DOCUMENT RESUME

ED 173 906 EA 011 900

TITLE	Progress of Education in the United States of America 1976-77 and 1977-78. Report.
INSTITUTION	Office of Education (DHEW), Washington, D.C.
REPORT NO	OE-79-19104
PUB DATE	79
NOTE	111p.; Report for the Thirty-Seventh International Conference of Education, sponsored by the United Nations Educational, Scientific, and Cultural Organization, International Bureau of Education; For a related document, see ED 144 205; Not available in paper copy due to marginal legibility of original document
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock No. 017-080-02029-7; $4.00)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Administrative Organization; Curriculum; Educational Change; Educational Legislation; Educational Policy; Educational Research; *Educational Trends; Elementary Secondary Education; Higher Education; Preschool Education; *School Statistics; Teacher Education

ABSTRACT

This report covering the period 1976-1978 is the most recent in the series of reports prepared for the International Conference of Education held periodically in Geneva, Switzerland, under the auspices of the International Bureau of Education, UNESCO. Part 1 describes the present organization and administration of education in the United States. Separate sections focus in turn on general principles and priorities of American education, its system of educational administration, American educational structure and organization, school curriculum, and teacher education. Part 2 contains a progress report on developments in U.S. education during the period 1976-78. The first section provides information on trends and new policy orientations resulting from recent federal and state legislation. The second section discusses develcpments in educational management. Selected statistics on American education and a summary of developments in preschooling, teacher education, curriculum, nonformal education, and major reforms are included in the third section. The fourth section discusses developments in educational research, and the fifth section reports on implementation of previous recommendations of the International Conference on Education. The final section contains appendices, including a brief list of selected references related to education published in the United States during the period 1976-1978. (Author/JM)

OE Publication No. 79-19104

Progress of Education in the United States of America 1976-77 and 1977-78

Report for the Thirty-Seventh International Conference of Education, Sponsored by the United Nations Educational, Scientific, and Cultural Organization, International Bureau of Education

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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Office of Education
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U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON: 1979

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

Stock Number 017-080-02029-7

Foreword

The United States of America congratulates the International Bureau of Education on its 50th anniversary and commends IBE for its pioneering efforts on behalf of intergovernmental cooperation in education and its half century of achievement in helping improve education around the world.

This report covering the period 1976 to 1978 is the most recent in the series prepared for the biennial or annual International Conferences on Education that have been held in Geneva, Switzerland, since 1934 under the auspices of the International Bureau of Education. IBE became a part of UNESCO in 1969.

Part I provides a description of the present organization and administration of education in the United States.

Part II contains a progress report on developments that have occurred in American education during the period 1976 to 1978. The first section provides information on trends and new policy orientations resulting from recent Federal and State legislation. The second section discusses developments in educational management and administration. The third section includes selected statistics on American education compiled by the National Center for Education Statistics to show developments and trends in various aspects of U.S. education, and a summary of developments in preschooling, teacher education, curriculum, nonformal education, and major reforms. The fourth section focuses on developments in educational research, while the fifth section reports on implementation of Recommendations 68 and 71 of previous sessions of the International Conference on Education. The sixth and concluding section provides a helpful set of appendixes, including a brief list of selected references related to education that were published in the United States during the period 1976 to 1978.

This report is being made available in full in English and French. Summary versions will be available in Arabic, Chinese, Japanese, Portuguese, Spanish, and Russian. The various language versions are useful not only to the representatives of the approximately 150 Member States of UNESCO, most of which will be represented at the International Conference on Education in Geneva in July 1979, but also to the thousands of visitors from abroad who seek information from the U.S. Office of Education annually and to non-English speaking educators and policymakers in many other countries who are interested in educational development in the United States.

Robert Leestma
Associate Commissioner
for Institutional Development
and International Education

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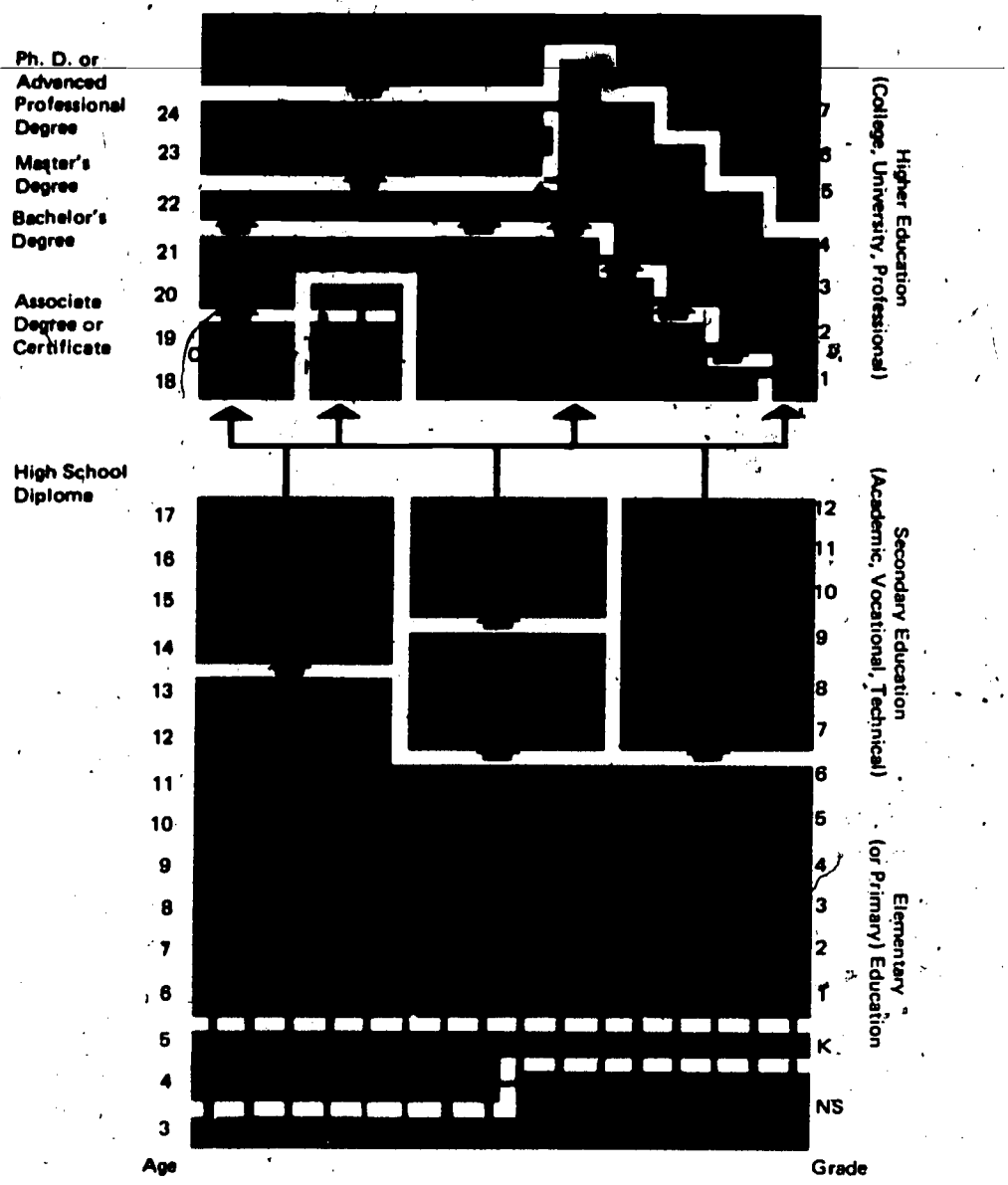
Figure 1.--The structure of education in the United States



NOTE.--Adult education programs, while not separately delineated above, may provide instruction at the elementary, secondary, or higher education level.

1. GENERAL PRINCIPLES AND PRIORITIES[1]

Authority for education in the United States is not centralized on a national basis. The 10th amendment to the Constitution provides that "the powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people." Since responsibility for education is not mentioned in the Constitution, it is legally reserved to the States. Thus, each State has the right and responsibility to organize and operate its educational system as it deems appropriate--subject to constitutional guarantees of the rights and privileges of U.S. citizens.

State statutory provisions for establishment of educational institutions and programs vary greatly among the States. Some are quite specific; others simply mention educational matters in broad terms. Considerable responsibility is often delegated to local education authorities. Despite various differences among the States, in practice the organizational patterns of education in the 50 States are similar as a result of such common social and economic forces as the need to prepare students for employment and higher education, State certification or accrediting association requirements, and the various regulations governing State and Federal funding.

Education in the United States is compulsory, usually from the age of 6 to 16, and free at least through completion of secondary school (grade 12) for those who attend public schools, which are available to all children. It aims to assure equality of access and of educational opportunity to both boys and girls and now to all minority groups (including the handicapped). Moreover, public education has a long tradition of coeducation.

Legislation also provides for establishment of private schools on every level, subject to State licensing and accreditation regulations. These institutions may receive limited governmental aid for specialized purposes but are for the most part financially autonomous.

The non-centralized nature, pluralistic character, and democratic principles of American education are well suited to the large and complex national situation. The diversity and flexibility that historically have characterized the American approach to education have provided free public education through the secondary level for the vast majority of American youth while at the same time creating sufficient respect for learning and enough opportunities for its future nurture that considerable numbers of intellectually gifted students have been able to achieve international prominence among the world's literary, scientific, social, and political leaders.

Education in the United States reflects generally the values and priorities of the society, beginning with the enduring national commitment to democracy and individual freedom. It is the goal of American education to provide every child with equal opportunity for a quality education that will enable each person to achieve his or her highest potential in a free society and to function as an effective citizen in the modern world.

As in most other countries, changes in American society in due course inevitably affect the schools. A statement by the National Association of Secondary School Principals in 1975 summarized some of the major social changes in recent years:

> "The clear social trend of recent years has been for increased individual choice and personal freedom. Among the forces fueling this movement are these: A broadened legal interpretation of constitutional rights, a strong thrust for equality of sex and race, a growing affluence which released economic constraints upon choice, . . . an increased allegiance to individual options as against social obligations, [and] a public mood to experiment, to replace tradition and social custom with personal lifestyle.
>
> "This thrust for personalism and egalitarianism in society has come amidst a broad acceleration of events. The central factor of contemporary life, perhaps, has become constant change. Movement, rather than stability, typifies the world that youth knows." [1]

All of the foregoing forces have had their influence on the educational system and have contributed to increased program flexibility and the growing number of options for students.

Generally speaking, the educational program is characterized by common learnings in reading, writing, and other communication skills; in arithmetic and other computational skills; in the sciences, scientific method, critical thinking, and problem solving; in American civilization--history, values, culture, and the concepts and processes of democratic government; and in multicultural understanding, both with regard to the diverse ethnic heritage of the United States and, increasingly, in relationship to the history, culture, and traditions of other nations and peoples.

American education also endeavors to provide every student with some basic educational opportunities in art and music, health and nutrition, the practical arts, and physical education, and an introduction to the world of work, usually both in career awareness and in some form of career preparation.

As the student moves into secondary school, more educational choices become available to help better meet individual needs and interests. And increasingly, the educational program is beginning to experiment with utilization of the entire range of learning resources available in the total community instead of limiting itself to the confines of textbooks and formal classes in the school building itself. Learning is being enriched through a variety of work-study and work-experience opportunities and through community volunteer and public service activities as part of a more broadly conceived integrated educational program.

In the never-ending challenge in a dynamic free society to maintain the balance between continuity and change, it seems clear that the trend now is more toward clarifying and confirming standards, ensuring achievement of basic skills, and supporting viable alternative structures. The most dominant trend is a reaffirmation of commitment to ensuring equality of educational opportunity for all, of which the implementation of the Education for All Handicapped Children Act (described in detail in succeeding chapters) provides the most dramatic single example during the period covered by this report.

[1] *This We Believe: Secondary Schools in a Changing Society.* Prepared by the Task Force on Secondary Schools in a Changing Society, the National Association of Secondary School Principals. Reston, Va.: The Association, 1975. P. 1. This publication has been a useful resource on several aspects of this section.

2. SYSTEM OF ADMINISTRATION

ROLE OF THE STATE GOVERNMENT IN ELEMENTARY AND SECONDARY EDUCATION

On the State level, each State legislature enacts laws pertaining to elementary and secondary education. Within the context of these laws, State educational policy and requirements for the elementary and secondary school levels are determined in most States by a State board of education and carried out under the leadership of a chief State school officer and a staff of professional educators and support personnel in a State department of education.

Methods of appointment to the State boards of education differ according to State law and tradition. In some States, members are elected directly by the people; in others, they are appointed by the Governors, and in various cases some school board members have status *ex officio* by virtue of other positions they hold.

Among the 50 States and 7 extra "State jurisdictions," the head of the State education department, the chief State school officer (the title varies with the State), is appointed by the State board of education in 27, elected by popular vote in 15, and appointed by the Governor in 13. The duties of the office normally include varying combinations of such functions as distributing State funds to local education authorities (an estimated 44 percent of all funds expended in elementary and secondary education in the United States in 1977-78 came from State sources), administering or interpreting school laws, certifying teachers, helping improve educational standards through inservice training programs, and providing advisory services to local superintendents and school boards.

There are strong national associations both of State boards of education (the National Association of State Boards of Education) and of chief State school officers (the Council of Chief State School Officers). Each is an important interest group on the national scene in relation to Federal education legislation and policy.

ROLE OF LOCAL AUTHORITIES IN ELEMENTARY AND SECONDARY EDUCATION

Each State (except Hawaii) has provided for establishment of local administrative districts and vested them with extensive authority and responsibility for establishing and regulating the schools in their districts. Each local school district has a board of education, usually made up of five to seven members who have been appointed by higher officials or elected by citizens of the school district. Within the limits of State policy, the board operates the local school system through the school superintendent and his staff.

The functions of the board of education in determining educational policies, and of the superintendent of schools in executing these policies, include a broad range of duties and responsibilities. Together, the board and the superintendent are responsible for preparing the school

budget. They usually have considerable latitude within broad State policy to determine most aspects of the curriculum. They are responsible for hiring teachers and other school personnel, providing and maintaining school buildings, purchasing school equipment and supplies, and, in most cases, providing transportation facilities for pupils who live beyond a reasonable walking distance from school. Their duties also include enacting rules and regulations consistent with State law and regulations of the State department of education governing operation of the schools. Thus, the limitations on the actions of school boards are those established by the State legislature and by the State education agencies, which have in most cases prescribed minimum standards for all local school districts.

School systems vary in size from small ones in rural areas, with a single one-room elementary school, to those in metropolitan areas with hundreds of schools of various kinds and thousands of teachers. In some States, regional service districts or centers have been established to provide services to local school systems that would not otherwise be available--consultative, advisory, and statistical services and regulatory functions. Some also provide operation of special classes, supervision of instruction, health supervision, attendance services, and pupil transportation.

Ability to provide improved educational facilities and opportunities more economically in larger school districts than in smaller ones continues to be the major reason for consolidation of school districts. In 1977-78, the United States had approximately 16,200 school districts that together raised an estimated 47 percent of all the funds expended on the nation's public schools.

ADMINISTRATION OF HIGHER EDUCATION [1]

Generally speaking, there are three main kinds of degree-granting institutions of higher education in the United States: The 2-year community or junior college, the 4-year undergraduate college, and the university, which normally includes undergraduate education as well as graduate and professional education. There are both public and private institutions in each category, with no official or implied distinction in quality between them. Both categories include a wide range of institutions.

Higher education institutions, both public and private, receive their authority to function and to grant degrees from the State in which they are located or incorporated. This authority is given either in the State constitution or, more often, by an act of the State legislature. The Federal Government exercises no direct control over establishment of institutions or over the standards they maintain except in the case of those concerned with preparing career officers for the military. In specific areas such as enforcement of programs of the Civil Rights Act related to higher education, however, the Federal Government's influence can be strong.

