Despite well-developed traditions in history and anthropology in Colombia, basic knowledge about certain historical periods and ethnic areas was simply not available to curricular developers when they began their work. A successful curriculum could not be created until some of the gaps were filled in. A parallel situation existed in Pakistan. Until basic work in analyzing the Pashto language was undertaken, GTZ could not make adequate progress in developing a Pashto curriculum.

- An insufficient amount of time is available to carry them out properly. Thus, the necessary elements of development may be compressed or omitted, and the results are unimpressive, no matter how measured.<sup>18</sup>
- The technical capacity to carry out such models properly does not exist in the recipient country, and the quantity and quality of the training elements of the loan or grant that are designed to resolve this problem are inadequate.<sup>19</sup>
- Budgetary requirements for the adequate trial testing and eventual dissemination of these materials are not sufficiently provided for.
- The political will in the recipient country that is necessary to sustain the curricular development effort is insufficient.
- When multiple donor inputs into curricular development are available, as is increasingly common, officials in the host country have difficulty in coordinating these inputs. They are not usually trained to do so, and they seldom have enough time or staff to do so well. Few donor agencies are interested in addressing universal curricular reform. Rather, they tend to concentrate on reform in grade levels or academic areas that they are familiar with or that are politically expedient. Host country educators are left to provide the necessary vertical and horizontal articulation and other connecting pieces, tasks for which they are often ill equipped.
- Effective curricular development in developing countries often requires experienced and committed long-term technical assistance to provide patient training, to adopt culturally sensitive stimuli, and to act as a catalyst where appropriate. This type of technical assistance is often expensive, and donor agencies frequently do not see it as a priority. Host countries, particularly where loan rather than grant funds are at issue, may refuse or reduce this type of aid.
- Donor agencies often encourage the import of curricular designs and materials from elsewhere; however, teachers and administrators in the host country are seldom trained to understand, implement, and evaluate these imports adequately.

World Bank experience in curricular development at the secondary level is not unlike that of other donor agencies. In 1974 and in 1980, the Bank wrote basic policy statements on education in general. They both pointed to the importance of curricular development. Of the 77 World Bank loans to secondary education starting in 1962, 24 (31 percent) have a large enough curricular component to warrant using "curriculum" or "curriculum development" as a descriptor in the Bank's document retrieval system. However, "curriculum" is used very broadly as a descriptor, and these curricular activities cover a very wide range of ventures—from study tours to paper for textbook

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<sup>18</sup>When time is adequate, as in GTZ's analysis of the Puno language in Peru and the development of a curriculum and materials for teaching this language, results can be good.

<sup>19</sup>When Barbados trained a significant number of curriculum developers well, good curricular designs and materials were produced.

publishing. While 31 percent is a relatively high percentage, it is fair to say that in few of these loans was curricular development a major activity. Much of the Bank's activity in the development of secondary curriculum took place before 1985. In a 1992 World Bank background paper, "Review of World Bank Fiscal 1991 Education Sector Work," the term or idea of curriculum is not mentioned even once in the entire document.

In the secondary area, the World Bank has tended to concentrate more on inputs (new buildings, expanded access to schooling, the development of educational materials, micro-teaching laboratories, up-dated equipment for science teaching, distance education systems, curricular development centers, and other tangible items whose presence is easily described and measured) than on outputs (student achievement, teacher satisfaction, improved testing programs, and so forth). The Bank has given many loans for vocational/technical education and to diffuse vocational and technical elements into secondary schools. One report estimates that, "of the 174 education projects approved by the Board between 1963 and 1978, as many as 79 projects (45.4%) included an element of diversification."<sup>20</sup>

The World Bank traditionally has made rapid judgments about curriculum and its development. The time and personnel have seldom been available to make careful decisions based on appropriate planning and adequate analysis.<sup>21</sup> This may make the Bank's work in curriculum appear to be an afterthought, even when that is not the intention at all. As one experienced educator in the World Bank said, "The Bank puts in the building blocks but doesn't provide the cement."

## 8. RECOMMENDATIONS

Improving curricula is one of the main vehicles for increasing the quality and effectiveness of education. "Quality" in curriculum and teaching is defined as "what is effective." "Effective" is defined as "that which helps an educational system meet its stated and implied goals and objectives." These quality needs cannot be addressed without a consideration of the curriculum and instructional methodology.

This paper offers several recommendations for donor agencies as they plan and organize educational loans involving curricular development at the secondary level. They can be broken down into four areas: philosophy, procedures, content and personnel/training.

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<sup>20</sup>"Diversification" was previously defined as "introducing practical and/or occupational subjects into an otherwise completely academic program" Haddad, Conly (1987).

<sup>21</sup>When this writer was a member of a Bank mission to Ecuador in 1990 to arrange a loan in education, the personnel on the mission consisted of an educational manager, an economist, a city planner, a statistician, and the author—the only pure educator in the group. To some extent, this balance of personnel indicates how the Bank generally examines educational loans.

## PHILOSOPHY

- Curricula should not be considered finished and final products—but rather as works in progress. As the world beyond a country changes, as the country itself and the society within it change, as knowledge expands and as technological options increase—so do educational goals and objectives and, consequently, curricular needs. The curricular development and revision process must be continuous and never ending.
- A curricular design is an abstract entity. It cannot stand alone, except as a theoretical document. The very powerful and important connections among curricular structure and content, educational materials, and instructional methodology must be recognized and planned for. When possible, all should be considered together as a whole rather than as separate components.
- Curricular change can be very political. In addition to its technical component, it has an emotional component which can be important in recipient countries. To donor agencies, this emotional component may seem quite irrational and illogical. Yet it obeys a rationality and logic that are real to the recipient country. When handled inappropriately, curricular development plans and priorities can cause misunderstanding, ill feelings, and arguments. No donor agency can afford to ignore the political/emotional component of curriculum development.
- Host governments usually prefer grant rather than loan funds to develop a curricula and other "software" items. To the extent that curricular development becomes a high priority item for a developing country, it should be encouraged to use loan and local money in addition to grant money. Doing so will help ensure that the country becomes the "owner" of the developmental process and the products that emerge from it, as well as ensuring that more money is available for what is often an underfinanced activity.

## PROCESS

- Curricula tend to be developed as an immediate need, sometimes in a "hurry up" or even a crisis atmosphere. Better results are obtained when the responsible authorities review their country's curriculum history and relevant planning documents and the curriculum and the experience of neighboring or other appropriate countries.
- Statements of educational goals and objectives should be as brief and succinct as possible—and as specific as possible. When they are available and are assigned to grade levels, the development of instructional materials can begin. It need not wait for further planning or additional elaboration or instructions.
- Specifications for the curriculum must be clear, precise, and reasonably detailed.<sup>22</sup> When specifications consist of no more than a list of topics to be covered, good curricula can seldom be developed.

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<sup>22</sup>When care was taken in developing its specifications, Zimbabwe produced an effective science curriculum.

- Teachers who are experienced and successful at the level for which the curriculum is being prepared should always be meaningfully involved in developing curricular designs and instructional materials. They can be involved most effectively in small, *ad hoc* groups, rather than in large and formal committees within Ministries of Education that are frequently dominated by bureaucrats out of touch with the schools and their needs. These small groups will facilitate developing curricula more rapidly and cost effectively.
- In developing countries, particularly those without a strong tradition of tertiary education, small-action research projects in history, sociology, anthropology, psychology, and other fields may be required to fill gaps in knowledge about local cultural patterns, historical periods, learning styles, and so forth. These projects should be supported by donor agencies as integral components of the curricular development process. Without them, the tendency to fall back on Western models and content is strong.
- Curriculum development and the evaluation of its effectiveness must be linked together in a meaningful way. The results of assessment must be fed back into curricular revision. The bottom-line of evaluation is the extent to which a curriculum enhances achievement among students. But costs, the satisfaction of students and teachers, the ease of producing appropriate materials, and other similar factors must also be assessed.
- No educational material should be officially adopted without adequate trial testing of the material in the environment in which it will be used. Time and money for this type of testing must be built into all loans and grants for curricula, and donor agencies must ensure that it takes place in proper fashion.
- Coordination among donor agencies in curricular issues, as in other educational issues, is seldom done in a more than *pro forma* manner. Money and effort should be spent to ensure meaningful and frequent coordination among donors and the adequate dissemination of the decisions they reach. Obviously, this coordination must be done with the cooperation of host country educational officials.