Most States now have some form of statewide policy planning and coordination system to guide the development of public higher education within the State. The most common kinds of arrangements for the purpose

are coordinating boards and consolidated governing boards. In most statewide systems individual campuses have high degrees of institutional autonomy within the policies and overall plans established by State and/or institutional boards.

Most of the larger States have highly developed statewide systems of higher education. For example, California has a planned, three-tiered system: The California Community Colleges, with 106 2-year institutions; the California State University and Colleges, with 19 institutions; and the University of California, with 9 campuses. The State University of New York represents a single, coordinated system of a total of 64 2-year, 4-year, and graduate and professional institutions. In both States, individual institutions have a high degree of autonomy within the established plans and policies.

Nearly all higher education institutions receive some form of financial support from both State and Federal Governments, although public institutions generally receive a substantially higher proportion of their budget from public funds. Other sources of income for both public and private institutions are student tuition and fees, endowment earnings, and contributions from philanthropic foundations and individuals. Many public community colleges, particularly those drawing students from several school districts, receive the bulk of their public funds from a separate community college district established for each institution for this purpose. In a growing number of States, public community colleges receive more than half their funds from their State government.

The principal internal policy and financial decisions affecting colleges and universities in the United States are made by their boards of trustees (sometimes called boards of regents). The procedures for selecting members of the board are, in most instances, stated in the institution's founding charter, and, depending upon the institution, members may serve either specific limited terms or may be appointed for life. Public institutions may have trustees who are elected or who have been appointed by the Governor of the State; private institutions, nondenominational or religious, usually have representatives of the institution's founding body. In recent years, many boards of trustees, both public and private, have attempted to broaden their membership to ensure wide representation of the diverse elements that make up the institution's academic and social environment.

ROLE OF THE FEDERAL GOVERNMENT

The role of the Federal Government in education is to provide encouragement, financial support, and leadership on educational issues of broad national concern, as appropriate within legislative mandates and constitutional constraints. It has the responsibility also of safeguarding the right of every citizen to access to free public education and to equality of educational opportunity. While a large number of Federal departments and agencies have important educational activities of one kind or another (see appendix A), the one most extensively involved in education, particularly at the elementary and secondary school levels, is the Department of Health, Education, and Welfare. A separate Department of Education has been proposed by President Carter and is currently under active consideration by the Congress.

The U.S. Office of Education (USOE) is both the oldest (established in 1867) and the largest unit in the Education Division. Headed by the Commissioner of Education, USOE has primary responsibility for administering approximately 120 programs that have been legislated by the Congress in pursuit of particular educational goals. A number of current examples of such legislation are given in part II of this report.

The National Institute of Education (NIE), headed by a Director, was established in 1972 by legislation concerned with the need for "more dependable knowledge about the process of learning and education." Separate institute status represented a substantial upgrading of the Federal educational research and development function, which had been conducted since 1954 through a bureau in USOE. NIE provides leadership in conducting and supporting scientific inquiry into the educational process and functions as the focal point of Government-supported research in education. It also seeks to disseminate improved education practices and products. A National Council on Educational Research provides NIE with general policy guidance and reviews Institute operations.

The Institute of Museum Services was created by the Congress in 1976 to assist the nation's museums through grants to maintain or improve their public services, to help meet their increasing financial needs, and to support museums' varied endeavors as educators, conservators, and exhibitors of the nation's cultural and scientific heritage. The Institute's operations are governed by its Director (a Presidential appointee) and the 15-member National Museum Services Board.

The Office of the Assistant Secretary for Education coordinates the policies of the Education Division and closely related activities of constitutent program units and is directly responsible for the following programs of special national significance:

- The National Center for Education Statistics (NCES), which collects and disseminates statistics and other data related to education in the United States and in other nations and conducts and publishes reports on specialized analyses of the meaning and significance of such statistics.

- The Fund for the Improvement of Postsecondary Education (FIPSE), which helps improve postsecondary educational opportunities by providing grants to encourage the reform, innovation, and improvement of postsecondary education.

- The Federal Interagency Committee on Education (FICE), which helps coordinate education activities of Federal agencies and advises the Secretary of the Department of Health, Education, and Welfare on education issues. Representatives from some 30 agencies meet regularly under the chairmanship of the Assistant Secretary for Education. A complete list of these agencies is shown in appendix A. Subcommittees work on critical education issues shared by several Federal agencies--e.g., education for the disadvantaged, education technology, education and work, research and development, and education consumer protection.

NATIONAL ADVISORY COUNCILS AND COMMITTEES

A number of advisory bodies have been established by legislation, Executive Order, or administrative authority for the purpose of advising various Federal authorities and programs. They provide an important means for citizen review of and contribution to the educational policy process and program improvement.

The largest number of Federal advisory bodies on education are associated with programs administered by the Department of Health, Education, and Welfare. The groups range in size from 9 to 25 members, and the members are usually appointed by the President, the Secretary of the Department, or sometimes the agency head. Advisory councils and committees active during the 1976 to 1978 period were the following:

- Advisory Committee on Accreditation and Institutional Eligibility
- Advisory Council for the National Center for Research in Vocational Education
- Advisory Council on Developing Institutions
- Advisory Council on Financial Aid to Students
- Community Education Advisory Council
- National Advisory Committee on Black Higher Education and Black Colleges and Universities
- National Advisory Council for Career Education
- National Advisory Council on Adult Education
- National Advisory Council on Bilingual Education
- National Advisory Council on Education of Disadvantaged Children
- National Advisory Council on Equality of Educational Opportunity
- National Advisory Council on Ethnic Heritage Studies
- National Advisory Council on Extension and Continuing Education
- National Advisory Council on Indian Education
- National Advisory Council on Vocational Education
- National Advisory Council on Women's Educational Programs

With a few exceptions, each advisory committee is specifically related to a single educational program authorized by the U.S. Congress. The functions, designated by statute or charter, vary from committee to committee, but generally include: (1) Advising the Commissioner or other Executive Branch official on general policy concerning the educational program of which the committee has oversight or for which the agency has management responsibility, (2) making recommendations concerning the regulations implementing that program, (3) reviewing the agency's administration of that program, and (4) recommending changes in the legislation establishing that program. Other duties that committees may undertake, as directed by law or charter, are: (1) Helping develop criteria for issuing grants and contracts under the programs, (2) helping review grant applications and making recommendations for the agency head's approval, and (3) preparing special reports on program priorities or program evaluation. Those committees that deal with legislative recommendations are often called upon to testify before the U.S. Congress as well as to make written reports.

All committees prepare an annual report describing their activities and recommendations during the previous calendar year. In the case of the Office of Education, these reports are assembled by the Commissioner of Education and submitted with his annual report to the U.S. Congress.

The need for advisory committees is considered annually by the Executive Branch and periodically by the Congress during reauthorization hearings. As new educational programs are authorized, committees may be added and those no longer needed may be abolished.

Of special significance during the period covered by this report is the establishment by President Carter of an independent national Commission on Foreign Language and International Studies. The stimulus for such a commission grew out of that portion of the Helsinki Accords of 1975 in which all signatory nations agreed to "encourage the study of foreign languages and civilizations as an important means of expanding communication among peoples for their better acquaintance with the culture of each country, as well as for the strengthening of international cooperation."

President Carter appointed the 25-member commission on September 15, 1978, and directed it to recommend ways to strengthen and improve the study of foreign language and international studies in four areas: Public awareness, needs for language and area specialists, appropriate study programs for all educational levels, and resources and legislation required to accomplish the task. The Commission membership includes individuals from the Congress and the Executive Branch, the academic community, business, industry, and the mass media.

A final report will be presented to the President in October 1979. The Commission also will publish studies and reports on special topics related to its mandate.

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[1]This section relies heavily on: W. Todd Furniss, ed. *American Universities and Colleges*, 11th ed. Washington, D.C.: American Council on Education, 1975. pp. 8-10.

3. FINANCING

Education in the United States is financed principally from taxes from various sources at the local, State, and Federal levels. The total expenditure on education from all sources in 1977-78 was slightly more than $81 billion. Three out of every ten people in the United States are involved in this vast endeavor as students, teachers, professors, administrators, or support staff. Education is the largest single enterprise in this country.

INCOME

Public elementary and secondary schools in the United States derive virtually all of their revenue from governmental sources. Income from other sources, such as gifts and fees, amounts to less than one-half of one percent of the total revenue receipts. Local governments contribute more than any other source, but in most recent years the proportions from the Federal and State Governments have increased (table 1). In school year 1976-77, about 48 percent of the revenue receipts of public schools came from local sources, principally from the property tax, 43 percent from State governments, and 9 percent from the Federal Government.

Although State and local governments have the primary responsibility for public education in the United States, the Federal Government for many years has maintained an active interest in the educational process. In recent years an increasing amount of Federal support for all educational levels has been provided through a variety of programs administered by a number of Government agencies. It is estimated that Federal grants for the support of education in educational institutions reached an all-time high of $20.3 billion during the Fiscal Year that ended September 30, 1978. Table 2 presents a summary of Federal funds for education, training, and related activities for the fiscal years 1977 and 1978.

EXPENDITURES

Expenditures for public elementary and secondary schools in the United States during the school year 1977-78 are estimated at $81.1 billion (table 3). This represents an increase of about 14½ percent over the $70.8 billion expended 2 years earlier. Per-pupil expenditures have also risen rapidly in recent years. The current expenditure per pupil in average daily attendance in 1977-78 approached $1,750, and the total expenditure, including current expenditure, capital outlay, and interest on school debt, exceeded $1,950 per pupil.

Table 4 compares the total spending of Federal, State, and local governments with their expenditures for education. Education accounts for about one-sixth of all governmental expenditures in the United States, but the proportion varies by level of government. State and local governments spend substantially more than one-sixth of their total budgets for education. The Federal Government, with its great diversity of programs and responsibilities, spends proportionally less for educational purposes.

Table 5 compares total expenditures for public and private education at all levels (elementary, secondary, and higher education) with the gross national product over the past half century. Educational expenditures are estimated at $141 billion during the school year 1977-78, an amount equal to 7½ percent of the gross national product. During the 1970's educational expenditures have consistently amounted to between 7½ and 8 percent of the gross national product. If this measure is used as a yardstick for assessing trends over time, expenditures are more than four times as large today as they were in the mid-1940's.

Expenditures for vocational education from Federal, State, and local funds are shown in table 6. In 1977 the Federal Government contributed 11 percent of the money, and the remaining 89 percent came from State and local sources. A major goal of American education at the present time is to train young people for useful careers after they leave the educational system. The increased emphasis on education for a career is reflected in the fourfold rise in outlays for vocational education since 1968. In many respects vocational education is the fastest growing segment of the American educational system.

4. STRUCTURE AND ORGANIZATION[1]

Education in the United States is organized on three principal levels: The elementary (including preschool and primary), the secondary, and the postsecondary. (See figure 1.) In addition, programs of adult and continuing education are widely available in such variety that it is possible for American citizens in virtually any part of the country to be enrolled in formal courses or participate in informal programs of education and learning throughout their lives.

Compulsory education begins in most States at age 7 and continues usually until age 16. Most young people, however, spend considerably more time in school than the minimum number of years required by law. In fall 1977, for example, about 92 percent of all 5-year-olds were enrolled in a preschool or first grade, and approximately 75 percent of all 17-year-olds were expected to complete the 12-year elementary-secondary school sequence and earn a high school diploma. Moreover, 46.2 percent of young people between 18 and 19 years of age and 22.9 percent of those aged 20 to 24 were still in school. (See part II, chapter 3.)

On the primary and secondary levels, the academic year usually begins in early September and continues until mid-June. The school day is of approximately 6 hours' duration, usually during the period from 8:30 a.m. to 3:30 p.m. In most instances, particularly at the secondary level, students are expected to do some additional study and school assignments outside the school period. On the post-secondary level, the academic calendar is much more flexible. The norm for a full-time student is 2 semesters of approximately 15 or 16 weeks each per academic year, but there are several variations on this pattern, including the trimester system (3 per year) and the quarter system (four 12-week periods per year). In the latter two patterns, the student normally does not attend school during the entire year but rather 2 out of 3 trimesters or 3 out of 4 quarters.

ELEMENTARY EDUCATION

Elementary education in the United States consists of 1 or 2 years of preschool (most commonly kindergarten) and 6 or 8 years of primary education.

Most American public school systems provide kindergarten classes for children 5 years of age. Some also provide nursery school education for children 4 years old and younger. The Head Start program, financed in part from Federal funds, is designed primarily for preschool children from poor families. A total of about 10,000 Head Start Centers have been established in all the States, the Trust Territories, and Puerto Rico.

Preschool education programs maintain a close relationship with the home and parents and aim to give the child useful experiences that will prepare him or her for elementary school. The programs are flexible and are designed to help the child grow in self-reliance, learn to get along with others, and form good work and play habits.

Although primary education may consist of 6 or 8 grades, the 6-grade school is the most common. The main purpose of the primary school is the general development of children from 6 to 12 or 14 years of age (depending on whether the school is a 6- or 8-year elementary school). The program aims to help the pupils acquire basic skills, knowledge, and positive attitudes toward learning. Emphasis is placed upon the growth of the individual child and the relation of the child's progress to his or her needs and abilities. The traditional subjects are considered tools for learning, and the teacher helps the child recognize problems, work out solutions, and evaluate the results. Many schools have ungraded classes in the first few years so that children may progress at their own speed in different subjects.

During the 1960's, the middle school concept began to take form in U.S. education. In essence a refinement of the junior high school concept of improving transition from elementary to secondary education, the middle school usually includes grades 5 or 6 through 8, provides team teaching and other innovative instructional methods, and emphasizes curriculum exploration and gradual independence for students. Its purpose is to serve the educational needs of students in the early adolescent period between 10 and 14 years old. Middle schools now number over 4,000 out of a total of over 62,000 elementary schools.

SECONDARY EDUCATION

Secondary or high school education in the United States either begins at grade 7 or grade 9, depending upon whether the elementary education of a particular area extends through grade 6 or grade 8.

As shown in figure 1, in the 8-4 plan used in many schools, students pursue grades 1 through 8 in an elementary school and grades 9 through 12 in a secondary school. The 6-3-3 plan provides for an elementary school of 6 grades and a junior (intermediate) and a senior high school of 3 grades each. Smaller communities sometimes use the 6-6 plan with 6 years each for both the elementary and secondary school programs. The purpose of the different organizational plans is to make the best use of a school system's physical facilities, staff, and instructional resources within the framework of the system's established educational philosophy and goals.

During the early secondary years most students are going through the complex physical and emotional changes of puberty. Many are also making tentative choices of career goals. These years are therefore a period in which school guidance and counseling services are of considerable importance to the pupils' physical, emotional, academic, and career development.

By the beginning of grade 10, most pupils have decided whether they will follow a primarily academic program leading to university entrance, a vocational program leading to employment or specialized postsecondary training, or a general program which combines elements of both the academic and the vocational program. In recent years, the so-called general program has been criticized as being in many instances neither sufficiently academic to prepare pupils for programs of college or university study nor sufficiently job-oriented to prepare them for employment.

All secondary school programs lead to the high school diploma and are offered in the same comprehensive institution in most school districts. This fact facilitates a combined curriculum like the general program, allows for transfer from one program to another, and provides the flexibility for students to develop individual schedules--sometimes with the help of computers--that combine highly desirable aspects of different curricular tracks. It is not unusual for a medium-sized comprehensive high school to offer 200 or more different courses. The comprehensive high school also provides the opportunity for young people with widely different career interests and a variety of social and economic backgrounds to have regular contact with each other in an open, democratic context.

Most secondary school students have completed the minimum years of schooling required by law a year or more before graduating from high school. About three-quarters of them remain in school, however, until they receive the high school diploma at the end of grade 12.