## CONTENT

- The content of basic subjects (for example, botany and zoology, the structure of a language, plane or solid geometry, or the geography of an area) does not change—although relevant examples may change. A "Curriculum Clearing House" is required in which curricular models, the content of basic subjects, and materials that are appropriate to this content are collected and made available in major languages. This would avoid having to reinvent the wheel.
- National curricular guidelines and materials should be provided to provincial or appropriate local educational authorities, but with options for these smaller entities to use their own staff to develop the curriculum. When indicated, this development can be more than just adaptation to local realities. Such local development should be monitored at the national level. Publicity and rewards should be given for success. Necessary training at all levels should be provided (see below).

- Schemes for allotting a certain percentage of the curricular content to national content and a certain percentage (usually much smaller) to local content make little sense except in the social studies areas. Multiplication is multiplication, without geographical variants. Of course, examples can and should be drawn from the local environment in most subjects.

### **PERSONNEL/TRAINING**

- Curriculum developers must be trained. The necessary quantity and quality of expertise on curricular development exists only in a few developing countries. Equally important is the training of administrators, teacher trainers, supervisors, and assessment personnel in curricular issues.
- Educators must recognize appropriate curricular alternatives, but have little experience in obtaining the necessary information. Study tours, if long enough, if to appropriate places, and if guided by knowledgeable local or foreign educators, are one vehicle for acquiring this type of information. Technical assistants often play a role in acquiring, synthesizing, and presenting this type of information at a level and in a format appropriate for host country educators. But they can do so effectively only after they are thoroughly familiar with local culture and educational tradition.

**ANNEX 1:****CASE STUDIES**

The following case studies illustrate how some of the points made in the body of the paper are revealed in the context of a specific country.

Nine Case Studies are presented: Egypt, France, Great Britain, Guatemala, Japan, Kenya, Thailand, the Union of Soviet Socialist Republics, and the United States of America. France and the Great Britain are included because the influence of their curricular design and content has been pervasive in their ex-colonies, and occasionally elsewhere. The United States is included because many countries have sought to copy elements of the U.S. curriculum as a means to economic and/or social development. The USSR is included given its educational influence on eastern Europe and on communist countries around the world, at least until 1991. Japan is included given its present leadership in economic and development affairs and because it represents a geographical area that differs from that of the other industrialized countries described. Egypt, Guatemala, Kenya, and Thailand are included because they represent developing countries in four different parts of the world whose educational systems have been relatively stable over the past two decades.

Most of the material presented in the following Case Studies is adapted from, and in some cases quoted directly from, the following sources:

Husen, Torsten, and Neville Postlethwaite (eds.), The International Encyclopedia of Education, Pergamon, 1985.

Malkova, Z.A., and B.L. Vulfson, International Yearbook of Education, Vol. 39, 1987, UNESCO, International Bureau of Education, 1987.

Postlethwaite, Neville (ed.) The Encyclopedia of Comparative Education and National Systems of Education, Pergamon, 1988.

Wickremasinghe, Walter, Handbook of World Education, American Collegiate Service, 1992.

## EGYPT

In 1974 the President of Egypt declared that an overall revolution must take place in education, and that the conception, structure, function, and management of education must be reviewed. The populace must be literate and educated, benefit from progress in science and technology, and be more productive. Education should be more flexible, more diversified, and more relevant to societal needs. In 1980 the Ministry of Education stated the main goals of education, which included:

1. Education should be for the reinforcement of democracy, equality of opportunity, and the country's overall development.
2. Education should strengthen the individual's sense of belonging to the country and his Arab cultural identity.
3. Education should lead to lifelong learning through self-education.

Curriculum construction in Egypt is the result of teamwork. Committees are formed which include consultants, supervisors, experts, professors of education, and experienced teachers. There is usually one committee for each subject or group of subjects. The chairpersons of the various committees meet together so that decisions can be coordinated. When a curriculum has been produced by a committee, it is referred to the Supreme Council of Pre-University Education which formally approves it for implementation. By law, curriculum content may be adjusted to local conditions or specific events.

The Curriculum Development Center, founded with the support of a grant from USAID, began in 1989. It was given the task of organizing and guiding these committees and of preparing textbooks and other instructional materials for publication and distribution.

The National Center for Educational Research is responsible for collecting information about curriculum and teaching materials and about their implementation in the field. The results of such studies are channelled to the Council of Undersecretaries and, if change is needed, a committee is formed and charged with the task. There are various ways to insure relevance and to help in the dissemination of new programs. A large number of supervisors and consultants at all levels meet regularly with teachers for guidance and for collecting information. There are various training centers, experimental schools, and demonstration schools, all aiming at curriculum reform and the improvement of instructional methods.

Once a curriculum outline is set, a small team similar to those described above is asked by the Curriculum Development Center to write textbooks embodying this curriculum. The textbook content is not always identical to the curriculum implemented. This is due to a factors such as classroom conditions, lack of supplementary materials and equipment, and teacher quality. Contrary to curriculum instructions, most teaching is verbally oriented. Increasing enrollments, overcrowded classrooms, scarcity of aids and resources, and other factors tend to lower the standards achieved by students. Dependence on a single approved textbook and on the lecture method is prevalent.

Critics claim that curriculums in Egypt are geared more to subject matter than to the learner. The teacher's role can be characterized as that of the giver of knowledge and the student's as that of a passive recipient. Also, relevance to the environment tends to be absent.

Compulsory education has recently been extended from six to nine years, including the first three years of secondary school. The general curriculum at the higher secondary level emphasizes compulsory courses for all students in the first two years. Specialization starts in the final year and is optional. Students can specialize in arts, sciences, or mathematics. Most secondary schools also offer a supplementary program of extracurricular activities. These cover a wide range of social, cultural, athletic, scientific and artistic subjects and endeavors.

Renewed emphasis on job training and career development in Egyptian secondary schools is shown by the time assigned to subjects. General education subjects account for twenty hours per week in the first year of the secondary level, sixteen hours in the second year, and eleven hours in the third year; while vocational subjects, including practical classes, account for twenty-four hours per week in the first year, twenty-eight hours in the second year and thirty-three hours in the third year.

## FRANCE

From 1880 to 1970, French secondary curriculum remained remarkably stable. This curriculum was the result of a compromise among three cultural movements. These were:

### 1. Classical Humanism

This movement, which was introduced to France by the Jesuits, grew out of classical antiquity and the Renaissance. It was closely related to the Ancien Regime and to the Roman Catholic church. Classical humanism is devoted almost exclusively to great literature, both classical and French, which is considered to be the foundation of all education because it expresses universal human values. Classical humanism is highly suspicious of anything which is recent and contemporary. This is why it has little interest in the exact sciences, which are continuously evolving.

### 2. Scientism

In the seventeenth century, under the influence of Descartes, scientism appeared. Centered on the natural sciences, it inspired the Encyclopedists and the educational program of the French Revolution. In response to the growing needs of industrial development, scientism gave rise in the nineteenth century to positivism and exerted a great influence on the educational reforms of France's Third Republic. According to positivism, it is direct contact with the sciences that forms the mind. Positivism distinguishes a number of sciences, independent of one another, which converge to form the supreme science, which is the positivist philosophy. This view of the sciences as separate fields was to lead to the erection of almost impenetrable barriers between the different disciplines in French education.

### 3. Formalism

Formalism appeared at the end of the nineteenth century. According to formalism, it is not so much the content of education which matters as the intellectual operations and formal training which it provides. Formalism borrowed from positivism its taste for the abstract and its method of proceeding from simple to more complex ideas. The emphasis placed on the abstract was intended to guarantee the provision of unbiased and free general education, but, in fact, it helped lead to a division between school and practical life.

In order to meet the demands created by the introduction of the baccalaureate as the national diploma, the study plan of the colleges of the Ancien Regime was replaced by specific curriculum programs between 1820 and 1840. In reality these were programs for examinations. The new curriculum specified the range of topics on which candidates were questioned. Each school level was provided with a specific curriculum and timetable, identical everywhere in France. Each year's curriculum was a continuation of the previous year's, moving toward ever more complex ideas and difficult concepts. This was the reason for the restrictive nature of programs, which left little latitude to teachers and took very little account of the personalities, abilities, interests and needs of adolescents in general or of individual pupils.

These programs were basically concerned with the acquisition of knowledge. The number of hours accorded to a subject defined its importance in the curriculum. The lycee (higher secondary school) was the classical school against which all other secondary schools measured themselves. The lycee was reserved for the children of the bourgeoisie. Its curriculum, which led to the baccalaureate, established a hierarchy of subjects in which the most abstract (such as mathematics and grammar) and those most concerned with the past (such as classical languages) generally enjoyed the greatest prestige. Physical education and artistic subjects were neglected.

In the century after these reforms, a few changes in the respective status of different subjects took place. Modern languages took the place of Latin in so-called "modern" education intended for future middle executives and for females, and were gradually promoted to the level of main subjects.

Even though the structure of secondary education underwent a transformation during the 1960s in response to the need to democratize education, with obligatory schooling mandated until the age of 16, the design of the curriculum hardly changed. This stagnation motivated criticism of the following:

- (a) the literary and verbal nature of curriculum which favored pupils from the bourgeois classes,
- (b) the remoteness of the curriculum from the modern world,
- (c) the tediousness of the curriculum which hampered true development of the mind, encouraged passivity, and made it impossible to make choices based on the interests and needs of the pupils, and
- (d) the apparent neutrality of the content which prevented the study of values, attitudes, and ethical issues.

In the late 1960s, the need was felt to make schools more open to the concerns of daily life and to take into account student interests. This resulted in the introduction of school and careers advisory services in secondary schools. Education was extended to technology and the world of work, and began to be concerned with communication among people and of life in society.

Important changes continued in the 1970s. The downgrading of Latin continued and is now taught only from the third year of secondary schools. The development and extension of science subjects to all pupils took place. Economic and social sciences were introduced in the upper secondary classes, and technology as a subject appeared in the lower secondary classes. Mathematics rather than Latin became the subject to differentiate more from less able pupils.

In France differentiation or separate streams for students has been practiced for over 100 years. Some of its features were borrowed by European and Latin American countries in the last century, and it is still the model in most ex-French colonies. This system, however, has undergone reform in the past two decades. Until the mid-1960s, first year pupils of seven year lycees were distributed between classical and modern sections. The former included Latin or Ancient Greek or both of them, while the latter devoted more time to French and modern foreign languages. These sections occupied different rungs on the hierarchical ladder. Classical sections enjoyed the highest

academic and social prestige. The division into "classicists" and "modernists" was a form of social selection. The share of workers' and farmers' children in classical sections was two to three times lower than in modern sections.

As a result of reforms carried out over the past twenty years, the secondary school in France has been substantially restructured. Middle school or the first four years of the secondary level are now called "College" (grades 6-9). General academic subjects are offered at this level, and recently technical subjects have been added as well. College is now followed by a three year lycee program (grades 10-12).

The old classical and modern sections of the lycee are now replaced by a new differentiated system. A single compulsory curriculum for the tenth grade includes French, history, geography and law, a foreign language, mathematics, physics, natural science, and physical training. Pupils are also offered optional subjects: ancient and foreign languages, technology, specialized physical training, and practical subjects such as typewriting and manual skills. In the eleventh and twelfth grades differentiation is more marked and provides four options: humanities, sciences, sociology-economics and technical subjects. Each option is, in its turn, sub-divided into sections. For instance, the science option has mathematics and physics, and mathematics and biology sections; the technical option consists of mechanical engineering, electrical engineering and electronics sections. etc. Sections differ greatly in choice of subjects and in the time devoted to them. Under this system, the organization of upper secondary grades begins to resemble that of comparable departments in universities.

The baccalaureate diploma is still the sine qua non of secondary education and remains necessary for university entrance. At present only 38% of French youth receive the baccalaureate. While this is a great improvement over the 11% who received it in 1960, it is still far short of the government's goal of 80% by the year 2000. To help attain this goal and to broaden the base of students who receive this diploma, baccalaureates are now being awarded in professional and technical as well as academic fields.

The chief educational officer in France is the Minister of National Education, who has cabinet rank. He has the authority to appoint teachers, issue directions for curriculum, and specify instructional methods. French curriculum, which is developed with the aim of identifying a future elite, usually meets exacting standards. The Inspecteurs Generaux de l'Education Nationale (IGEN) of the various subjects are the highest authority on matters of curriculum. They design it, interpret it, and check that it is carried out. They watch over the quality of teachers, inspect and assess them, and advise them in their work.

Traditionally, there is a curriculum and a timetable for each subject studied. The curriculum is presented in a loosely structured manner which often fails to make clear the objectives pursued. Therefore from time to time the IGEN find it necessary to bring out instructions explaining how to interpret the curriculum, justifying the choice of topics, indicating the general objectives to be followed and the desired teaching methods. However, as a result of the development of the scientific study of education which has given rise to a demand for rigor within education, these instructions in recent years have become more precise concerning the objectives to be achieved, and there have been more of them. This is also a way of compensating for the shortcomings of the pedagogical component of teacher training.

Traditionally, there is a General Inspectorate corresponding to each subject taught, and a hierarchical structure for recruiting teachers, which is based on recognized university subjects. This aspect of the French education system explains both the difficulty of introducing new subjects and also the resistance shown as much by teachers as by the IGEN to interdisciplinary studies.

The monopoly of curriculum control held by the IGEN has the advantage of shielding teachers from pressure from local interests, and of assuring the homogeneity of education and the maintenance of a more or less equal standard of education throughout the country. Teachers and parents remain quite attached to the principle of national programs of study.

The French educational system is highly centralized, and only slight variations in curriculum are allowed at the local level. The traditional curriculum has had the merit of helping to maintain national unity through all the vicissitudes of history. But now there are forces at work which are likely to make far-reaching changes in curriculum and other aspects of secondary education. Among these are the rapid growth in knowledge, the realization of plans to decentralize educational control, the increased secondary enrollment, the realization that students need guidance which takes greater account of their individual differences, and the introduction of more rigorous scientific and didactic considerations into curriculum design.

## GREAT BRITAIN

Curriculum studies did not really exist as a separate field of enquiry in Great Britain in the nineteenth century, but there were important discussions about the content of the curriculum. Educational debate tended to be dominated by a combination of two related social theories - economic laissez faire and the political philosophy of the utilitarians. There were religious arguments in favor of compulsory education, but these tended not to have any lasting influence on the curriculum as a whole, except that for many years religious instruction retained a high priority.

Laissez-faire doctrine discouraged government interference so that the "hidden hand" of the market could operate to maximum advantage. For some, education was an exception to this rule. Utilitarianism was based on the premise that any government policy could only be justified in terms of increasing human happiness and diminishing pain. Utilitarians argued that the benefits of education could not be judged by the amount of immediate gratification produced, but only in terms of long-term benefit to society as a whole.