One reason for this is the flexibility of the American senior high school both in academic and vocational dimensions. In a growing number of schools, academically gifted pupils can take several additional hours per week of advanced science or mathematics during their last 2 years of high school. Most secondary schools offer some foreign language courses, most commonly in Spanish and French. In many instances, pupils taking advanced courses receive college or university credit.

In an increasing number of schools, secondary students of both sexes who are interested in programs of vocational-technical education have a wide selection of job-related courses. Moreover, many schools provide the opportunity for school-coordinated work-study programs. Pupils enrolled in these programs spend part of the day in school and part of the day on a job. It is possible in a growing number of school districts to complete high school graduation requirements in accelerated programs of study and thus graduate 1 or even 2 semesters early. Pupils who leave school before earning their high school diploma may work toward it at little or no financial cost in evening programs. A wide variety of summer study and enrichment programs is also available on all levels of education.

POSTSECONDARY EDUCATION

In academic year 1977-78, there were 3,095 higher education institutions in the United States that were authorized to grant academic degrees. Of this number, 1,938 were 4-year colleges and universities and 1,157 were 2-year community or junior colleges. In addition, some 8,000 nonacademic postsecondary schools in both the public and private sectors were offering job training in a wide variety of occupations. Normally, these schools do not grant academic degrees but offer certificates or diplomas of completion of training in a given trade or skill.

The many and diverse degree-granting institutions in the United States comprise a broad spectrum of academic traditions, philosophies, and goals. More than half (1,622) are private institutions originally established by interest groups for specific social, educational, or religious purposes, but the public institutions contain approximately 78 percent of the total enrollment in postsecondary education. A certain coherence and unity are maintained among so many different institutions through the work of accrediting agencies and associations, which are voluntary bodies established by institutions, professions, or specialized fields to develop and maintain standards. The Federal and State Governments also require certain standards as a condition of financial assistance. Moreover, the professional integrity of the teaching staff as well as the demands of the economy for qualified graduates motivates most institutions to monitor carefully the quality of their institutional programs. Higher education institutions offer degrees on several levels.

The Associate's Degree

The Associate of Arts (A.A.) or the Associate of Science (A.S.) degree is usually earned at a community or junior college upon completion of 2 years of study. In many instances, it represents the same level of educational achievement as completion of the first 2 years of a 4-year college or university, and large numbers of students who have earned the associate's degree transfer to 4-year institutions. Other students, especially those who have completed programs of job-related training, normally enter the work force as mid-level technicians upon graduation.

The Bachelor's Degree

The bachelor's degree normally requires 4 years of academic study beyond the high school diploma. In recent years, accelerated learning plans, credit by examination or practical work experience, year-round study plans, and other innovations have enabled some students to complete the program in less than 4 years.

The two most common bachelor's degrees are the Bachelor of Arts (B.A.) and the Bachelor of Science (B.S.). The former normally requires more courses in the arts and humanities whereas the latter usually places

greater emphasis on the sciences. Other common bachelor's degrees include the B. Ed. (education), the B.F.A. (fine arts), the B. Mus. (music), and the B.B.A. (business administration). The B. Arch. (architecture) is often a 5-year program.

The B.D. (divinity) and the LL.B. (law) are professional degrees, usually of 3 years' duration, that in most institutions require a candidate to have earned first a B.A. or a B.S.

The Master's Degree

Master's degree programs vary considerably among the approximately 1,000 institutions that award them. The number of fields in which master's degrees are conferred is very large, but most are called Master of Arts (M.A.) or Master of Science (M.S.) degrees or are professional degrees such as Master of Nursing (M. Nurs.) or Master of Social Work (M.S.W.). Programs leading to the degree usually require 1 to 2 years of advanced study in graduate-level courses and seminars. Frequently a thesis is required and/or a final oral or written examination. Requirements may differ not only among institutions but among disciplines within an institution as well.

The Doctor's Degree

The doctor's degree, usually the Doctor of Philosophy (Ph.D.), is normally considered the highest degree conferred in the United States. It attests to the ability of its holder to do original research of a high order. Since work at the doctoral level is highly individualized, the specific requirements may vary widely. In general, however, the degree requires a minimum of 2 years of course work beyond the master's degree level, success in a qualifying examination, proficiency in one or two foreign languages and/or in an equivalent research tool (such as statistics) that may be considered appropriate to a particular field of specialization, and completion of a doctoral dissertation that is normally intended to represent an original contribution to knowledge.

During 1978, an estimated 32,000 doctor's degrees of all types were conferred in the United States.

First Professional Degrees

In addition to the foregoing degrees in a wide range of academic fields, during the year ending June 30, 1977, a total of 64,359 first professional degrees were conferred in the United States in the following fields: Dentistry (D.D.S. or D.M.D.), law (LL.B. or J.D.), medicine (M.D.), theology (B.D. or M.Div.), veterinary medicine (D.V.M.), chiropody or podiatry (D.S.C. or D.P.), optometry (O.D.), osteopathy (D.O.), and pharmacy (D.Pharm.). The educational prerequisites and length of study required for these degrees vary with the field of study. For example,

in medicine most students, after receiving a bachelor's degree, complete 4 years of medical studies and 3 years of residency training in a specialty area.

[1] Considerable use was made in this section of: *Education in the United States*, Beatrice C. Lee, ed. Washington, D.C.: National Education Association, 1976. This publication provides a useful and concise overview of the structure and organization of education.

5. CURRICULUM

Responsibility for determining and developing school curriculums lies with State and local education authorities. There is no national curriculum on any level of education. The Federal Government is not without influence, however, in encouraging curriculum development in particular fields of study. For example, in 1958 the Congress passed legislation to stimulate individuals to study science, mathematics, and foreign languages through Federal funding of fellowships for graduate study in those areas, inservice training institutes, and other provisions. Similarly, in 1967 the Congress enacted the Education Professions Development Act, which was directed toward meeting shortages of adequately trained teachers by providing funds to train and retrain teachers for what was then discerned as a national need. Among the more recent examples of Federal initiatives in stimulating students to enter fields recognized as critical to the nation's current or long-term needs are the personnel development provisions of the Education for All Handicapped Children Act (1975) and the Bilingual Education Act (1974), as well as the Domestic Mining and Mineral and Mineral Fuel Conservation Fellowship Program of the Higher Education Act (first funded in 1975).

Each State is authorized to determine the requirements for earning the high school diploma within its borders. The degree of prescription by State boards of education varies. Most States require not only a minimum number of courses, but also certain specific courses in English, mathematics, science, social studies, and physical education. Although some States specify, for example, that one or more social studies courses be in American history or the history of the particular State, most State legislatures do not enter very far into the specifics of curriculum design. Local school districts may add curricular requirements or restrictions of their own, such as history or sex education.

Elementary school textbooks and other curricular materials are selected by local authorities in just over half the States and by State officials in the remainder. With secondary school materials, more States have chosen selection at the local level. Whether the selection occurs on the State or local level, it is usually the responsibility of a textbook commission or committee made up professional educators and of community representatives. Such a group is usually authorized by the State or local school board to act in its name. Most commonly, textbook commissions approve a number of texts for each course, and a selection from the list is then made on the local school level. A considerable amount of curriculum development is done by private publishing firms that hire educators and other specialists to prepare teaching materials which they then submit to the local and State textbook commissions for approval. In many instances, however, teams of teachers and curriculum experts on the local level develop their own teaching materials in a wide variety of fields. Teachers may usually choose a program of studies from these materials or from the variety of commercially or sometimes university-prepared courses of study that have been approved for use by local school authorities.

It is interesting to note that since the early 1940's, no State with a system of local textbook selection has changed to one of State

selection. Also, several States with the selection process on the State level have modified their systems to increase the participation of local school authorities in the adoption of curricular materials.

Various college and university entrance requirements and national achievement and aptitude tests developed by private, nonprofit professional organizations exert an indirect but important influence on curriculum decisions on the secondary school level. Local school authorities are understandably concerned that graduates of their schools be readily admitted to higher education institutions and perform well on examinations for which there are national norms. Thus, a certain pragmatic curricular unity emerges throughout the nation despite the uncentralized nature of American schools.

In postsecondary academic institutions, curriculum decisions are made most often within academic departments, and individual professors are responsible for the content of their courses. The institutions usually require that a student successfully complete a given number of credits and, to some extent, a specified sequence of courses in a major and a minor field of study as well as a number of elective courses before a degree is conferred.

However, on the college and university levels, States can exert considerable control through their licensing authority. For example, individual States can require that professionals such as teachers, medical personnel, attorneys, and engineers complete a minimum number of courses in a specified list of academic or professional subjects to qualify for a license to practice their respective professions.

6. TEACHER EDUCATION

PRESERVICE

All teacher education in the United States is at the higher education level. Most large universities, both public and private, have departments or colleges of education as do those institutions that during the past few decades have been reorganized from State normal schools into State colleges. Many liberal arts colleges have teacher education programs. In addition, there are a few schools that specialize exclusively in preparing teachers of music or art or teachers of severely handicapped children. In all, there were 1,336 institutions that offered programs of teacher education at the beginning of academic year 1977-78.

Candidates for teacher education programs must have completed secondary school and earned admission to a college or university. In addition they must, in most cases, complete 1 or 2 years of general undergraduate study. They are then accepted into teacher education programs on the basis of their college academic record, personal interviews, and standardized test scores.

The minimum requirement for teaching on the preschool, elementary, or secondary level in any of the 50 States is now the bachelor's degree, which is conferred after 4 years of study at the postsecondary level. Twenty-three States require that teachers hold a graduate degree or are prepared to earn one within a given number of years. Teachers are encouraged to pursue further study in many other States through salary increments, free tuition, and other incentives. In this regard, it is interesting to note that the ratio of master's degrees to bachelor's degrees granted by the nation's schools, colleges, and education departments increased from 1 to 5 in 1972-73 to almost 1 to 2 in 1976-77.

All States require that the program of studies followed by future teachers include a balance of academic and professional education courses. Recent survey data show that throughout the country teacher preparation programs are built on a basic foundation of general liberal arts education--in which the humanities, natural sciences, and social sciences are all included. To this general education foundation are added pedagogical studies, including both academic courses and supervised teaching experience. Most States now require that their future teachers have classroom teaching experience for a full semester under the supervision of an experienced teacher approved by the college or university teacher education program in which the students are enrolled.

The certification of teachers to teach certain subjects or at certain grade levels is usually done through the State education department in each State. In some States, the State board of education may issue certificates. There are several types of certificates issued, based on training and need: Permanent (life-time), probationary, temporary, emergency, and supervisory (for supervisory personnel).

INSERVICE

There is hardly a school district in the country that does not encourage or assist its elementary and secondary teachers in one way or another to continue their professional growth. The opportunities for formal professional development that are most frequently available to teachers are formal courses and workshops. Those that attract the most participants tend to be those that focus on problems that affect large numbers of teachers, such as instructing handicapped children in regular classes, meeting the needs of children from low-income families, and providing bilingual and multicultural education.

It is not always a higher education institution that provides these programs. Many large school districts and several smaller ones sponsor workshops using their own staff, with or without outside consultants. Many districts have established inservice training centers, which often include a reference library, an audiovisual center, workrooms for developing instructional materials, and rooms for seminars or lectures. With increasing frequency, control of such teacher centers is being entrusted to the teachers themselves.

Inservice opportunities, whatever their source, are not limited to workshops and lectures. They include visits to other schools, availability of consultants for individual problems, and certain days (often called "inservice days") on which pupils are excused from school and teachers participate in special programs of enrichment.

Many school districts encourage their teachers to participate in inservice education in a variety of ways. They may (1) require a prescribed number of courses before a teaching contract can be renewed, (2) subsidize tuition fees at the university, (3) increase the salary of teachers who earn higher degrees, complete a given number of credit hours, or participate in other approved inservice educational activities, or (4) release teachers from classroom responsibilities and provide travel expenses to enable them to attend professional gatherings.

Three emerging trends of particular significance for inservice education should be noted. The first is the movement in American society toward lifelong learning. The second is more widespread recognition that teachers are professionals and that the teaching profession should have more responsibility for improving the performance of its members. The third trend is the reduction in personnel turnover, which increases the responsibility of inservice training for helping ensure a sufficient flow of new ideas, methods, and techniques into the schools. This trend is caused primarily by the decline in school enrollments at the elementary and secondary levels, which has reduced employment possibilities for new teachers, and the improvement in salary schedules and conditions of employment, which has encouraged teachers in service to remain in the teaching profession.

Part II:
Developments
1976-77 and 1977-78

1. EDUCATIONAL LEGISLATION

The primary role of the Federal Government in the field of education continues to be, essentially, helping ensure equality of opportunity for all students throughout the U.S. educational system. Through the cumulative effect of combined State and Federal efforts over the past several years, every public school system in the United States must now be prepared to offer every student in its jurisdiction effective schooling.

In the 1970's, the rights of handicapped children to the kind of help they need have been adjudicated in the courts and established through legislation. So have the rights of children whose home language is other than English and American Indian children. The rights of these groups of children are probably not the last that will receive judicial or legislative attention. The emerging trend seems clear: if the schools are failing to serve a class of students, they are targets for legal action in the courts and also for State or Federal legislation mandating that educational services be broadened to include the deprived class.

The question of what will be considered an adequate result of schooling has not yet been satisfactorily answered. Long the exclusive province of the States, the issue may become a factor in the growing Federal responsibility for protection of the rights of minorities in education.

The Education Division of the Department of Health, Education, and Welfare, under the various authorities provided it by the Congress, has been an important force in developing national understanding of the needs of minorities in education and the methods and mechanisms by which U.S. school systems can meet these needs. In general the mode of Federal involvement has been to support research, to support and evaluate projects exploring and demonstrating educational methods, to make the education community aware of the needs of special groups and the possibilities for meeting these needs, and then to provide all or part of the additional costs incurred by school systems implementing approved programs up to the limit of funds available. It is a cooperative process based on the mutual desire of local, State, and Federal authorities to improve education. The evolution of programs for education of the handicapped is the outstanding example of this type of development. Bilingual education is another.

Sometimes the process is reversed, as in the case of Title I of the Elementary and Secondary Education Act. In that instance, substantial funds for education of the disadvantaged became available before the special needs had been defined and educational programs developed. The result was that several thousand school districts almost simultaneously showed a new and active interest in the children of the poor. Effective methods of compensatory education are only now becoming generally recognized and accepted.

The general Federal role of helping ensure equality of opportunity in elementary and secondary education has been extended into higher education as well. The Federal Government is now expending annually more

than $4 billion to provide grants and loans and to help subsidize work-study arrangements for an estimated 5 million students attending post-secondary education programs in the United States.

Policy goals take on concrete form at the Federal or State level through legislation passed by the Congress or State legislatures and signed into law by the President or State Governors. The major portion of Federal legislation for elementary and secondary education and for higher education comes up for periodic reauthorization. During the period September 1976 through 1978, the principal example of major Federal educational legislation that came due for renewal or extension by the Congress concerned elementary and secondary education. Reauthorization of these programs was achieved on November 1, 1978, when President Jimmy Carter signed the Education Amendments of 1978. Two significant new pieces of legislation concerning career education implementation and assistance for middle income students also were signed, in December 1977 and November 1978, respectively.

THE EDUCATION AMENDMENTS OF 1978

The Education Amendments of 1978 (Public Law 95-561) contain 15 titles and authorize more than $50 billion over a 5-year period for elementary and secondary education programs.[1] The law not only continues many of the programs currently in existence, some of which were started as early as 1965 by the landmark Elementary and Secondary Education Act, but also adds many new programs, the majority of which are small compared to the major subsidies in the older programs that aid the disadvantaged. This law also addresses paperwork reduction, calls for a higher level of accountability for educational expenditures at all three levels of government, urges a greater role for parents, and gives an impetus to improving the teaching and learning of basic skills in elementary and secondary schools. In addition, the new law emphasizes the participation of nonpublic school children in nearly all of its programs.