The most complete account of the utilitarian approach to education was given by James Mill in an article on "Education" in the 1818 edition of the Encyclopedia Britannica. The qualities which should be produced by a utilitarian curriculum were sagacity, temperance, justice, and generosity. Mill brought together a theory of knowledge and a psychological theory of learning. He made the assumptions that the human mind begins as a "clean slate," that the origin of all knowledge is sense experience, and that knowledge is built up by "association".

In the case of secondary schools, government regulations prescribed the curriculum from 1904 until the 1944 Education Act. This formal curriculum was strengthened by an examination system controlled, to some extent, by the universities.

Until the 1950's, most of the information which could be classified as curriculum studies was contained in official government reports. The theory reflected in such reports was often unclear and out of date. The tradition of curriculum theory taking the form of official reports written by civil servants continued after the 1944 Education Act, but in about 1960 curriculum studies as a university subject emerged. This development came about partly as a reaction to official policy. In 1960, the Minister of Education announced a proposal to set up a Curriculum Study Group. This was seen by local education authorities and teachers as a threatening move to bring about central control of the curriculum.

In 1964 the government was persuaded to abolish the Curriculum Study Group and replace it by the Schools Council for Curriculum and Examinations on which teachers would have much greater representation. The typical early Schools Council Curriculum project was based on the center-periphery model with a university subject "expert" at the center. Much of the academic study of curriculum emerged out of a development from, or opposition to, this model. Important new efforts at both curriculum design and instructional materials development, such as the Nuffield Science Project, emerged during this period.

The development of curriculum studies may also have resulted in a change of attitude by the Department of Education and Science (DES). Since the mid-1970s, there have been clear indications

that many civil servants and politicians wanted more central influence in curriculum concerns. This resulted in two official DES documents, Framework for the School Curriculum (1980) and the School Curriculum (1981), both of which were unconvincingly argued and lacked a clear theoretical basis.

A government study of secondary education titled Aspects of Secondary Education in England: A Survey (1979) reported that secondary schools did not neglect basic skills and were anxious to respond to public and parental expectations. While the study found encouraging developments in mathematics and science, it argued that both subjects needed to be related more to the outside world. The study pointed to the need for a new rationale for the secondary school curriculum and a simpler curriculum structure with fewer options.

There had been no nationally determined curriculum in the United Kingdom until 1987, when the government proposed the introduction of a single national course of studies. Until this time, control of the curriculum by individual schools and teachers had been the norm. However, the examinations boards which oversaw the general certificate of education, or its equivalent, exerted a unifying influence on what was taught in secondary schools.

For the first time in recent British history, the content taught in secondary schools was structured according to a national curriculum by the 1988 Education Reform Act. This act introduced a standard course of studies for government schools that will be phased in gradually, beginning with the introduction of core subjects (English, mathematics, and science) in primary schools in September, 1989. When complete, the curriculum will be divided into the above three core subjects and the eight foundation subjects of history, geography, crafts, design and technology, music, art, physical education, and modern languages. Religious education with a Christian, but non-denominational, basis is compulsory, although not designated as a core or foundation subject. In Wales, the Welsh language will be taught as either a core or a foundation subject, depending on the native language of the students. This new curriculum will have academic rigor, more completely specified requirements, a clear organization of subject matter, improved school discipline, and a linking of school, further study, and working life.

This new curriculum has been criticized for its rejection of integrated studies, cross-disciplinary approaches, and the newer social sciences as well as for its extreme centralized control. It is seen as more coherent, but also as more rigid. Learning will be more structured and probably more teacher dominated. Accountability will be the watchword. The government will set examinations, and assessment of students will be earlier and more frequent. Standardized testing of all state school students will take place at ages seven, eleven, fourteen, and sixteen.

Her Majesty's Inspectors of Schools will continue to be responsible to the Secretary of State for Education and Science for the inspection of all schools, including independent schools. These inspectors investigate and report on all aspects of education in schools, including the curriculum, and advise the schools as well as the government and local education authorities on the solution of educational problems. Local education authorities usually provide teachers' centers where teachers meet for curriculum development work and in-service training. Learning materials are provided by a wide range of private and public enterprises including publishing firms, teachers, and higher education institutions.

The Secretary of State for Education and Science is responsible for all aspects of secondary education in England. The Secretaries of State for Wales, Scotland and Northern Ireland have full responsibilities in their respective countries for non-university education. Administration of government schools is decentralized. Responsibilities are divided among the central government departments, local education authorities and various voluntary organizations.

Government schools are generally of two kinds, country schools and voluntary schools. Country schools are maintained by local education authorities out of public funds. Voluntary schools, mostly established by religious denominations, are also maintained from public funds, but the governors of these schools contribute to capital costs. Almost one third of the U.K.'s secondary schools are independent (non-maintained). However, these schools educate only approximately 7% of the total secondary enrollment. Some of these schools, often called "public" schools, were established centuries ago; and many are still attended by the nation's social and economic elite.

Compulsory free schooling is provided for students aged 5 to 16. Students usually enter the secondary level at age 12. Some counties still operate "middle schools" as a stage between primary and secondary education, and the private sector operates its own system of preparatory education prior to a "common entrance" examination. Students are free to leave school at the age of 16, but many proceed to the sixth forms of secondary schools for a further two years (grades 11 and 12) of specialized study. There is also a growing tertiary sector in which some students aged 16 to 18 study in the same institutions as their older peers.

## GUATEMALA

The Constitution of 1965 declared that the main aims of Guatemalan education were:

- Overall personality development,
- Physical and spiritual improvement,
- The development of the citizen's sense of individual responsibility,
- The civic progress of the people, and
- The inculcation of patriotism and respect for human rights.

The constitution further stated that the family was one of the primary sources of education and affirmed that parents have the right to choose the education their children receive.

Secondary education began in Guatemala in 1875. In 1944, the secondary curriculum was standardized into a three year sequence which was the same for both academic and primary teacher training tracks. In 1952, this basic core curriculum was extended to all types of secondary education. The content of this curriculum included Spanish language, English language, mathematics, social studies, natural sciences, physical education, aesthetic education, industrial arts (for males), and home economics (for females). Specialized studies at the higher secondary level continued for two more years in the academic track, with students concentrating in one or more of these content areas. This curriculum remains substantially unchanged to the present day.

The National Education Law of 1976 referred to the need to base education on scientific, cultural, and technological principles which prepare students for productive work, give them access to other levels of cultural and national life, help them to live harmoniously with others, and promote community improvement. The state was to create and support basic vocational education centers and make education "polytechnical."

In 1945, the Technical Council on Education was put in charge of curriculum planning and development. In 1956, the Division of Curriculum and Learning Processes was created to perform this function. In 1962 this division was transformed into the Educational Planning and Research Department. A year later its functions were absorbed by the Office of Integral Education Planning, which planned the educational development of the country for over twelve years. In 1976, the Sectorial Unit of Educational Planning and Research was created with a broader range of functions than the previous offices in charge of curriculum planning.

According to current legislation, curriculum and study plans must establish the immediate and longer range objectives of teaching, and they must be periodically and systematically evaluated through seminars and other means which the Ministry of Education organizes. These study plans and curriculum, both in their technical and in their administrative aspects, have been decentralized and take into account the different regions of Guatemala.

According to the Ministry of Education, educational programs in the fields of science and technology must be oriented to the production capabilities of the country and to the improvement of Guatemala's socioeconomic conditions and the people's social and cultural development.

Teaching methods are suggested and supervised by the Ministry of Education through circulars, short courses, and instruction organized by educational supervisors. School texts have to be approved by the technical council in order to appear in the official lists of approved materials. Teachers can, however, expand this bibliography as long as the selected titles are in line with prevailing legislation and the educational policy outlined by the state.