New Financing Methods

The Education Amendments of 1978 also call for a new effort by both the Federal and State Governments to search for new and improved methods of financing education. In recent years, financial support of public education has been shared by Federal, State, and local governments. The Federal Government currently provides approximately 9 percent of the cost of elementary and secondary education, with the remaining 90 percent borne by the State and local governments. There are no nationwide standards used by State governments in deciding the amount they will contribute and the amount to be contributed by local government. Each State has developed its own approach to enacting State school finance programs. The Congress addressed this issue in the Education Amendments of 1978. Although the legislation offers no solution, it calls for extensive study of the problem and authorizes a small amount of money to help States study the issue.

Changes in Existing Programs

In nearly all existing programs, the Education Amendments of 1978 made changes that, for the most part, had been recommended by the Executive Branch.

The Title I program for economically disadvantaged students (a part of the Elementary-Secondary Education Act of 1965) is the largest single program of Federal financial assistance to elementary and secondary education. The program is now operating at $3.078 billion per year. The Education Amendments of 1978 continue this support but modify the formula slightly.

The Amendments also add two new programs to the Title I legislation. One, with an authorization of $400 million, provides for supplementary funds to areas with high concentrations of poor children. If one of the approximately 14,000 school districts receiving Title I funds has 20 percent or more of its enrollment classified as poor children, or 5,000 such children, it qualifies for supplementary funds under this concentration program. The second new program is a special incentive grant program designed to encourage States to implement their own education programs for the disadvantaged. If a State enacts and funds programs such as Title I for its own school systems, then it may receive additional Federal resources.

The Emergency School Aid program provides Federal resources to assist districts in desegregating their school systems. The new legislation sets certain limits on the amount of the appropriation that is to be apportioned among the States, so that more resources will be available for projects wherever necessary throughout the nation for more exemplary kinds of desegregation programs. It also gives priority to projects designed to create magnet schools and to those that use various communications media to facilitate attitudinal changes necessary to create effective programs of desegregation.

Through the Bilingual Education program, the Federal Government for the past several years has given financial assistance to school districts for the purpose of assisting students whose native language is other than English to acquire competence in the English language. Funds for instruction in the native language as well as in English are authorized insofar as such instruction helps the student improve his or her English-language skills. The Education Amendments of 1978 continue the Bilingual Education program and substantially increase the authorization from $160 million to $400 million per year. They also provide that instruction in the English language should be continued only until sufficient competency is acquired to allow students to participate normally in the regular English-language school curriculum.

Since 1950, the Impact Aid program has provided to local school districts in which land is held by the Federal Government--and thereby removed from local tax bases--annual payments from the Federal Government in lieu of the tax revenue that they would receive from such property if it were held in private ownership. The Education Amendments of 1978 continue this program and also make moderate changes in its operation. Most of the changes concern the level of payments to the various categories of

students covered under the program. Also payments made in behalf of students whose parents reside in public housing projects no longer have to be treated separately from payments made under the other authorizations.

The Indian Education program of the U.S. Office of Education is extended and modified. Public school districts throughout the United States that enroll American Indian children are entitled to Federal payments on the basis of the number of such children enrolled. The new law authorizes an increased payment for American Indian children living on Indian reservation land but attending public school and gives the parents of Indian children more influence in planning and carrying out educational programs for them.

Through the Adult Education program, the Federal Government for the last 10 years has provided some financial assistance to State and local education agencies for educating adults who have not acquired a high school diploma or its equivalent. Up to this time, the objective of such adult education has been predominantly to help adults become competent in reading, writing, and mathematics only. The 1978 Amendments extend the objective to include instruction in basic vocational or functional skills. They also increase the annual authorization from $210 million to $290 million.

In the Indochinese Refugee program, the United States made a special effort to assimilate into its educational system approximately 50,000 children of Indochinese immigrants who came to the United States after the Vietnam War. The 1978 Amendment reauthorized Federal Government payments to local education agencies for a portion of the annual cost of education programs provided to Indochinese refugee students.

New Programs

The Preschool Partnership program (in Title III) is designed to develop demonstration projects to assure a smoother and more successful transition from other federally supported early childhood programs to formal schooling. The law will require that 10 percent of the Commissioner's resources for discretionary projects be expended for such preschool partnership activities.

A new Youth Employment program (in Title III) authorizes $7.5 million a year to help bridge the gap between education and work and to enhance employment opportunities for youth. This program is related to other federally supported programs designed to reduce unemployment in the nation.

Law Related Education (in Title III) is a $15 million program created to assist in conducting research and in evaluating and demonstrating to the student population how the U.S. legal process and legal system operate. This program also provides that resources may be used for training personnel and for creating an appreciation of U.S. legal procedures and legal system.

Health Education (in Title III) authorizes grants totaling $10 million to State and local education agencies to improve students' preparation to maintain their physical health and well being. The program

also may address the prevention of illnesses and disease. It is primarily a curriculum development activity.

The Dissemination of Information program (in Title III) is designed to facilitate the collection, analysis, and dissemination of information derived from activities carried out under the various elementary and secondary education programs contained in the Act. It is to be funded at a level of 5 percent of the Commissioner's discretionary project funds.

A new Biomedical Sciences program (in Title III) encourages secondary school students from economically disadvantaged population groups to pursue professional careers in the biomedical sciences. The authorization level for the program is $40 million over a 4-year period.

Population Education (in Title III) is a curriculum development activity designed to encourage incorporation of concepts of population growth and associated problems of a worldwide nature in various courses of study. This program is to be funded with 10 percent of the Commissioner's discretionary project funds.

The Educational Proficiency Standards program (in Title IX) does not have a specific dollar authorization but does involve the possibility of providing Federal assistance to the States for developing standards of educational proficiency. Some 32 States have taken action independently of the Federal Government on developing proficiency standards programs. Proficiency standards as used in this context deal predominantly with standards for students and not with teacher competency tests. This program is designed to assist individual States to achieve their own objectives in developing educational proficiency standards.

A Special Grants for Safe Schools program (in Title IX) contains a $50 million authorization for Fiscal Year 1979 and such other sums as may be necessary for the succeeding 4 fiscal years to provide assistance in 15 school districts selected by the Commissioner to aid them in developing programs to promote school safety and related activities.

The Community Education program (in Title VIII) is a 5-year program authorized at a $40 million annual level that is to provide partial Federal support to help local communities develop community schools in their localities. The concept of community education, developed over the last few decades in the United States, basically involves using the school as a community center for delivering human services to everyone in the area. This considerably expanded definition of a school has worked very satisfactorily in a number of locations throughout the country. Like many of the other programs designed to stimulate reform in education, this program uses two approaches. One calls for developing national demonstration models, and the other allocates funds among the States to facilitate development of such projects in each of them.

The Basic Skills program (in Title II) is built on an already existing program. For several years Federal financial assistance has been available to State and local education systems to improve their basic instruction in reading skills. This new program enlarges the former effort by including mathematics and communications skills as well as reading skills. Another

part of the law calls for allocating monies to State education agencies for any year in which the appropriation exceeds $20 million. (The first $20 million of any appropriation is in the form of a national direct grant or contract program for use at the Secretary's discretion.) The resources allocated to State education agencies are to be used for funding State-developed basic skills programs in the same three subject areas.

The law also contains newly authorized programs (1) to assist racially isolated rural districts, (2) to provide $5 million a year for general assistance to public education in the Virgin Islands, and (3) to expend $2 million a year to assist teacher training in Guam, American Samoa, the Virgin Islands, the Northern Mariana Islands, and the Trust Territories of the Pacific Islands. Finally, there is a program authorizing the Secretary of Health, Education, and Welfare to make grants and contracts with public and private agencies for producing, developing, and distributing television programs that will contribute to the instruction of children in reading, mathematics, and written and oral communication.

THE CAREER EDUCATION IMPLEMENTATION INCENTIVE ACT (1977)

On December 13, 1977, President Carter signed into law the Career Education Implementation Incentive Act (Public Law 95-207). Career education is the name given to recent curricular efforts in elementary and secondary schools to create an early student awareness of various career opportunities in the world of work. The Federal Government has been granting about $10 million annually over the last 5 years to develop prototype programs, teacher training, and instructional materials in career education. The new law authorizes $50 million for Fiscal Year 1979 and $100 million for Fiscal Year 1980 and 1981, before it reduces to $50 million for Fiscal Year 1982, and $25 million for Fiscal Year 1983.

Funds appropriated under this program are allocated to State education agencies, which in turn approve projects in career education submitted by local education agencies. A small portion of the funds received by a State education agency may be retained by that agency for carrying out career education programs at the State level. The law also requires State and local education agencies to provide a pro rata share of the costs of career education projects from their own funds.

The new act also calls for a program of grants to postsecondary educational institutions of $15 million per year for funding demonstration projects in such institutions. Career education projects in postsecondary institutions may deal with training career guidance counselors or other activities that hold promise of being nationally significant.

THE MIDDLE INCOME STUDENT ASSISTANCE ACT (1978)

The Middle Income Student Assistance Act (Public Law 95-566), signed into law by President Carter on November 1, 1978, provides for a substantial increase in financial aid through grants available to students attending postsecondary institutions. This act significantly increases

the benefits to middle-income students, while assuring that low-income students also receive sufficient aid to pursue their education.

Before enactment of this law, it was estimated that the Federal Government was providing grant assistance (as distinct from loan assistance) to 2,193,000 students from low-income categories. This new law will extend grant coverage to an estimated 1½ million additional students from higher (middle-) level income categories. The size of individual grants is determined by the cost of education in the institutions attended and the income of the student and his or her family. The maximum grant allowable under this program is $1,800 per year.

[1] When a law authorizes a maximum level of funding, it does not mean that an equivalent amount will be finally appropriated. The appropriations process is a separate process. Congressional appropriations usually are less than the amounts authorized in the legislation, and in fact some laws that are passed are never funded at all.

2. EDUCATIONAL MANAGEMENT AND ADMINISTRATION

The Federal Government does not directly manage or administer public or private education in the United States. Federal involvement occurs only as required to fulfill Federal responsibility for safeguarding the right of every citizen to equality of educational opportunity. In this noncentralized, pluralistic educational system, the legal responsibility for maintaining a free public education program rests with each of the 50 States and outlying jurisdictions. Policies in all States have guaranteed education as a right and declared education to be a State responsibility through having enacted State compulsory attendance laws, usually through age 16.

As stated in part I, chapter 2, the Federal role is to provide encouragement, financial support, and leadership on educational issues of broad national concern, as appropriate within legislative mandates and consitutional constraints. No Federal agency enters directly into the day-to-day management of schools and colleges. However, some Federal laws and regulations have an indirect effect: Grant programs may require local institutions to do some things and to perform in certain ways in order to qualify for Federal assistance, and civil rights laws may require some changes in pupil assignment, as well as other management activities. At present, the U.S. Office of Education administers over 120 programs with a 1978 budget of over $10 billion dollars. Currently, Federal policies for elementary and secondary education are aimed at improving access and educational quality for disadvantaged students, particularly those who are economically disadvantaged, physically or emotionally handicapped, or whose native language is not English. At the postsecondary level, a major priority is to reduce the financial barriers limiting access to postsecondary education.

The vast majority of policies and practices affecting educational administration and management that characterize the U.S. educational system are developed and carried out by varying combinations of State boards of education, State education departments, local boards of education at the elementary and secondary levels, and postsecondary institutions throughout the nation. These policies reflect the varying characteristics of the approximately 16,000 local school districts and 3,000 higher education institutions across the United States.

ELEMENTARY AND SECONDARY EDUCATION

National Problems

In the last few years, the Federal role in education has been primarily one of supplying financial and technical assistance to State and local education agencies for programs designed to provide access to quality education for disadvantaged groups in society. The responsibilities for implementing Federal assistance programs rest with State and local officials in practice as well as in legal theory. The priority given education and specific educational policy goals differ widely at the State level. Consequently, Federal programs designed to finance

educational opportunities for specific populations may find some States more willing and able than others to match these initiatives with their own resources.

State funding.--From a national perspective, a major concern in the seventies is the new level of uncertainty about the ability of State and local agencies to finance educational enterprises. Because of a variety of local taxation procedures and tax bases, the funding and therefore overall capacities of local school systems vary to a significant degree. Loss of tax bases in urban areas through population and economic changes, defeats of school board proposals, and the recent cutback in tax revenues from voter-approved tax-ceiling propositions all create complications. It is necessary to administer Federal programs in a manner that affords maximum local flexibility while ensuring that the intent of Federal law is being implemented.

Recently, there has been an attempt at the national level to address implementation concerns through passing more prescriptive Federal legislation, such as the Education of All Handicapped Children Act of 1975 (discussed more fully in chapter 3). In this legislation, actual dates are set by which States are required to assure all handicapped students "a free appropriate public education which emphasizes special education and related services designed to meet their unique needs." The Education for All Handicapped Children Act mandates that school systems find and serve all handicapped children. When the State demonstrates progress toward meeting this mandate, it receives funds. Moreover, the act prescribes a rather elaborate process that must be followed by schools and teachers to assure an appropriate education for handicapped children, including the development and parental review of individualized educational plans.

While the prescriptive approach is designed to ensure more fully that legislative and policy objectives are achieved, it may also create some new implementation difficulties, not the least of which concerns the financial abilities of States to comply with Federal requirements. The balance necessary for effective action is a delicate one.

Federal funding.--Long-term planning at the national level is understandably affected by the condition of the national economy and, consequently, the priorities and pace decided upon by the executive and legislative branches. While the 1960's were a time of economic expansion and receptiveness to the extension of the Federal role into various fields, in the late seventies a major national economic goal is to achieve a balanced budget. Through using such accounting tools as zero-based budgeting, a reinforced effort has been made to ensure efficient expenditures and effective national programs.

Changes at the Federal Level

National policies in education are successfully implemented only when local, State, and Federal authorities cooperate effectively. The Federal Government's efforts to aid education through a large number and a wide variety of programs resulted in an increase in the administrative burden on State and local administration. The Federal Government in the

period 1976 to 1978 has taken important steps to reduce this burden, to give State and local governments greater flexibility in implementing Federal programs, and to increase the effectiveness of the aid.

Reduction of paperwork.--Application procedures for Elementary and Secondary Education Act programs have been simplified by consolidating applications for programs and by going from an annual application process to a multiyear application cycle for most programs. Also, the total number of reports required from State and local authorities for programs administered by the U.S. Office of Education has been reduced--eliminating an estimated 6 million hours of paperwork burden in the period 1977-78.

A federally shared data acquisition system.--The establishment of a Federal Education Data Acquisition Council is aimed at improving the efficiency and effectiveness of information and data acquisition for all Federal agencies involved in education programs.

Simplification of regulations.--Significant effort has been made in Federal agencies to streamline administrative procedures for Federal programs. A comprehensive review of regulations was begun in 1977 in the Department of Health, Education, and Welfare to clarify existing regulatory language, to eliminate unnecessary or duplicatory regulations, to consolidate general regulations that apply to all Federal education programs, and to establish consistent definitions of frequently used terminology.

New administrative procedures.--In addition, the Education Amendments of 1978 included provisions for clarifying and streamlining procedures for resolving complaints, audits, and other management and policy questions in the Title I (disadvantaged) program at the Federal, State, and local levels.

The new Federal legislation enacted in 1978 is also explicit concerning administrative procedures for planning, expending funds, and monitoring operation of the programs at the local level. It requires more involvement of parents and teachers in planning and operating educational programs and gives advisory councils expanded roles.