## JAPAN

During the feudal period of Japanese history there were already popular educational institutions for commoners, the so-called writing schools, or terakoya (literally, "temple school"), which by the seventeenth century were purely secular institutions. There were 34 terakoya by the mid-eighteenth century and 4,293 by the mid-nineteenth century. In addition to the terakoya, most feudal territories also had clan schools (hanko) which were mainly for students of the samurai class. Toward the end of the feudal period western studies such as medicine, foreign languages (particularly Dutch and English), and military science were widespread.

In 1867, feudalism disappeared with the establishment of the Meiji government and Japan became a modern state. In 1871 the Code of School Education was promulgated. It divided Japan into eight university districts. Each district was to have one university and 32 middle-schools. Thus the plan called for a total of 256 secondary schools, in addition to 53,760 elementary schools. The ideas of G.F. Verback and Marion M. Scott were fundamental to Japanese schools. Scott, a California school teacher, introduced such equipment as the blackboard and the desk and brought the idea of a timetable. After some modifications to adapt them to the Japanese school system, these novelties became widespread in the 1870s.

A few months before the 1872 movement for establishing new schools was launched, the Japanese Government dispatched a high-level mission under Prince Tomomi Iwakura to the west in order to study foreign educational systems and practices. The Educational Ordinance of 1879 was issued by the Ministry of Education on the basis of a plan suggested by Dr. David Murray, a professor of mathematics at Rutgers University (USA).

In the early twentieth century, the school curriculum was influenced by John Dewey, William H. Kilpatrick, and other representatives of American pragmatism. Motivated by American pedagogy, liberal and comprehensive education was established in some elementary and secondary schools affiliated with national universities.

After the Second World War, under the influence of the American occupation, the entire educational system was reorganized, and changes were introduced into both the school structure and the curriculum. Compulsory education was increased to nine years of free public schooling, and a further three years of upper-secondary school (corresponding to the American high school, but charging fees) was adopted throughout Japan, and this structure exists to the present day. For the first time, social studies were introduced into the curriculum in elementary and lower-secondary school.

In the 1990s a significant development in Japan's curriculum revision is the inclusion of topics from the country's involvement in World War II. Instead of the brief and bland treatment customary for the past forty years, Japan is now including a more realistic and detailed consideration of such topics as its occupation of the Korean peninsula, its expansion into Manchuria, the forced labor of other Asian peoples, its prison camps, and key events of the war.

At the beginning of the 1990s, the educational programs in the lower secondary school (chugakko) include subjects in two categories: compulsory and elective. Japanese language, social studies, mathematics, general science, music, fine arts, health and physical education, and

homemaking (for females) and industrial arts (for males) are compulsory. Elective subjects include foreign languages, music, fine arts, health and physical education, and pre-vocational subjects. Moral education and special extracurricular activities are also conducted in the lower-secondary schools.

In 1989, 94.7% of all lower secondary graduates entered upper secondary schools (koto-gakko). About 70% of these students study general courses required for university entrance. All upper secondary students are required to follow a core curriculum before specialization. This curriculum consists of Japanese language, geography, history, citizenship, mathematics, science, art, health, and physical education. At least one hour per week of club and extracurricular activities is also required.

The current curriculum for elementary and secondary school is based on the Course of Study issued by the Ministry of Education, Science and Culture. This publication sets the basic framework for curriculum at each grade level including objectives, instructional content, and standard time allotments. The prefectural and municipal boards of education prepare guidelines for curriculum development in the schools in their areas, and individual schools are required to organize their own detailed instructional programs on the basis of the courses of study and the guidelines.

The courses of study produced by the Ministry of Education, Science and Culture are formulated in the following way. Upon request of the Minister of Education, the Curriculum Council, the Minister's advisory body on matters of school curriculum, prepares the basic guidelines for revising a course of study. The guidelines prepared by the Council are utilized by Ministry subject specialists and their collaborators as the basis for writing the course of study for each grade and subject matter. A course of study is revised approximately every ten years. Teachers' guidebooks for each grade level and subject are also prepared by curriculum specialists in the Ministry with the assistance of teachers who are involved in the deliberations of the Curriculum Council.

The textbooks authorized by the Ministry and adopted by the local Boards of Education for use in schools serve as the main instructional material in the classroom. The textbooks are developed by commercial publishing companies and, once adopted, they are distributed free of charge to students in primary through lower secondary school, those years which form the period of compulsory schooling.

## KENYA

The tremendous expansion that took place in Kenya's educational system between 1960 and 1975, and the social changes that accompanied this expansion, dictated a review of the national goals of education in 1975. The National Committee on Educational Objectives and Policies outlined the goals for education in Kenya for the 1980s as follows:

- To promote national unity by removing social and economic inequalities,
- To promote full development of students' talents,
- To promote values conducive to national unity,
- To promote positive attitudes to work,
- To promote national development and equitable distribution of incomes, and
- To integrate education with rural development.

The Kenya Institute of Education is the main organization entrusted with the task of curriculum development. The Institute prepares new curriculum materials, revises existing course content, coordinates programs in teacher education, and develops and promotes innovative practices to improve educational quality.

To facilitate the process of curriculum development, the Institute has set up a system of panels. The membership of these panels includes teachers, educational administrators, teacher educators, school inspectors, university professors, trade unionists, and representatives of various religious, political, and voluntary organizations. There are 65 panels with a total membership of approximately 1,500 people. All curriculum changes must be considered and approved by the panels. The process of revision and approval begins with the relevant subject matter panel. Results of this panel's review are passed on to the appropriate course panel and from there to the academic board of the Institute before final revisions are made and approval is granted by the concerned Directors of Education in the Ministry of Education.

Secondary curriculum in Kenya has gone through three stages. The first stage was that of adoption, where curriculum was imported wholesale from the United Kingdom. The content of this curriculum was often irrelevant to the needs of the majority of Kenyan children, and textbooks were often alien to local cultures in terms of content included and examples chosen.

The second stage was that of adaptation. This stage took place at two levels. The first was low-level adaptation, in which only the most obvious changes were made from the previous curriculum, such as localization of place names or inclusion of examples from the local environment. The second was high-level adaptation, in which more basic questions were asked of the original material. Among these questions were: Does the syllabus or content coverage need changing? Is the organization of this content acceptable for Kenyan schools? Is the style and presentation of the textbooks appropriate? Are the instructional methods implied in the curriculum suitable?

The rapid increase in secondary school enrollment in the late 1960s and 1970s, and the problems this increase created, led to discontent with the then existing syllabus. Politicians and educators called for a revised and more relevant curriculum. This led to the third stage of curriculum development, the production of programs of study which meet the needs and aspirations of the Kenyan people. This is a curriculum based on Kenyan ideology, rooted in indigenous history and culture, and drawing on European curriculum designs and content only to the extent that they meet Kenyan needs and are relevant to local problems.

The content areas covered in the current four year secondary curriculum are Kiswahili, English, mathematics, biological sciences, physical sciences, geography, religious education, music or art, social education and ethics, physical education, and a foreign language.

In addition, Kenya has remodeled its curriculum in order to instill more practical skills. There are programs and schools for technical education, home economics, principles and practices of agriculture, business methods, typing and shorthand, office procedures, and accounting.

The success of the new curriculums will depend on many factors, one of which is the instructional approach used by the teachers. Generally speaking, teaching methods in Kenyan schools have not changed much from colonial times. They emphasize the teacher dominated lecture approach with much copying and memorizing by students. Some of the reasons for this are overcrowded classrooms, under-qualified teachers, lack of motivation to prepare imaginative lessons, lack of variety and creativity in instructional materials, the pressure of external examinations, and the ingrained habit of using this approach.