More State responsibility.--An increased State role and additional flexibility have been gained in some programs through reduced reliance on fiscal controls to monitor program administration and greater reliance on State planning (as in the Vocational Education Amendments of 1976), on incentives to encourage States to pursue Federal priorities with their own resources (as in amendments to Title I), and on expanded levels of State responsibility for, and decisionmaking authority in, administering several programs.

Changes at the State Level

More specific legislation.--As State legislatures mandate school finance reform programs that generally mean a greater financial contribution on the part of the State, there is likely to be some shift in power from local to State level. The ultimate policymaking body in the State--

the State legislature--is tending to pass more legislation that contains a greater delineation of policy and methods of implementation than has previously been the case. State legislatures, by and large, are also beginning to pass legislation aimed at assisting specific populations and at implementing specific programs.

Legislatures are no longer content to determine a policy, provide financial support, and then assume that the policy is being implemented in the manner in which the legislature intended. Consequently, there is a movement toward clearer, more specific policy statements with evaluative techniques built in for measuring the effectiveness of policy implementation and the achievement of policy goals.

Evaluating the effectiveness and/or achievement of educational policy has been enhanced by the management-by-objective and performance-based approaches. Various educational programs implemented through grants or contracts are monitored throughout, and site visits by staff assess progress. Final reports and an evaluation are a part of each program or project.

School finance reforms.--A development of note has been the attempt of over 20 State Legislatures to provide for more nearly equal access to education through reform of policies and programs for raising revenue for education and allocating expenditures. Most of these have been spurred or mandated by court decisions that have found many traditional State school finance programs to be unconstitutional in light of contemporary interpretation of State constitutions. Although almost half of the States have accomplished school finance reform in varying degrees, the goal of achieving equality of educational opportunity and equity for the taxpayer throughout the country has not yet been fully achieved.

Increased SEA leadership and management expertise.--The representative State education department (also called the State education agency, usually abbreviated SEA), has assumed increasing leadership responsibilities, largely under the impetus of the Federal Elementary and Secondary Education Act of 1965, as amended, and subsequent related Federal legislation like the Emergency School Aid Act, the Education for All Handicapped Children Act, the Bilingual Education Act, and others. There has been and continues to be a substantial rise in the State share of education expenditures, and a corresponding increase in the technical assistance given by the SEA to local school districts.

Aware that instructional programs must be founded on and reinforced by sound administrative practices, the Federal Government assists State education agencies to improve their effectiveness in serving the local school districts (also called local education authorities, usually abreviated LEA's). The U.S. Office of Education (USOE) assists by identifying and disseminating information about exemplary instructional, dissemination, and management practices.

Upon request from State agencies, management teams from the Office of Education also help evaluate State agency practices and make recommendations for improved service delivery systems or management practices.

This also helps USOE to fulfill the legislative mandate to evaluate and report to the Congress on the administration of the Federal aid programs.

Some State agencies have adopted the Federal practice of using management assistance review teams for improving managerial effectiveness at the local level. The State of California, for example, uses this improved management technique very effectively. The School Management Assistance Team of the California State department of education has conducted studies in local education agencies on staffing, site management, management information systems, enrollment projections, accounting procedures, purchasing and warehousing, and other problems in school district administration. The local board of education and its superintendent of schools receive a report of each review with specific recommendations for improvement. More than 90 percent of the California team's recommendations have been accepted and have reduced costs by millions of dollars and led to the strengthening and improvement of instructional programs for the children.

Also in California, the Los Angeles County school system (larger than the aggregate systems of some States) has a management assistance team that works in a similar manner with the local districts in the country. This staff of management analysts, with extensive experience and skill in the techniques of problem definition and resolution, works in cooperation with the State assistance team. Sometimes highly specialized experts from outside the government framework may be called in to consult and advise on special problems.

Inservice staff development.--Through special projects funded under Title V of the Elementary and Secondary Education Act; the U.S. Office of Education has helped stimulate and finance inservice staff development activities. Some States had provided such leadership before Title V was enacted and many more have since adopted the practice with Title VI assistance.

The State of Pennsylvania, for example, provides inservice activities for district superintendents and school principals in planning, budgeting, leadership, assertiveness, supervision, and public relations. The inservice activities deal with actual problems that confront administrators, including administration of attendance systems, enrollment projections, cafeteria operation, and building maintenance; and, on the instructional side, competency-based education, State curriculum regulations, economic education, and career education. Other concerns in which the superintendents and principals are guided include such legal issues as equal educational opportunities, collective bargaining, student rights and responsibilities; and management responsibilities concerning long-range planning, organization and team development, school policies, conflict management, time management, interviewing techniques, and staff development; and such personnel matters as motivational techniques, handling grievances, and counseling for job satisfaction.

Zero-based budgeting.--Until recently, most budget development has been based on the traditional pattern of taking the previous budget level

as a "given" and proceeding to examine the desirability of increments beyond that level. Under President Carter's leadership, the Federal Government has now adopted a policy of regarding each budget period (generally the fiscal year, ending September 30--formerly June 30) as an occasion to reexamine the basic purpose and need for the programs, the mission to be served, the record of program cost effectiveness to date, and accomplishments to be expected at different funding levels. The method is referred to as "zero-based budgeting."

Essentially, zero-based budgeting is a management process that provides for consolidating program planning, evaluation, budget allocation decisions, and justification of these decisions in one integrated system. The process is based on the concept of beginning the budget cycle with no assumptions of fund and resource allocations. All programs, whether 30 years old or new, must compete annually for funding on an equal footing.

Structurally, zero-based budgeting consists of two stages. Initially, units for decisionmaking are identified. These units are discrete programs or activities upon which program managers can make major decisions on the amount of spending and the scope, direction, or quality of work to be performed. Each manager analyzes his or her program as to alternate ways of accomplishing the task and identifies various levels of funding, activity, and performance. In this manner, decisionmakers are provided with information revealing (1) where reductions from the total request may be made, (2) possible benefits from increased or alternate spending, and (3) the effect of additions and reductions. From the collection of decision units, management is then able to evaluate and rank these discrete units. The ranking is based on the objectives of the organization and the most efficient method of accomplishing these goals. Since alternate levels of activity have already been evaluated by program managers, final decisions on allocating resources become a matter of synthesizing priorities with available revenues.

The zero-based budgeting system has advantages that commend it to educational institutions as well, including:

1. Providing a tested process (used by a myriad of organizations) that combines in a flexible manner the activities of planning, evaluating, and budget allocation.

2. Creating the capacity to reassess on a yearly basis all activities undertaken by an organization.

3. Assisting in identifying both obsolete and low efficiency programs and also new initiatives and highly efficient programs that promote the objectives of the organization.

4. Establishing priorities for spending human and financial resources.

5. Involving all levels of decisionmakers in the process.

6. Focusing the budget process on a comprehensive analysis of objectives and development of plans to accomplish those objectives.

7. Providing a structure in which information is gathered at the level of actual activity and is then sent up the chain of decisionmakers without being altered.

8. Allowing for immediate response to changing revenue bases during any budget year, since the activities of the organization are divided into discrete units that may be added to or subtracted from the overall effort without disrupting other packages.

In summary, zero-based budgeting provides a method of analyzing, evaluating, and budgeting diverse activities in an efficient and systematic manner. Programs at all levels can be analyzed, and comparative rankings of program priorities in a variety of fields across the educational spectrum can be determined more objectively. It is anticipated that more States and school districts will move toward a budgeting process of this type. Indeed, such an approach has been used by a number of State and local education agencies completely independent of any Federal participation, or with minimal Federal influence (such as minor amounts of funding).

Changes at the Local Level

In the larger systems there is great movement toward decentralization. This is mostly evident through the establishment of intermediate districts with their own administrative staff within the larger district and the effort to give more decisionmaking authority to the building principals. At the same time, efforts to promote financial equality within the State have led to more State support and usually to more State involvement in decisionmaking. Also, as society and education become more complex, there is a growing realization that small districts cannot alone provide the full range of needed programs and so more cooperative services are being developed.

Using computer technology for planning.--Where school districts are large enough to warrant it, many have turned to more long-range planning, utilizing computer capabilities and industry consultation in such areas as energy conservation and declining enrollments with resulting school closings. Most of the larger school districts in the country are using computer techology for such things as registration, inventory, payroll, and other business operations. For the great number of smaller school districts in this country, computer technology is being introduced into programs of cooperative educational services so that a number of these smaller school districts utilize computer services on a shared basis.

Regional educational service agencies.--One of the most significant changes in the organization and management of services to local schools and school districts is the development of regional educational service

agencies (RESA's), which can help provide easily accessible supplemental and supportive services of high quality. The RESA's can contribute substantially to equalizing educational opportunities for children who live in rural or sparsely settled areas. They also provide better use of materials and human resources in disseminating educational programs and services within a State school system. The RESA's can contribute to constructive interaction between urban, suburban, and rural interests in the search for solutions to areawide educational issues. They also promote meaningful local school district involvement in statewide and regional planning and decisionmaking. Approximately 1,200 RESA's have been established.

Individualized education programs.--The statutory requirement for providing equal educational opportunity for all children, including those with physical or other disabilities, is reinforced by a specific requirement in the Education for All Handicapped Children Act of 1975 that each child receiving special services under the Act should have an individualized education program (IEP). The IEP for each child must be developed or reviewed at least annually by the child's teacher and parents, a representative of the local education agency and, where appropriate, by the child as well.

The IEP process is important in assuring each handicapped child an appropriate education. In addition, the IEP can also serve as an important educational management tool. It can allow greater accuracy and flexibility in grouping children for instruction than can groupings on the basis of age for example, resulting in more efficient use of teacher time. The required listing of needed educational and related services for each child's IEP can be compiled for an entire school or district and this facilitates planning for the total resources needed for the school and district levels.

The annual listing of goals and short-term objectives along with evaluative information can serve as a permanent record of the child's progress and remaining needs. Such a permanent record should help ensure that appropriate program continuity is provided to handicapped students, even if they should move from one school setting to another. In addition, as a permanent record of the child's progress, the IEP can serve as a pupil accountability document, allowing both child and parents to see what has or has not been learned and the rate of progress. This may assist the child and parent in setting realistic goals for progress.

Another Federal requirement is that parent advisory councils be involved in planning, implementing, and evaluating programs for disadvantaged children.

School volunteers.--Assisting in providing human and material resources not otherwise available, school volunteers can be a valuable instructional and management resource. The school volunteer movement is growing, especially in urban areas where the complexities of large city schooling create a great need for community assistance to schools. A non-profit organization, the National School Volunteer Program, Inc.,

based in Alexandria, Va., has undertaken the mission of promoting school volunteer programs throughout the United States.

The designation "school volunteer" applies to a broad spectrum of people: Parents, laborers, merchants, executives, professionals in the public and private sector, older people (including retirees), and students themselves. Neighborhood associations, labor unions, local businesses, and foundations can also donate services to schools.

Volunteer involvement in public schools can enrich both the school programs and the communities they serve. On-site school volunteers can bolster teaching, counseling, and paraprofessional staff; increase student-adult interaction in schools; participate in school site advisory councils to help link school goals with community values; pair with administrators to share executive skills; reinforce school staff with multicultural, multiethnic adult role models; and help coordinate extracurricular activities.

Off-site volunteers can offer career counseling and internship programs for youth in private and public sector jobs; open specialized facilities for individual student and class groups (such as dance and art studios, museums, theaters and other cultural institutions, physical fitness and sports facilities, computer centers, and science labs); train students in volunteerism to bolster neighborhood social services (such as student participation in day-care centers and visits to shut-ins); help coordinate school-community relations programs; and lobby for schools in local, State, and Federal governments.

Criteria for successful school volunteer programs include appropriate orientation or training for volunteers, training for school staff in effective use of volunteer services, and incentives (for example, tax incentives) to private and public sectors for making personnel available through released time or donating facilities, materials, and equipment.

Adopting validated business practices.--The U.S. Office of Education, in cooperation with the (nongovernmental) Association of School Business Officials (ASBO) has developed a system to identify and validate business practices that are successful in reducing school costs, improving the delivery of services, enhancing communications, and reforming administrative and business methods.

The system is described in a handbook, *Sharing Business Success*, which was developed and fieldtested by ASBO, the Office of Education, and selected State education departments. The handbook sets forth criteria for determining effectiveness, efficiency, cost, and exportability in the areas of office management, personnel negotiations, risk management, data processing, personnel management and development, purchasing and supply management, budgeting and financial planning, school safety, plant planning, construction, and energy conservation.

School business practices validated as successful by appropriate reviewing committees can be included in State and national information diffusion networks so that other school districts may consider adopting them.

The National Diffusion Network.--To capitalize on its multimillion dollar investment over the past two decades in supporting discovery and development of innovative educational processes and products, the U.S. Office of Education in 1974 established the National Diffusion Network (NDN). The Network's function is to disseminate information about and promote the adoption of exemplary programs, projects, and materials, primarily those produced with USOE financial assistance. Programs disseminated through the NDN must first have been approved by a panel of experts on the Joint Dissemination Review Panel (JDRP) who are satisfied from the evidence that the programs have proved to be effective and can reasonably be expected to work in other settings.

The USOE supports NDN operations by means of Developer Demonstrators (DD's) and State Facilitators (SF's). DD's may be local public school districts, State departments of education, institutions of higher education, or non-profit private concerns that have developed effective educational programs. They are responsible for making schools aware of the programs they have developed; for producing materials for administrators, teachers, and students; for training adopters' staffs in the educational practices being disseminated; and for providing technical assistance in connection with the installation of their programs.

State Facilitators (SF's) are trained personnel who arrange conferences to make schools aware of new proven and approved programs, help them match these programs to their own needs and resources, arrange training for school districts that choose to adopt particular programs, and provide resources and technical assistance for installing the adopted programs.

During NDN's first year of operation in 1974, USOE allocated some $7.5 million for this purpose. Currently, NDN uses $11.5 million for operations involving Developer Demonstrators and State Facilitators and $2.5 million for evaluating and preparing exemplary programs readily adaptable for dissemination to a variety of school situations. State and local agencies also provide some support for NDN activities. There are now 129 Development Demonstrators, including a small number that emphasize project information packaging and 21 Follow-Through projects for disadvantaged children in kindergarten and first grade; and State Facilitators are employed in all States and in the District of Columbia, the Virgin Islands, and Puerto Rico. Since its creation in 1974, NDN has trained personnel in school districts, at an average cost of $4,000 for each district, to facilitate adoption of validated programs which may have cost up to a million dollars each for development. School districts and non-public schools in every State have been involved in this effort.

Programs in the NDN pool cover many subject areas. A substantial number are in reading and arithmetic; others are in such areas as political and legal education, environmental protection, and education for preschool children, the handicapped, migrant children, or those whose native language is not English. There are also some complex innovations involving restructuring total educational programs and establishing alternative schools.

Less than half of the projects validated by the Joint Dissemination Review Board are receiving Federal funds through NDN to disseminate their programs. Other programs, developed with support from Federal sources other than USOE, including, for example, those in the areas of environmental protection, consumer education, or the arts, may also become part of NDN when they have proven their effectiveness and replicability in other educational settings.

PRIVATE EDUCATION AND PUBLIC SUPPORT

Although private schools are to some extent included in the previous discussion of educational management and administration at the elementary and secondary levels and in the later treatment of those areas at the postsecondary level, some separate discussion of the subject is useful here because of the continuing basic constitutional question in American education as to whether or not private schools, most of which are church-affiliated, may receive Federal and State support.

Efforts to provide Federal financial aid to private elementary and secondary education have always been considered in terms of the first amendment to the Constitution of the United States. The first amendment prohibits the "establishment of religion" by the Government, while protecting the "free exercise of religion."

Development of a Formula

At the nation's birth 200 years ago, most education was private and the great bulk of it was church-related. The need to broaden greatly the availability of education began to be recognized more than 100 years ago, and by the end of the last century virtually all States had enacted universal compulsory education laws and created public school systems. State laws that sought to aid private church-related schools (and thus lessen the need to build public schools, or to broaden the scope of public education) were frequently struck down by the courts as transgressing the first amendment.

Finally, proponents of Federal aid to education devised a formula which resolved the impasse: Grants, prescribed to serve specified (categorical) purposes, could be used for the benefit of children in any schools; however, use of such funds would be prohibited if they either furthered religious ends or supplanted funds previously available and used locally. This was one of the conceptual breakthroughs that permitted enactment of the landmark Elementary and Secondary Education Act of 1965.

The Federal aid thus provided to students in private schools at all levels (including postsecondary) requires the Government to maintain limited communication and working relations with such institutions, but does not permit involvement with or interferences in their administration, operation, or courses of study. In 1977, approximately 11 percent of U.S. students at the elementary and 9 percent at the secondary level attended private schools.

The general pattern of these programs is that Federal funds do not go directly to private or denominational schools but to the local public school district, which provides the services in consultation with representatives of private school children. The language of the Federal Elementary and Secondary Education Act is clear that some of the program needs of private and public school students are to be met on an equitable basis. Where State constitutions or laws prohibit public school officials to be involved even to this extent in providing aid to nonpublic schools, the U.S. Commissioner of Education is empowered to "bypass" the local or State authorities and contract with others for delivery of the Federal aid.

Current Federal Aid Practice

Federal assistance to private school children currently goes for such items as school library resources; loaned textbooks, other instructional materials, and equipment; health and nutrition education and services; remedial education for educationally deprived children who reside in low-income areas; reading skills; bilingual education; special education for gifted and talented and handicapped children; improvement of pupil personnel services, including guidance, counseling, and testing; minority-group isolation problems; and other special projects in the national interest. Title to textbooks and other loaned materials remains in the local school district.

Private schools may participate in the Food and Nutrition programs of the U.S. Department of Agriculture, and they are eligible for Federal funds from the newly created Department of Energy for energy-conservation practices. Private school children are also eligible to participate in various programs, including those concerning arts, humanities, sciences, and museums. Programs administered by other Federal agencies that affect public schools are available to private school children on the same general basis described above.

Private colleges and universities are eligible for Federal education programs that provide student financial assistance or institutional aid. In considering challenges that have been made to Federal aid to church-related education, the Supreme Court has distinguished between the greater maturity and higher level of intellectual development of students in higher education and the immaturity and much more impressionable state of mind of children at the elementary and secondary school levels.

Federal Developments

The U.S. Office of Education in 1971 established a full-time office for liaison with private education. It has sponsored national conferences on private education, developed and distributed handbooks for private school administrators on Federal education benefits, surveyed the State laws that regulate and/or aid private education, and provided various technical papers for both State departments of education and private school groups concerning Federal education policies and rulemaking. A new Office of Nonpublic Educational Services to be headed by a Deputy Commissioner of Education was created in 1978 with a purpose prescribed

by the law: "To insure the maximum potential participation of non-public school students in all Federal educational programs for which such children are eligible."

The U.S. Office of Education also communicates continuously with national associations representing private school children, chief among which is the Council for American Private Education, an umbrella group of 15 national private school organizations whose members account for 90 percent of all private elementary and secondary school students. Their representatives have access to Office of Education officials to express their concerns and interests in public policy. Furthermore, the Secretary of Health, Education, and Welfare is preparing to institute a study of school finance, mandated by law, which includes the following concerning private education:

> "An analysis of current and future Federal assistance to nonpublic elementary and secondary education, including the extent of nonpublic participation in Federal programs, trends in enrollments, and costs of private education, the impact of private schools on public school enrollments and financial support, and an examination of alternative Federal policies for support of private education."

The National Center for Education Statistics (Department of Health, Education, and Welfare) and the Bureau of the Census (Department of Commerce) collect private school data that the National Institute of Education incorporates in research efforts.

POSTSECONDARY EDUCATION[1]

Issues

The greatest period of expansion in U.S. postsecondary education began about 1960 and ended during the 2 years covered by this report. During that long period of expansion, the primary problems of governance, management, and planning had been related to increasing enrollments, whereas since 1978 the most urgent concern is learning to deal with variable and declining enrollments.

During the 1960's and early 1970's, 24 new statewide boards or agencies responsible for coordinating and/or governing higher education were instituted, so that by 1975 all but two States had legislatively or constitutionally established such agencies. The other two had commissions designated by their respective Governors. The structures, functions, and powers of the boards vary considerably from State to State. Most have major responsibility in statewide planning, budget development and review, and program approval. They grew out of State legislative and executive concerns with (1) keeping the rates of expenditure in perspective and balance, (2) maintaining budgetary equity among institutions in light of their different functions, (3) assuring reasonable diversity among institutions within the higher education system to meet the variety of State needs, (4) avoiding unnecessary duplication of programs not related to

demand in the expanding job market, and (5) balancing institutional operations with political and social realities as these relate to social and geographic distribution of opportunities.

Private institutions also shared in the growth phenomenon. However, whereas the private institutions enrolled approximately half the students in higher education as late as 1950, today they enroll only 21 percent. Further, the most rapidly growing segment of higher education since 1960 has been the relatively new comprehensive community colleges, most of which are public.

It is clear from both demographic changes and the great progress of the past two decades that the period of major expansion is over. The problems facing governance, planning, and management for the next decade will not be those of expansion but of variable enrollments, contraction, retrenchment, and changing missions and goals. In the last 2 years, the higher education community has become progressively aware of the impending changes. Some of these changes, easily identifiable, are new; others have been developing over the past few years but are taking on additional significance at the present time.

Decreasing enrollments and changing clientele.--The first and major change is in enrollment. The peak of the 18- to 21-year-old population (the traditional college-age population) has been reached. There will be no further increase in the next 10 years. By 1993, the number of 18- to 21-year-olds nationwide also will have decreased by approximately 25 percent.[2] It is [illegible] this decrease will not affect all institutions equally nor will it affect all disciplines within institutions alike. To the extent that higher education institutions are dependent upon traditional college-age persons for enrollments, those enrollments nationwide will decrease, in some cases radically. Other things being equal, the most prestigious institutions, those in or near urban areas, and the community colleges adaptable to changing community conditions are likely to fare best. Other institutions are likely to have a much more difficult time and some will probably disappear through merger or closure.

One offsetting factor to decline of traditional enrollment may well be the increasing participation in higher education by older students, and many institutions are counting on such participation to replace the decreasing number of 18- to 21-year-olds. Dr. Patricia Cross estimates that one in every four American adults is involved in some form of organized learning this year.[3] However, how great an effect older students will have on formal postsecondary enrollments is unknown at this stage. It seems clear that these older students are not likely to come in large numbers because places in traditional programs become open to them. Also, it may be that the number of adults enrolled in continuing education may not continue to increase. Although the number of students over 35 increased 50 percent from 1974 to 1976, there was no increase in 1976. An additional factor is that older students are usually part-time students, and thus it takes a considerably larger number of such students to produce full-time equivalence with enrollment figures based on traditional full-time students.

As the number of college-age persons decreases, both the number of women and the proportion of women and of minority students in relation to white males will increase. Thus not only will U.S. higher education be faced with variable and/or declining enrollments, but the student body will change to include a larger proportion of older students, part-time students, women, and minorities. It is important that planning take place now for such changes.

Funding limitations.--The fiscal situation for higher education is a second major issue not unrelated to the first. Higher education no longer has the high priority it had during the 1960's. Demands in other areas of public service--health, welfare, energy, and conservation--have increased radically, and State priorities have shifted to these, particularly in view of the expanded investment in higher education over the past few decades. Tax limitations, taxpayer relief, and frugality in spending are high on legislative agendas. Tax limitation measures have focused primarily on property tax, which supports elementary-secondary education and to some extent community colleges. This development has added to the growing competition for State education funds between elementary-secondary and higher education. In some States such competition is already acute. Even though enrollments have dropped more rapidly in elementary-secondary education, public concern with return to basics, minimal competency, school district equalization, and increased costs relating to Federal programs tend in many quarters to give elementary-secondary education higher priority now than postsecondary education.

Both inflation, with its pushing up of costs and erosion of purchasing power, and changes in national funding patterns complicate the situation further. Over the past 10 years the proportion of national expenditures for higher education that has come from the Federal Government has decreased. In 1967-68, the Federal Government provided 19.1 percent of institutional expenditures and States, 24.1 percent. A decade later, in 1976-77, the Federal Government provided 15 percent and the States, 30 percent. Given understandable present Federal concerns with balancing the national budget, an early reversal of this trend is unlikely.

An integral part of the fiscal picture is the basis on which budget requests and appropriations are determined. A majority of States use formula budgeting. In some States the formulas are based on full-time equivalent enrollments, but not all costs vary with enrollments. Accordingly, it is critically important now, before the expected persistent enrollment decreases begin, to reconsider and recalculate such formulas to take into account fixed, variable, and marginal costs. Some States have begun such measures, and the National Center for Higher Education Management Systems (funded by the National Institute of Education) has underway such a review, leading to recommendations on a national basis.

The demand for accountability.--The third critical issue is the growing demand for accountability by the States and the general public. Essentially, accountability relates to the effective and efficient use of funds for achieving educational goals. Few people within higher education would deny that institutions should in fact be accountable for the effective and efficient use of public funds, and to a greater or lesser extent they always have been. There is a new emphasis upon accountability, however, which has taken at least four forms.

The first is the insistence upon more accurate and targeted information and upon developing effective management information systems to supply it. The focus is not simply on quantity of data, but on analysis, relevance, and immediate availability. To some extent the higher education community itself has tended to take the lead in developing more effective instruments for reporting and analysis. In this it has had help through collaboration with the National Center for Higher Education Management Systems, the American Council on Education, and the National Association of College and University Budget Officers. The National Center for Higher Education Management Systems, in particular, has developed a series of highly valuable management information tools for both institutional and statewide use, including a Program Classification Structure, Resources Requirement Prediction Model, Higher Education Finance Manual, and State Level Information Base. It currently is engaged in an Organizational Performance Program involving research and development projects that address the need for management concepts and aids with which to assess institutional, program, and individual performance.

A second form of emphasis that accountability has taken, with only limited effectiveness, is inclusion of evaluation as part of the budgeting cycle, as in zero-based budgeting and other planning, budgeting, and evaluation systems adopted in a few States. These systems make evaluation the basis of budget recommendations for the subsequent cycle of appropriations. In practice, however, these "performance" budgets have not yet placed much emphasis on the evaluation part of the cycle. Although the new system produces requests in a new form, they are usually evaluated through traditional budget negotiations. Evaluations made either by the budget producer or the budget reviewer are seldom made in terms of goals or performance evaluations, partly because the objectives to be evaluated and the measures of these objectives have not been developed and agreed upon in advance.

A third form of the accountability emphasis is the requirement by some States on "performance audit "--fiscal audit and program audit concerned with outcomes, educational results, and effectiveness. Some 23 States have developed their own performance audit agencies by legislative mandate or executive order. While these usually have not been set up specifically with higher education in mind, higher education or some form of it tends to be an early target. Such audits raise critical and complex questions about judgments of academic effectiveness, the criteria to be used, and institutional integrity. An important issue is whether performance audits will be done within higher education by a State higher education agency or board or by an external legislatively or gubernatorially created agency with primary concern for financial efficiency rather than educational effectiveness.

The fourth form of the accountability emphasis is increasing insistence on effective program review not only of new programs but of existing programs. The governmental and institutional concern with and even demand for such program review is related to projected enrollments, the fiscal situation, presumed or actual duplications of programs, and concern with maintaining quality in a period of retrenchment. A series of States including Louisiana, New Jersey, New York, and Washington are already re-

viewing doctoral programs and beginning to review programs at other higher education levels.

The issue of accountability undoubtedly will receive progressively more attention in the future. Currently, the Education Commission of the States has a national task force on State level accountability in higher education. Among other things, the task force will suggest that an effective accountability system involves four steps: (1) Establishing State goals for higher education in enough detail so that they can serve as accountability objectives; (2) clarifying the responsibilities of institutions and of State agencies and officials for goal achievement; (3) developing evaluation procedures for systematically reviewing or assessing progress towards the goals; and, (4) providing for public reporting of the results of evaluation and for indication of steps to be taken to eliminate any deficiencies indicated.

The concern for private higher education.--A fourth issue is the growing State, Federal, and public concern with the future of private or independent higher education. The predictions of the early 1970's of large-scale demise of private institutions have not proven accurate. Enrollments in private institutions have continued to increase even in 1976 when overall enrollments dropped, and, on the whole, their financial situation has not deteriorated but is somewhat stronger today than in the early 1970's.[4] However, many private institutions are in jeopardy in a period of declining enrollments. They are far more tuition-dependent than public institutions and their tuitions are considerably higher, at a ratio of 3.8:1 among 4-year institutions and 4.5:1 among 2-year institutions.[5]

State concern for private institutions is evidenced by the fact that 43 States make limited funds available to them either indirectly through student aid or directly in institutional grants or contracts of various types. In addition, most States are taking into account the private sector in the statewide planning process and often requesting its members to participate in the process. Such inclusion of the private sector in planning was also encouraged by the Federal Government in the Education Amendments of 1972 through providing limited funding for State Postsecondary Education Planning Commissions (Section 1202) that are equitably representative of the postsecondary education community. Of particular importance for the private sector was the formation in the past few years of the National Association of Independent Colleges and Universities with its own research arm. The Association not only represents a new collective presence and voice for several hundred independent colleges on national and State levels but through its research provides them with an important source of useful information for planning and management. It should be added that State and Federal concerns extend not only to the independent colleges and universities but to the less well-defined and organized proprietary sector of postsecondary education as well.

The impact of Federal legislation.--A fifth issue is the growing impact of Federal legislation on statewide and institutional higher and postsecondary educational activities. Three aspects should be noted. One is the increasing demand upon institutions and State agencies that has come from legislation not primarily aimed at higher or postsecondary education, such as the laws concerning civil rights, affirmative action,

provision for the handicapped, and occupational safety. These have statewide and institutional financial, planning, and administrative impact. The second is specific demands upon institutions growing out of requirements for eligibility for Federal funds--such as prescribed information for students, financial disclosure, and fiscal probity. The third is the range of Federal programs that call for statewide plans and add new responsibilities to State agencies. These are not necessarily integrated on the Federal level, but somehow must be integrated on the State level if States are not to end up with multiple and conflicting agencies reflecting multiple Federal programs. Such programs require additional staff at the State level. The growing complexity of Federal-State relations in postsecondary education indicates that, increasingly, State and Federal programs need to be considered and planned for in relation to each other.

Developments

The five issues just discussed are among those being addressed by numerous Federal, State, organizational, and institutional agencies and individuals. Significant progress has been made in addressing some of them. The National Institute of Education through its support of the National Center for Higher Education Management Systems has contributed to the development of management information tools. The U.S. Office of Education through its Office of Planning, Budgeting, and Evaluation has sponsored evaluation studies relating to management of major Federal programs, such as student assistance and aid to developing institutions. The Fund for the Improvement of Postsecondary Education has supported innovative approaches to management and budgeting such as a Tennessee project on performance budgeting.

The Education Commission of the States, with the help of the W.K. Kellogg Foundation, is completing a 6-year program of Inservice Education for State Higher Education Executive Officers and Related State Officials with particular emphasis on planning, governance, and finances. With support from the Exxon Education Foundation, it is completing a task force report and recommendations on accountability. With the help of the Ford Foundation it is exploring the issues of coordination for the 1980's. The State Higher Education Executive Officers, under a contract with the National Center for Education Statistics, have developed a nationwide information network to benefit both the States and the Federal Government in statistical information sharing.