## THAILAND

Education is of particular interest to the government of Thailand because almost half of the country's population is of school age. In 1984, 24,730,000 people out of a population of 50,580,000 were in the 4 to 24 age range. Since less than half of the school age population was in school in 1984, increasing both the quantity and quality of education at all levels was stated as a national priority.

Approximately 45% of primary school graduates currently continue on to the lower secondary level, and approximately 54% of those students entering this level proceed to the upper secondary level. Except in certain rural areas, there are enough places in secondary schools to meet demand. Although government secondary education is free, there are hidden costs, as well as opportunity costs, involved in attending secondary schools; and it is primarily for economic reasons that the percentage of the secondary age cohort attending school is not higher.

Traditionally, the government has considered education as a means to foster national unity and to provide basic competencies in literacy and numeracy necessary for further schooling and/or employment. For the Thai individual, schooling has been seen as a major avenue to social mobility. An educational reform movement was begun in 1974; and in 1977, with the National Education Scheme, the goals of education were further broadened to include an appreciation of the relation between education, life, and society. In addition to the regular academic skills in the then current curriculum, this new scheme placed special emphasis on non-cognitive learning and moral values.

Secondary curriculum has been modified in accordance with the new school structure of six years of primary school, three years of lower secondary school, and three years of higher secondary school which was introduced in 1973. The Department of Normal Education of the Ministry of Education has responsibility for the development of curriculum at the secondary level. This curriculum must be followed by both government and private schools. Secondary education aims to provide appropriate academic and vocational knowledge consistent with the learner's age, needs, interests, and aptitudes which ultimately will be beneficial to the individual's career and to society at large. Recently more emphasis has been put on vocational training. The government continues to make efforts to promote secondary education and to guarantee equal opportunities for all students.

Secondary curriculum is divided into the following areas: Thai language, science, mathematics, social studies, civics and ethics, and physical activities. English is a compulsory second language. Schools are allowed some freedom to adjust the curriculum content to local conditions. There is a wide range of exploratory pre-vocational and elective subjects available, depending upon the needs of the students and the resources of the school. The use of a credit system facilitates flexibility in course choice. At most schools an active extra-curricular program of academic, social, religious and sports activities supplements the standard curriculum.

The Educational Techniques Department, with the assistance of cooperating agencies, is responsible for the production and improvement of learning materials such as lesson plans, textbooks, supplementary readers, and teachers' guides. As soon as instructional materials are prepared at the national level, regional curriculum development teams study them and decide on the modifications necessary to suit a particular region.

To ensure that new curriculums are implemented, a number of steps are taken. The most important is nationwide, short-term in-service training for all teachers at the level where the curriculum changes have been made. Also, through the Free Textbook Program, the government publishes new instructional materials and distributes them to all schools. Finally, regular supervision as well as specific teacher evaluations provide checks to ascertain the degree of compliance with nationally determined standards.

Methods of instruction are generally suggested in the syllabus, and teachers are encouraged to keep abreast of educational changes and new teaching methods. The Ministry of Education also sends out supervisors to work with school teachers to help them improve their teaching. Many teachers, however, still use traditional methods of "chalk and talk."

There are various problems in Thailand related to secondary curriculum and teaching methods. Inadequate teacher supervision results from shortages in supervisory personnel, appropriate supervisor training, and budget. The government is not able to provide enough textbooks and educational equipment. Qualified teachers, particularly specialized prevocational teachers, are insufficient. And there is a lack of readiness for and understanding of recent curriculum changes on the part of many educational personnel.

## UNION OF SOVIET SOCIALIST REPUBLICS

The first Russian studies in the field of curriculum theory were published in the late nineteenth century by Konstantyin Ushinsky. After the socialist revolution, the first Minister of Culture of Soviet Russia was Lunacharsky whose 1918 analysis of the curriculum of the polytechnical work school can be considered the first socialist contribution to curriculum theory. In the last fifty years, the study and development of curriculum theory has been officially encouraged by the Soviet government. It has been pursued at the Academy of Pedagogical Sciences and in university departments. Academics also carry out systematic preparatory work for new curriculum plans and conduct evaluations of the curriculum's results.

The socialist revolution of 1917 transformed curriculum in the USSR to make it conform to the radical changes in the goals, functions and structure of the educational system. Polytechnical work schools were established, in which the curriculum was organized on psychological principles that encouraged students to do creative manual work and to integrate study with community life. John Dewey, who visited the Soviet Union in 1928, was greatly impressed by the community related work experiences which he observed in schools. Nevertheless, after the criticism in the 1930s of the "pedagogical aberrations" in both the theory and practice of education, the curriculum became more scientific and systematic, with more emphasis placed on its formal aspects. This change coincided with the gradual extension of compulsory general and secondary schools to a wider public. The process continued after the Second World War, with the Education Act of 1958 giving new impetus to curriculum reform. Reform at this time instituted a common lower secondary level with the same curriculum for all, and then a differentiation at age 15 into academic, technical/professional and vocational tracks.

The rapid development of science, technology, and culture required a considerable revision of the content of general secondary education. In 1964 the Academy of Sciences and the Academy of Pedagogical Sciences of the USSR created a curriculum committee called the Program Commission and made it responsible for defining the content of education. The Program Commission consisted of 500 prominent scientists, methods specialists, experienced teachers, school heads, and leaders of public education. Proposed new curriculum organization and content was published for wide discussion, and on the basis of suggestions and recommendations from scholars, educators, and parents, the commission finalized the new curriculum. The scientific and theoretical levels in all subjects were raised, old textbooks were revised, and new textbooks were compiled. The modernization of the content of general education took a decade to complete and was finished in 1976.

In 1984 the Communist Party announced a plan to reform the education system and improve the quality of teaching in secondary schools. In 1986, one year was added to primary school, lower secondary school started at grade 5 and ended at grade 9, and higher secondary school now included grades 10 and 11. All students were required to master Russian by the time they left secondary school, regardless of their region. Teacher training was increased from four to five years, more men were encouraged to enter teaching, textbooks were revised, and more practical work and technical subjects were introduced into the curriculum.

Curriculum in the Soviet Union now consists of an official, centrally designed set of documents which establish the structure of each school subject and the time allocated for its study. These documents also define both the general and the specific aims of each subject, outline the objectives to be covered each year, specify the performance expected of the students, address the basic methodological principles to be considered in instruction, and include, directly or indirectly, guidelines for recommended teaching techniques.

Curriculum content is now uniform throughout the USSR for each grade at both the lower secondary and the higher secondary levels. This standardization guarantees an equal opportunity for all students to continue their educations, irrespective of where they attended secondary school. While the state determines the secondary curriculum at the national level, each republic may also add its own content for specific subjects, such as Russian as a second language or the history and geography of its region.

The curriculum of the last decade contains a detailed and carefully structured system of goals and aims which regulate the instructional processes as well as the selection of subject matter. This system emphasizes the development of the socialist personality and the strong ideological convictions associated with Soviet citizenship. The emphasis is on acquiring both learning and work related skills. Soviet pedagogues attach great importance to raising pupils' cognitive achievement and to their ability to learn independently. Great attention is paid to scientifically constructed lessons and to the use of various technical aids in the learning process.

Curriculum is diversified either through tracking or through the system of optional courses. Optional courses have been introduced in grades 7 to 11, and teacher's guides have been compiled. Students may choose their own optional courses. Prominent scientists, methods specialists, and experienced teachers are enlisted to write the textbooks and teacher's guides in these optional subjects.

Required courses in Soviet lower secondary schools (grades 5 through 9) are Russian language and literature, mathematics, history, geography, biology, physics, chemistry, art, foreign language, music, physical education, vocational training, and the Soviet state and its law. Not every course, however, is studied every year. At the higher secondary level (grades 10 and 11) the required courses are Russian literature, mathematics, computer programming, history, ethics and family life, social science, geography, biology, physics, astronomy, chemistry, foreign language, physical education, military training, and vocational training. Again, each course is not necessarily studied each year. There are two hours a week of optional courses in the seventh to ninth grades and four hours a week in the tenth and eleventh grades.

Extracurricular activities are important in the Soviet system of education. Different clubs and societies are organized in schools outside of school hours. Through this means students pursue sports, drawing, modelling, dance, singing, and technical subjects. Students with a talent for music are taught to play musical instruments. Many intermediate and senior students belong to young naturalists' or young technicians' clubs.

The curriculum in specialized secondary schools aims to insure the completion of general secondary education by those who were unable to finish secondary school, to give students sound special knowledge and skills, and to provide a broad polytechnic and professional training. Technical secondary education is considered as "general education" in that the graduates of these schools are entitled to enter any institution of higher education in the country.

With the breakup of the Soviet Union in 1991, fifteen new countries were formed, each with different ties and allegiances to the old USSR and to the dominant Russian Republic. While generalizations are difficult, early tendencies include a swing to more capitalistic and less socialistic systems in economics and politics and the adoption of a number of "western" ideas and procedures. What this will mean for social organization and for education is not yet clear, but it is obvious that major changes may be expected as the decade of the 1990s advances.

## UNITED STATES

The earliest American secondary curriculum was drawn largely from European antecedents, particularly from English secondary schools and colleges. Latin, Greek, and mathematics were standard fare in the early Latin Grammar Schools in colonial New England, and religious influence was strong. Subjects were not distinguishable from the works or sources studied, and in many cases the curriculum consisted simply of a list of books to be read. After American independence, particular books continued to be the basis of the curriculum, and increasingly they tended to be the work of American authors. Early in the nineteenth century, as the academy replaced the Latin Grammar School as the predominant form of secondary education, the curriculum broadened to include a few more practical subjects such as surveying and navigation. As the United States became more urbanized, there was also a tendency toward greater uniformity in the course of study and correspondingly less attention to the individual teacher as the source of what was taught. In Chicago, for example, between 1856 and 1864, the superintendent of schools divided all students in the city into grades and established a distinct curriculum for each subject at every grade level.

As the nineteenth century drew to a close, interest in curriculum intensified. By 1880 the United States Commissioner of Education, William Torrey Harris, had declared, "The question of the course of study is the most important the educator can have before him." The increased attention to curriculum matters was associated with a recognition that the industrialization which had been going on in the country for some time was having important consequences for such institutions as the family and the church. Many educational leaders saw in such changes a need to reconstruct the course of study in order to bring the school in line with a changing social order. The general goal of secondary education was to unify a mobile, dispersed, immigrant population through the teaching of American values, practices, and language, and to prepare the young for productive life in the new, increasingly industrial and urban society.

"Mental discipline" was the fundamental rationale for the American curriculum at this time. Coincidental with these social changes, or perhaps as a consequence of them, this rationale began to be less persuasive. For years the study of the classical languages, mathematics, and traditional academic subjects had been justified as the way to develop good habits of thought and to strengthen the power of reasoning, that is, to provide "mental discipline." To a large extent that rationale served to sustain certain traditional subjects against the competition of such newer subjects as modern foreign languages, social science, and manual training. One of the most significant of the challenges to mental discipline came in 1890 when the psychologist and philosopher William James reported a simple experiment showing that memory could not be improved through practice. James's experiment was hardly conclusive, but it did initiate a series of challenges to the efficacy of mental discipline as a way to justify the continuance of certain subjects in the secondary curriculum.

At the time when this attention to the consequences of social change was intensifying and mental discipline was being challenged as a curriculum theory, enrollments in American secondary schools began to increase dramatically. By 1930 the number of youth between the ages of 14 and 17 attending secondary school was over 51 percent of their age group. For many educational leaders, these increases in the enrollment necessitated a corresponding change in the curriculum. One of the most significant educational events before the turn of the century was the appointment by the National Education Association of the Committee of Ten in 1892, with Charles W. Eliot, the president of Harvard University, as chairman. The overall charge of the committee was to achieve uniformity in the secondary school curriculum.

Eliot was a mental disciplinarian, and the report of the committee reflected that orientation. Eliot was also, however, a reformer; and some of the recommendations of the committee reflected modest changes that he sought to institute in the curriculum of secondary schools. The heart of the report was a set of four courses of study - Classical, Latin-Scientific, Modern Languages, and English - each of which, according to the committee, represented an appropriate curriculum for the secondary schools and also a basis for college admission. The study of Latin and Greek was greatly reduced, and students could be admitted to university with only one modern foreign language.

One of the most significant questions that the committee considered was whether there ought to be a distinction in curriculum between students who were preparing for college and students who were preparing for "life". The committee unanimously endorsed Eliot's view that such a distinction was undesirable since the school's function to develop good habits of thought ought to remain the same for all students regardless of probable destination. Much contemporary criticism of the work of the Committee of Ten involves the charge that the committee succeeded in imposing university domination over the high-school curriculum, thereby inhibiting innovation and change for decades to come.

The chief critic of the committee's recommendations was G. Stanley Hall, one of the leading psychologists of the time, and leader of the child-study movement. Those associated with this movement believed that a proper course of study could be constructed around the student's "true nature" and that a scientifically based curriculum could emerge from gathering a massive amount of data on the student. The child-study movement was part of a growing challenge to the current humanist curriculum, a challenge which claimed the authority of science. Hall saw the new population of high-school students essentially as a "vast army of incapables", making unworkable the curriculum that the Committee of Ten had endorsed. The range of ability in schools, according to Hall, was so vast that it required sharp differentiation in the curriculum, not only in terms of ability, but also in terms of gender.

When the Committee of Ten reported to the National Education Association in 1895, the leading spokesman for the traditional humanist curriculum was William Torrey Harris. Unlike Eliot, Harris was not a mental disciplinarian, but much of his career as Commissioner of Education was devoted to articulating a rationale for the traditional course of study. Harris had for years advocated a curriculum based on what he thought of as "five coordinate groups of study," arithmetic and mathematics, geography, history, grammar, and literature and art. Each of these studies, Harris felt, was a way by which the "five windows of the soul" could be opened and, together, they represented a coherent expression of Western cultural heritage.

Objections to Harris's ideas were voiced by a group of reform-minded educators who thought of themselves as the disciples of the German philosopher, Johann Friedrich Herbart. The National Herbart Society served as a focal point for what they believed to be a scientifically valid attack on the traditional curriculum. This attack provided an opening wedge for various reformers with quite different conceptions of what the curriculum should be like.

In 1896, John Dewey opened the University of Chicago Laboratory School. Initially, Dewey seemed intrigued with the Herbartian concept of culture epochs as a basis for the curriculum. The basic idea of the culture epochs theory was that there existed a correspondence between the historic stages through which the human race had passed and the individual stages in human development, and that this correspondence could be used as a basis for constructing a curriculum. However, Dewey

felt that the Herbartian emphasis on the products of various historical epochs as the materials of instruction was misguided. It was quite common, for example, for Herbartian schools to teach myths and fairy tales to children who were presumed to be undergoing their "savage" stage of development. Dewey felt that, if there was any point to the question of correspondence, it should involve the students engaging in the same sorts of social activities which were characteristic of a particular historical epoch. Thus, when students were presumed to be in a stage in their individual development which corresponded to the agricultural stage in human history, they would not read literary works on the subject, but engage in those basic activities that were characteristic of the agricultural way of life.