The publications and research section of the National Association of College and University Budget Officers continues to contribute insights and techniques to the field of fiscal management as do related programs of the American Council on Education and other Washington-based higher education organizations. The Academy for Educational Development, with the help of the W. K. Kellogg Foundation, has just completed a 2-year project on the management of change in particular colleges and universities.

Also, a number of university-based higher education centers--including those at the University of Michigan, Pennsylvania State University, University of Arizona, Florida State University, and the State University of New York at Buffalo--are contributing both to the literature and the techniques and procedures of governance, management, and planning of postsecondary education.

The three regional higher education interstate compacts--the Southern Regional Education Board, the Western Interstate Commission on Higher Education, and the New England Board of Higher Education--are major sources of information, research, and meetings for bringing together legislators, State officials, and institutional representatives to deal with changing issues in management and program development. In addition, a number of States are not only engaged in planning, developing more effective accountability systems, and reviewing budgeting formulas, but are also working with institutions in their States to improve management and planning practices. The Ohio Board of Regents, for example, has funds from the legislature to implement an institutional management improvement program. The Mississippi Legislature has contracted for a thorough systemwide higher educational management review. Tennessee, Hawaii, Rhode Island, New York, and New Jersey have or are developing more effective accountability systems. The foregoing list is illustrative rather than exhaustive of current activity.

However, given the nature and scope of the issues in enrollment, governance, management, planning, and finance facing U.S. higher education in the next decade, far more needs to be done not only at the research level but more specifically at State and institutional levels to meet the challenges ahead. While the next decade promises to be a difficult one of readjustment for all concerned, it is important to recognize that despite the various problems, including financial constraints, more quality higher education programs and facilities are more widely available to more people throughout the country than at any time in the nation's history.

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[1]Prepared by Dr. Richard M. Millard, Director, Department of Postsecondary Education, Education Commission of the States, Denver, Colo.

[2]Lyman A. Glenny. "Financing Higher Education in the 1980's: Few Students, More Dollars!" in *Higher Education Prospectus 1978*. Atlanta, Ga.: Southern Regional Education Board, 1978. P. 3.

[3]K. Patricia Cross. "Growing Gaps and Missing Links." Unpublished paper prepared for the National Conference on Statewide Education Information and Counseling Services, Denver, Colo.. February 14, 1979. P. 3.

[4]W. John Mentor and Howard R. Bowen. *Fourth Annual Report on Financial and Educational Trends in the Private Sector of American Higher Education*. Washington, D.C.: National Association of Independent Colleges and Universities, 1978.

[5]*Final Report and Recommendations: Task Force on State Policy and Independent Higher Education*. Denver, Colo.: Education Commission of the States, 1977. P. 3.

3. DEVELOPMENT OF THE SYSTEM

QUANTITATIVE CHANGES

An Overview

Education was the primary occupation of 63.9 million Americans in fall 1977. Included in this total were more than 60.3 million students, almost 3.3 million teachers, and about 300,000 superintendents, principals, supervisors, and other instructional staff members. Thus in a nation of 217 million people, nearly 3 out of every 10 persons were directly involved in the educational process. It is not surprising, therefore, that so much public attention is being focused upon the schools and colleges. A substantial portion of national resources is allotted to this vital enterprise. Increased support for education in recent years has come from Federal, State, and local governments, as well as from a variety of private sources. Total expenditures of educational institutions amounted to approximately $141 billion during the school year 1977-78. The material that follows provides more detailed information on the status and progress of education in the United States.

Enrollment

Enrollment trends at the elementary, secondary, and higher education levels are essentially determined or strongly influenced by the number of children or young people in the appropriate age group. Since the mid-1960's there has been a substantial decline in the number of births each year in the United States. The lower birth rate has already had a significant effect upon elementary school enrollment, and its impact is beginning to be felt at the high school level. Demographic trends will be a major factor in the enrollment of colleges and universities in the 1980's.

Enrollment in elementary schools (kindergarten through grade 8) reached an all-time high in the fall of 1969. Subsequently, there have been small decreases each year. High school enrollment (grades 9 through 12) peaked in 1976, and college enrollment attained a new high in the fall of 1977. Total enrollment at all levels reached a maximum of 61.3 million in the fall of 1975.

Further increases in total enrollment are not anticipated in the immediate future. Reflecting a continuing decrease in the number of children 5 to 13 years of age, elementary school enrollment is expected to decline for several more years. A decrease in the population 14 to 17 years old will lead to lower high school enrollment in the late 1970's and during the 1980's. No appreciable decline in college enrollment is expected until after 1981, when the college-age (18-to-24-year-old) population reaches its peak.

Between fall 1976 and fall 1977, enrollment in kindergarten through grade 8 decreased from 33.8 to 33.2 million, or nearly 2 percent; enrollment in grades 9 through 12 was fractionally lower at 15.8 million; and college enrollment rose 2½ percent, from 11.0 to 11.3 million. Additional

information on enrollment by level in public and nonpublic schools may be found in table 7.

Over the past decade there has been a strong upward trend in the proportion of 3-, 4-, and 5-year-olds enrolled in preprimary programs. The latest available data--for October 1976--indicate that about one-fifth of the 3-year-olds were enrolled in nursery schools or kindergarten. At the same time more than two-fifths of the 4-year-olds and four-fifths of the 5-year-olds were participating in preprimary programs (table 8).

Another dominant trend in recent years has been the increased enrollment of persons beyond the usual age for school attendance (persons 25 years of age and over). As table 9 indicates, 10.8 percent of the population 25 to 29 years old were enrolled in school in 1977, as compared with 6.6 percent in 1967. For persons 30 to 34 years of age, the increase was from 4.0 percent in 1967 to 6.9 percent in 1977.

Table 10 provides evidence of the long-term growth of high school education in the United States. From 1890 to 1977, while the population 14 to 17 years of age little more than tripled, enrollment in grades 9 through 12 increased 44 times, from 360,000 to 15.8 million. In 1890, only about 1 person in 15 in the 14-to-17 age group was enrolled in school; in 1977 the figure was more than 9 out of 10.

Over the past two decades, college enrollment has more than tripled. Part of the increase is attributed to the fact that there are more young people of college age. Table 11 indicates another important factor that has contributed to the increase. The proportion of young people attending college has risen from about one-fifth in 1957 to more than one-third today.

For more than half a century the Federal Government has assisted State and local governments in providing vocational education programs. In recent years, various new programs have been added to the traditional classes in agriculture, home economics, and trades and industry, and the number of participants has increased at a rapid rate. Approximately 16.5 million students were enrolled in federally aided vocational classes in 1977 (table 12).

Teachers

The teaching staff in American schools and colleges grew rapidly during the 1960's, keeping pace with and frequently exceeding the rise in enrollments. The growth rate has been more modest in recent years. Between the fall of 1976 and 1977, there was virtually no change in the number of teachers below the college level. A decrease of about 1 percent in elementary school teachers was offset by a 1 percent increase in teachers at the secondary level. The increase in instructional staff at the college level is estimated at more than 3 percent (table 13).

The long-range trend to this point has been for the number of public elementary and secondary school teachers to grow at a somewhat faster rate than school enrollment. In recent years, when enrollment has

declined slightly, there has not been an accompanying decrease in the number of teachers. Consequently, there has been an improvement in the student-teacher ratio. As table 8 indicates, there were 19.9 pupils per teacher in public schools in 1977 as compared with 21.8 pupils for each teacher 5 years earlier.

Schools and School Districts

There were approximately 16,200 local school districts in the United States in the fall of 1977. This new low was achieved through the elimination of about 750 school districts over a 5-year period (table 14). The number of school districts continues gradually to decline through the process of reorganization and consolidation. In school year 1945-46, there were more than 101,000 school districts in the country.

The number of public elementary schools is also declining over time. This trend reflects school consolidation and, in many instances, the closing of small rural schools. In 1976-77, the public school system included 61,100 elementary schools, 23,900 secondary schools, and 1,500 combined elementary-secondary schools (organized and administered as a single unit).

High School and College Graduates

More than 3,150,000 persons graduated from high school in 1977, and 1.3 million received bachelor's and higher degrees from American colleges and universities. Included among the earned degrees conferred were approximately 984,000 bachelor's and first professional degrees, 317,000 master's degrees, and 33,000 doctorates. Over the past two decades, the annual number of high school graduates has more than doubled, the number of bachelor's and first-professional degrees has almost tripled, the number of master's degrees has increased fivefold, and the number of doctorates has nearly quadrupled (tables 15 and 16). These high growth rates reflect the rise in the number of young people of high school and college age and also a substantial increase in the proportion completing each level of education during the period indicated.

Data on earned degrees conferred by major field of study in the year ending in June 1977 are shown in table 17. At the bachelor's level more degrees were conferred in business and management, education, and the social sciences than in any other field. The traditional professions of law, health professions, and theology were the leaders at the first-professional level. The leading fields in terms of the number of master's degrees conferred were education, business and management, and public affairs and services. More than 3,000 doctorates were conferred in each of four fields: Education, social sciences, biological sciences, and physical sciences.

School Retention Rates and Educational Attainment

Table 18 shows the increase in school retention rates from the fifth grade through college entrance since the early 1930's. During this period, the proportion of fifth-graders who went on to graduate

from high school increased from about 30 to nearly 75 percent. In other words, the rate of graduation is now about two and one-half times that which prevailed in 1932. The increase in college attendance is even more striking: An estimated 45 percent of fifth graders eventually enter college; in 1932, the comparable figure was 12 percent.

Since 1940, the U.S. Bureau of the Census has collected statistics on the educational attainment of the population in this country. Table 19, which is derived from Census publications, compares the educational attainment of the population 25 to 29 years of age with that of the total population 25 years of age and over. More than 85 percent of the 25 to 29 age group reported that they had completed the equivalent to a high school education, as compared with 66 percent of all adults. Twenty-three percent of the young adults identified themselves as college graduates, while fewer than 16 percent of all adults had completed 4 or more years of college.

Only one percent of the persons 14 years of age and over were illiterate in 1969, the latest year for which data are available. This illiteracy rate may be compared with that of 2.2 percent in 1959, 4.3 percent in 1930, and 10.7 percent in 1900 (table 20). Thus, the 20th century has seen a steady reduction in the percentage of persons in the United States who are unable to read and write.

CHANGES IN PRESCHOOLING

The Federal Role

The separate States develop their own policies, usually imposing somewhat stricter standards on the private sector than on publicly funded programs. In most States, children 5 years of age attend kindergarten; in fact, 92 percent of that age group--the highest percent ever--attended school in 1977. A few States also offer preschool education programs to 3- and 4-year-olds; other States often give partial support to private groups providing this service. A few school systems have introduced parent centers or other programs to help parents learn about educational activities for their young children. These programs often include toy lending libraries for the parents' use. Many local school systems have instituted programs for school-age parents and their young children, sometimes with the help of Federal project grants.

There are Federal policies concerning programs for preschool children enrolled in comprehensive child development programs such as day care and Head Start preschool programs for children from primarily low-income families. Because Head Start, Parent and Child Centers, and Home Start programs for preschool children are federally funded, special regulations and performance standards guide their operations. For example, funds for day care are legislated under the Social Security Act, and therefore programs entitled to receive those funds must adhere to Federal Interagency Day Care Requirements. Among the required components are health services, nutrition services, education, social services, staff training, and parent involvement.

Parent Involvement

Research studies examining the benefits to the various Head Start projects, particularly Parent and Child Centers, show positive outcomes for children from families enrolled in parent-focused training programs. Research has identified the critical parental factors in differentiating children's education and development as being educational stimulation and emotional support. Educational stimulation includes providing opportunities for the child to enlarge his or her vocabulary, to develop good work habits in the home, and to engage in wholesome recreational activities; it also includes having parents transmit their values with regard to the importance of education and serve as models in reading available books and periodicals and in frequenting the local library. Emotional support involves the quality of interpersonal relationships between parents and children, methods of discipline, the kind and amount of reinforcement and praise, and opportunities to develop a good self-concept.[1]

Partly as a result of the findings of research on the Head Start program that show general benefit for families as well as the intellectual development of children, more programs involving parents are being initiated. Many day care programs set up parent councils to encourage parent involvement. Also, certain federally funded programs such as Title I of the Elementary and Secondary Education Act--a compensatory education program for children from low-income families--require that participating school systems have parent advisory councils.

Education Concerning Young Children

Curriculum material for programs enabling junior and senior high school boys and girls to learn about the growth and development of young children was developed by the Education Development Center of Newton, Mass., as part of a federally funded project called "Education for Parenthood." Since its introduction in 1973, over 2,000 local school systems have adopted the curriculum as part of their vocational home economics program for high school students interested in child care careers or as part of social studies or other departments. An important feature of this program is a direct or "field-site" experience, enabling teenagers to work with young children over a period of weeks or months under the supervision of a regular teacher.

National youth-serving organizations such as the Boy Scouts and Girl Scouts also developed projects that provided special training for teenagers to work with small children in day camps, day care, or other settings where, under the supervision of adults, they have an opportunity to learn about child development through first-hand experience. Many modern teenagers come from small families where they do not have younger brothers or sisters to take care of, and thus have not had that kind of experience at home.

Nonprofit organizations like the National Parent-Teachers Association (PTA) and the March of Dimes (MOD) have developed resource kits for parents and community leaders who wish to introduce education for parenthood programs in their schools. These kits include reports of successful programs and suggestions for adapting those programs to other communities.

A variety of other parent education projects are supported by educational laboratories, universities, boards of education, and Federal agencies.

CHANGES IN TEACHER EDUCATION

Preservice

The most observable change in preservice education of teachers during the past few years has been in the groups enrolling in them. More people are now taking education courses who do not expect to become certified teachers, but rather aides, volunteers, and paraprofessionals with varied responsibility for children in the classroom. These education students are often older than the usual education student intending to become a certified teacher. Some have undergraduate degrees while others have not; and many are among those people who helped teach children of low-income families in their neighborhoods during the 1960's.

Inservice

Teacher centers.--Efforts have been increasing to provide significant inservice retraining programs. A major new national effort is focused on stimulating the establishment of or strengthening teacher-directed centers to help teachers meet changing professional demands. Teacher centers are not new. The concept has been evolving over the past decade. The impetus for their development has come from many different sources, including the increased interest of the organized teaching profession in its own professional development, the experience and achievements of teacher centers in Great Britain, financial and substantive support from private foundations, the Federal Government, and several State and local governments, and the growth of a number of related education concepts. The new development concerning teacher centers in the United States is authorization of the Teacher Center program as part of the Education Amendments of 1976, which were signed into law by the President on October 12, 1976.

In the teacher center concept, teachers themselves are given the major responsibility for determining the kinds of changes and improvements that are needed in their classrooms, a greater voice in determining their needs for inservice training, and the lead in developing the kinds of training and curriculum development programs that will best

meet those needs. Teacher center programs draw heavily on the experience and expertise of the regular teachers themselves. There is great potential for progress in education through teacher centers and related approaches to developing more effective ways for teachers to share their experience and creativity with each other.

New challenges.--Inservice education is facing a variety of problems and challenges, including the public demand for accountability and more effective education. Of special significance is the new requirement to prepare all teachers to manage a class that includes both average children and handicapped children in such a way that the latter are taught in individually tailored programs as required by a contract between the school and their parents. (Recent developments in education for the handicapped will be described more fully later in this chapter.)

Other areas of current concern that have major implications for inservice training programs are multicultural education and education for global perspectives. The former deals with the ethnic diversity and heritage and cultural pluralism of the United States. The latter focuses on the unity and diversity of mankind, the interdependence of nations and peoples, and the common problems of mankind that international cooperation could help alleviate or solve.