Dewey evolved his own theory of curriculum. Critical to his curriculum was what Dewey called "occupation," meaning the fundamental social activities in which the human race had engaged and from which, he assumed, human intelligence evolved. Through the concept of occupations, Dewey hoped to coordinate the various elements in the curriculum around a common center and to create a basis for building a relationship between knowledge and human affairs - a relationship that had become obscured in a technological society. It was for this reason that the students in the Chicago Laboratory School engaged in such fundamental activities as growing food, cooking, building a clubhouse, raising sheep, and weaving. By recapitulating the kinds of activities that were fundamental to an earlier time, Dewey was hoping not only to restore a vital connection between intelligence and human purposes but to recapitulate the evolution of human knowledge in the curriculum. Thus, as students advanced chronologically, they proceeded from exercises that were direct and immediate to activities that were more abstract and differentiated, activities that more closely resembled the experience of the human race as embodied in the traditional disciplines of knowledge.

One of the forces for curriculum reform in the early twentieth century was the group that referred to themselves as the scientific curriculum makers. Led by John Franklin Bobbitt and W.W. Charters, they followed the efficiency techniques of industry and the work of Frederick Winslow Taylor, the father of the scientific management movement. From that movement, they drew inferences to curriculum development that included such principles as the careful specification of objectives in concrete terms, the precise measurement of student progress toward the achievement of established standards, and the differentiation of the curriculum in line with the wide variation in student abilities. Curriculum content was seen as preparing students for a particular social and occupational role, and it was to be adjusted in the light of what was considered to be the probable destination of the students. Part of the appeal of this idea was its promise of social improvement leading to social stability.

One of the major events of this period was the Report of the Commission on the Reorganization of Secondary Education, called "The Cardinal Principles of Secondary Education" and published in 1918. Coming a quarter of a century after the Report of the Committee of Ten, it reflected the great changes in educational thinking that had occurred in the intervening period. The most famous feature of this report was the seven educational goals that covered almost every facet of human life, illustrating the notion that the curriculum should extend beyond the aim of intellectual development into the full range of human activity. Referring to "profound changes in American life," the report called for correspondingly major changes in the secondary school curriculum. These changes were designed to be more directly utilitarian in character than had previously been the case, changes believed to be consistent with the needs of the new diverse student population and of democratic values generally. Although the conventional subjects were not dismissed entirely, the basic recommendation was that they transform themselves so as to bear directly on the future lives of

students. The Cardinal Principles Report was actually a statement of the social efficiency doctrine, arguing for the retention of the comprehensive high school against the wishes of those reformers who saw the European system of secondary education with different types of institutions as more efficiently serving the needs of a highly variable student population.

One reason for the success of the scientific curriculum movement was the active involvement of many of its leaders in schools surveys. By the 1920s, hundreds of school systems across the country had invited prominent educators to review their programs of study and to make recommendations for improvement. Those recommendations almost invariably embodied the principles of scientific curriculum making.

In the wake of the economic depression of the 1930s there rose to prominence a new group of educators who tried to rally American school teachers under the banner of social reconstruction. Such educational leaders as George S. Counts and Harold Rugg foresaw the possibility that the schools could be used to correct deficiencies in the American social order and to build attitudes of social cooperation. In curriculum terms, this was interpreted as a program of studies that focused directly on major social problems, such as unemployment and urban unrest, and on creating not only a consciousness of those problems on the part of the students but also a certain sophistication in dealing with them. The idea of education creating a new social order attracted a large number of educational leaders. Perhaps the most visible manifestation of the social reconstructionist movement was the adoption by many school systems of textbooks written by Rugg and his associates which incorporated most of the basic ideas of the movement. By the 1940s, however, an effort had been mounted to remove those textbooks from American schools on the grounds that they were socialistic in character and contrary to American ideals.

The period from 1955 to 1975 was marked by considerable ferment in curriculum thinking. Innovations included renewed interest in an integrated curriculum, student-centered teaching methods, individualized instruction, inductive or "discovery" approaches, and alternative or experimental schools. A rapid increase in the size of the secondary school population and advances in technology gave additional impetus for change, especially in instructional methods. Team teaching, programmed instruction, self-paced study, student contracts, language laboratories, television, and computer-aided instruction all enjoyed varying degrees of popularity. Current social concerns made their way into the curriculum in the form of new content organization or new subjects: for example, ethnic studies, consumer education, environmental awareness, sex (and non-sexist) instruction, drug and alcohol abuse topics, and family life studies. In the 1980s, however, a growing "back to basics" movement was evident, combined with increasing concerns about career education. These trends continue to this day.

The control of education is reserved by the U.S. constitution for the individual states. Each state establishes, governs and supports public education within its boundaries. Each state has a State Department of Education which, typically, delegates authority for the operation of schools to local school districts, which are political sub-divisions of the state. The number of local schools districts per state varies greatly - from one (Hawaii) to over a thousand (Texas and California).

At the local school district level, each district has a governing board which is elected by the voters. This board, with powers delegated from the state and operating within legal parameters set by federal and state authorities, has ultimate responsibility for the governance and operation of the public schools in its area. This tradition of local control of the schools is deeply imbedded in U.S.

educational history and tradition. Hiring of professional staff, determining the most appropriate curriculum and educational materials, and developing and approving budgets are among the responsibilities of these local school boards. Typically, the local board hires a Superintendent of Schools and appropriate professional staff to oversee all educational activities in the district.

Secondary schools are supported financially by federal, state, and local authorities; although the percentage contributed by each varies greatly among the fifty states. On the average, the federal government contributes 6.7 %, the state government 49.4%, and the local school district 43.9%. These revenues come from individual and corporate income taxes and taxes on real property. Despite the large amount contributed by the states, they seldom exercise this "power of the purse" except to set and enforce standards and to provide for special situations and needs.

In the U.S. there is no official national curriculum, nor has there ever been one. Each state establishes guidelines for the development and implementation of curriculum at the school district level. Generally these guidelines are minimum standards stating the number of individual courses a student must take in given subject matter areas in order to obtain a secondary school (high school) diploma upon graduation. Traditionally these subject matter areas include English language and literature, social studies, natural sciences, mathematics, foreign languages, arts, and physical education. Many other optional or elective courses are also offered in almost all secondary schools. Subject specialists, school administrators, and teachers are all involved in the process of local curriculum development and in the choice of appropriate instructional materials.

In addition, this official curriculum is supplemented by an array of extracurricular activities which is unmatched in quantity and quality in other countries. These activities include athletic teams, social events, musical and artistic groups, scholastic competitions, special interest clubs, social and political action societies, and student government bodies.

A number of participants and groups are influential in curriculum development in the U.S., contributing to considerable curricular uniformity across the nation's secondary schools. Among these are university professors in the subject areas and in education, public interest groups, and commercial companies, especially publishers of textbooks and other instructional materials. National organizations of teachers of particular subjects or of particular levels or types of schools, as well as national testing agencies, such as the Educational Testing Service, serve as additional unifying forces. Meeting university entrance requirements imposes further standardization on the curriculum. Thus the secondary curriculum is not as diverse as the extreme form of local control of education, unique to the U.S., might suggest.

Public secondary education is free, and required through age 16. Over 70% of all people in the appropriate age range finish the twelve year elementary and secondary sequence. While this sequence is typically organized into six years of elementary (primary) school, three years of lower secondary (junior high school), and three years of upper secondary (senior high school), the organization for each school district is determined by its local school board, and there are many variations. Eight years of elementary and four years of secondary education is another typical pattern. Demographic features, budget, transportation capability, and available classroom space may be more important in determining the organization used than are pedagogical or developmental theories. However, the latter do have their influence, as shown by the important "middle school" movement of the 1970s and 1980s. This movement, responding to the special needs of early adolescents, helped establish "4-4-4" and "5-4-3" grade level arrangements in many districts.

Approximately 10% of the U.S.'s approximately 25,000 secondary schools are private. This figure includes many religious schools. Private schools vary greatly in quality, size, and purpose. They generally have considerable independence in establishing curriculum content, as in other areas. However, in reality, most of them conform to typical public school curriculum design and course offerings.

## ANNEX 2:

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