CURRICULUM CHANGES

Elementary and Secondary Education

Many of the developments described earlier in this report have, of course, affected the curriculum in elementary and secondary schools. These include the national interest in improving basic skills, with an emphasis on competency testing; working locally to involve parents in their children's education and to individualize the education of each child as much as possible; and preparing youth to enter the world of work by acquainting them with career possibilities throughout their years at school.

Basic skills and competency testing.--There is increased emphasis on teaching basic skills (reading, writing, and computation) and on testing the competence of students in those skills before they are awarded a high school diploma. About 36 States have legislated minimum-level competency examinations, mandating that students must receive passing scores on a variety of prescribed tests in order to receive diplomas. Consequently, more inservice education programs in improving basic skills are being offered.

Parent involvement and individualized education.--Locally, there is increasing effort to involve parents in curriculum development and student performance. For example, as mentioned earlier, parents are being asked to help develop individualized education programs for handicapped children. Also, schools have been urging parents in general to become more involved in assisting their children to learn.

A related development is the individual education plan (IEP), particularly applicable but not limited to handicapped children (discussed earlier). The idea of the IEP is to develop learning objectives and goals for each child according to his or her particular set of interests and capacities, with parents providing advice and consent.

Career education.--Career education is becoming more frequent in the nation's schools. Its primary purpose is to make children aware from elementary school on of the role and value of work, the broad range of alternative career opportunities that exist, and the relevance of their schooling to the world of work.

One effective approach is known as Experience Based Career Education (EBCE). High school students' study-related work is performed in nonpaid internships in private or public enterprises. Employees in business, industry, and Government agencies serve as volunteer instructors for interns. Students learn the skills, behavior, and value of entry jobs and increase their understanding of career opportunities. In the report of outcomes, it appears that students' academic achievement and attendance improves as they gain a more realistic understanding of their career options. Further, internships give students a sense of the relationship of basic skills studies to the work world, and they acquire a more enlightened sense of career direction from the experience.

Other trends.--Some developments at the Federal level should be noted. More attention is now being given to providing assistance for local adaptation and use of existing curriculum materials. Another recent Federal emphasis has been on helping develop improved programs to enhance the learning ability of children at the elementary school level. The Comprehensive School Mathematics program has been developed and tested to improve both K-3 and K-6 learning. Local school systems, of course, have the choice of whether or not they wish to use such programs.

The National Diffusion Network and the new Teacher Centers program described earlier are both important developments that increasingly will contribute to curriculum change.

Higher Education

The sheer magnitude, complexity, and institutionally autonomous nature of the American higher education enterprise makes rapid change on a widespread basis very difficult and infrequent. Change in higher education normally proceeds "piecemeal and without regard for any overall curriculum design."[2] A Carnegie Foundation report in 1977 observed that "today there are over 2 million courses taught by half a million faculty members to about 10 million students in about 3,000 institutions. . . . There are over 1,500 separate degrees." On the other hand, institutional autonomy means that ferment and change are always in process somewhere within an institution or State system, and the multiplicity of experimentation and growth points ensures that a variety of ideas and approaches receives some trial through individual initiative.

Curriculum revisions within an institution may stem from dissatisfaction with the current curriculum among the faculty, top administrators, or students, who may be demanding that courses be made more relevant to life and the world of work. External pressures are likely to be exerted by State legislatures which appropriate funds for State or public institutions, or by the needs of business and industry or the community. Change also may occur as a result of program or accreditation review reports which are critical in nature. More attention is now being paid to providing for evaluation of the results of curriculum change. This emphasis stems in part from the new stress on accountability in all phases of education.

In spite of obstacles to curriculum change and traditional differences of opinion concerning the needs to be served and "what knowledge is most worth," considerable thought and effort is being devoted to curriculum change and some important progress has been achieved.

An example of particular significance in terms of national influence is the decision by Harvard University to create a new core curriculum to replace its General Education Program at the undergraduate level. Harvard President Derek C. Bok describes the move as follows:

> ". . . The core curriculum imposes a requirement on all undergraduates to achieve a basic competence in expository writing, mathematics, and a foreign language. It also requires every student to do work in each of five categories of courses designed to acquaint undergraduates with the methods of apprehending major aspects of knowledge and experience: literature and the arts, social analysis and moral philosophy, history, foreign cultures, and the physical and biological sciences.
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> ". . . The new curriculum does not 'return to basics' in the sense of providing remedial work, but it does seek to reemphasize the basic elements in a liberal education. We have added to the original concept of General Education by recognizing the growing importance to students of foreign cultures and quantitative skills, but our curriculum is hardly a radical new departure, for it concentrates on fundamental themes that have long been a part of liberal education. With respect to student choices, although the core occupies but a quarter of the College curriculum, it does impose restrictions by singling out certain forms of knowledge that seem so important that no undergraduate should miss the opportunity to be introduced to them.

". . . The most important requirement that the curriculum contains is not the limitation it imposes on student choice but the obligation that the Faculty has voted on itself to devote a major share of its time to developing and teaching new courses fundamental to a liberal education. This commitment is vital for a college based in a research university, where faculty members can so easily neglect the basic tasks of education and devote all their energies to exploring the frontiers of the many specialized disciplines. By supporting the creation of more than sixty courses directed at carefully defined objectives, the Faculty has dedicated itself to such central issues of undergraduate education as how to teach students to read works of literature with greater discrimination and understanding, how to convey to nonscientists a lasting appreciation of the process and significance of scientific inquiry, and how to help undergraduates make more discriminating moral judgments and understand the uses of theory and empirical knowledge in exploring important social problems. These are among the most difficult questions for liberal education . . . / Yet no one who cares about the College can help but be encouraged by the Faculty's resolution to devote new energy to such an important task."

DEVELOPMENT OF NONFORMAL EDUCATION [3]

Nonformal education is generally defined as an organized educational activity outside the formal system that comes into being to serve identifiable learning clienteles and learning objectives. Within the total spectrum of nonformal education for adults in the United States, a new trend toward community-based education has grown in strength and importance in the last several years.

Over the past decade a large number of independent community organizations and institutions have been created, often without State support. They are usually structured to respond to the learning needs of low-income people. Until recently these organizations were unrelated to each other and little known in educational circles. In 1975-76, however, the Clearinghouse for Community Based Free Standing Educational Institutions was founded to provide a channel for communication, resource development, information dissemination, technical assistance, and research and evaluation among these organizations. The Clearinghouse is supported by the Fund for the Improvement of Postsecondary Education (FIPSE) of the U.S. Department of Health, Education, and Welfare.

Some Clearinghouse members provide alternative forms of higher education. Most start with more basic educational needs. The movement has demonstrated that a large number of the adults bypassed by traditional systems can be effectively reached by integrated approaches that relate

health, employment, housing, and other informational and social services in addressing human need. Adults often identify their learning objectives while working on urgent community issues. Curriculums are flexible. Priorities are drawn from the life and work of the adult learners, with education an essential component of their activities.

The major problem for all such nontraditional organizations and institutions, whether Clearinghouse members or not, is to be recognized and valued by the educational community and the public. The whole area of service to nontraditional learners requires further research. New means of assessing the quality and impact of these new programs are essential. Cross-disciplinary teams and new funding channels are required to support the pluralistic approaches that have characterized this movement.

MAJOR REFORMS

Most of the major themes of educational reform have remained stable in recent years. Federal and State Governments maintain their strong commitment to improving access to educational opportunity for the disadvantaged and traditionally underserved groups, to desegregating education, to providing compensatory education for disadvantaged children, and to utilizing affirmative action in admissions and hiring.

Education of the Handicapped

A major development that broadens access to education is the Education for All Handicapped Children Act, which was signed into law in 1975, became operational in 1977, and is scheduled for full implementation in the schools on September 1, 1980, when the 18- through 21-year-old population will be added. This law assures all handicapped children the right to a free, appropriate public education. The public school system must identify these children and provide them with appropriate educational services, all in accordance with rather stringent procedural requirements. The law breaks new ground by mandating (1) an individualized education plan for each handicapped child, (2) extensive parent involvement, and (3) placement in the "least restrictive environment" appropriate for the child.

The concept of the individualized education plan (IEP) has not been easy to implement. Each plan is to reflect a careful assessment of the child's abilities and needs, outline educational goals, and indicate the services that will be provided in order to help the child reach those goals. Several professionals must participate in the diagnostic and prescriptive processes that go into preparing an IEP, and parents must have a chance to participate in the process.

Indeed, parent involvement is a cornerstone of the new law for the handicapped. There are extensive procedures for appeal if parents are dissatisfied with the assessment or recommendations contained in the plan or with the schooling their child is receiving. If educational authorities

do not respond satisfactorily to their complaints, the parents may appeal to the Federal court system. These procedures were built into the law to ensure that every handicapped child would be receiving the full benefits the law intended.

A controversial provision of the law mandates placement in the least restrictive environment feasible--in other words, handicapped children should be in the regular classroom (a practice often referred to idiomatically as "mainstreaming") if this is at all possible. Some early reactions to this provision were very negative, contending that the great majority of students and teachers would be distracted from their regular work by the presence of children with special needs. However, the practical effects so far have not seemed very disruptive. Indeed, about 60 percent of handicapped children were already in the regular classroom before this law went into effect. Others are now being integrated with their age groups for all or part of the school day. Large-scale evaluation of the effects of this reform are not yet available, but early informal reports indicate some good results.

During the 2 years since the Education for All Handicapped Children Act went into effect in 1977, the number of children receiving special education has increased by 231,000, although overall school enrollment declined by 3 percent in that period. Increases in the number of handicapped children served occurred in 48 States. It is estimated that the effect of the Act, plus related State laws for educating handicapped children, has provided significantly better education for approximately 300,000 handicapped students. A total of approximately 3,700,000 children aged 3 to 21 was receiving special education services on December 1, 1978.

The high cost of educating the handicapped in conformity with the law has generated some controversy. As the handicapped increasingly receive the educational services to which they are entitled, their education will consume more of the increasingly tight budgets available for schools. Although the Federal Government provides approximately $800 million in the 1978-79 budget to help States and school districts implement the new law, this sum is only part of the total cost of educating handicapped children. The remaining cost is borne by States and localities according to a wide variety of State funding formulas.

In summary, providing a free, appropriate education for handicapped children is expensive and demands adherence to a new set of procedural safeguards. However, it represents a major step forward toward the full achievement of equity in education for all children.

Minimum Competency Testing[4]

Another reform is the movement for minimum competency testing, with the initiative coming at the State level.

A major educational concern during this decade is that students are not acquiring the basic skills necessary to be successful in today's society. For those who share this concern, a common focus has been the proposal that minimum standards of skills and knowledge be identified and competence in them required for high school graduation. The reformers are suggesting that the present educational system that requires 12 years of attendance and completion of a predetermined number of credits does not assure acquisition of the needed competencies. Their proposals for minimum standards generally involve selecting and defining competencies they consider necessary for success either in school or in life, establishing minimum levels of proficiency, and developing tests to determine whether or not the standards are being met. The rationale is that a program of minimum competency testing will result in clearer definitions of educational goals and give added meaning to the high school diploma.

Minimum competency testing for high school graduation and grade-to-grade promotion is not without controversy. Enthusiastic proponents of the movement believe they have found a way to guarantee greater emphasis on basic skills and achievement of minimum competence. On the other hand, opponents are reluctant to place confidence in standardized tests or to guarantee a certain minimum level of proficiency for all students regardless of ability. They see the movement as a way to hold schools and teachers accountable for results that are dependent on a host of variables over which they have no control.

What began in 1971 with a ruling by the State board of education in Arizona requiring certain minimum competencies in reading, writing, and computation for graduation from the 8th and 12th grades rapidly developed into a national movement encompassing 36 States. Arizona's action was followed closely in 1972 by a State board of education regulation in Oregon. The first legislative activity occurred in Florida in 1975. Most of the action has taken place in the last 2 years.

The "minimum competency" label serves at present to unify the efforts of groups and individuals who support a variety of programs that differ significantly in both intent and design. Policies adopted by the several States are directed toward such diverse purposes as setting standards for grade to grade promotion and/or high school graduation, collecting information for evaluating the performance of schools or specific programs, or allocating funds. Some States specify that many decisions are to be made at the local level while others centralize similar decisions at the State level. Generally, those States that have a strong tradition of local control leave these decisions to the local level, while those that are more highly centralized in other endeavors tend to adopt a centralized approach to minimum competency testing. Some of the legislation is directed at only the high school student, while other legislation involves students at all levels. Generally, minimum competency testing of

individuals is quite distinct and separate from State assessment programs, which seek to determine whether or not the learning of students is, on average, improving. Some plans are designed to provide accountability and to save money, while others are directed primarily toward improving instruction and remediation.

School Finance

An area of national concern that has begun to emerge is the reform of financing elementary and secondary education in the United States. The equity of various traditional school finance systems and procedures has been questioned in the courts, the Congress, and various agencies of the Executive Branch as well as at State and local levels. The Education Amendments of 1978 mandate a multiyear study by the Department of Health, Education, and Welfare of a number of aspects of school finance; for example, the effect of various problems and trends on availability and distribution of resources, roles, and responsibilities of different governmental levels, the effect of current Federal assistance, and the impact of financial equalization on the quality of educational programs. Current plans call for a wide variety of research activities to be completed before 1982.

Education and the Transition to Working Life

In the United States as in most countries, youth unemployment, particularly among secondary school dropouts, is a multifaceted problem that requires the cooperation of public and private sectors in education, labor, and industry. Increasingly, the education sector is seen as having a more extensive role in the transition to working life than previously.

In 1977, amendments to the Comprehensive Employment Training Act (CETA) provided for a demonstration program to conduct employment training for youth. Twenty-two percent of the funds allocated to local prime sponsors are to be used for demonstration projects within school settings. In 1978, CETA amendments included specific provisions to stimulate cooperation and joint action by the Department of Health, Education, and Welfare and the Department of Labor in breaking down the barriers between schooling and the workplace. An agreement between these two Departments was concluded in 1978 to work cooperatively in areas such as the awarding of academic credit for work experience supported by CETA, developing and disseminating new education-work models, and upgrading and coordinating occupational and career information.

School-Based Change

Policymakers and administrators are increasingly trying to use the results of research to improve educational planning and program operation. Research indicates that improvement in school quality is most likely when the educators in individual schools agree with the people they serve concerning what they want to accomplish, can locate resources to achieve it, have access to stimulating ideas and the help of colleagues, can work together over time, and believe they have sufficient freedom and responsibility within the system to make it worthwhile to invest their time and energy in the change process.

The findings of several studies of unusually effective school programs converge in stressing the importance of commitment and capacity at the individual school level. Particularly important for program success are such characteristics as strong and effective leadership (usually from the principal), the atmosphere of the school (including student-teacher rapport), high expectations for student achievement, small group and individualized instruction, exchange of ideas among staff, and a clear focus on objectives and priorities, including basic skills. Such school characteristics cannot be legislated into existence, but the more widely they are understood and efforts to achieve them are supported, the more likely school improvement is to occur.

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[1]James L. Hymes, Jr. *Early Childhood Education, The Year in Review: A Look at 1978*. Carmel, Calif.: Hacienda Press, 1978. P. 5.

[2]Lynn Wood and Barbara G. Davis. *Designing and Evaluating Higher Education Curricula*. A report prepared by the Clearinghouse on Higher Education, No. 8, the George Washington University. Washington, D.C.: The American Association for Higher Education, 1978. P. 3.

[3]Prepared by Carman St. J. Hunter, World Education, New York.

[4]Prepared by Dr. Russell B. Vlaanderen, Director, Department of Research and Information, Education Commission of the States, Denver, Colo.

4. NEW LINES OF RESEARCH

The Federal Government provides the principal financial support for educational research and development in the United States. The major Government agencies participating in educational research and development are the Department of Health, Education, and Welfare, the National Science Foundation, and the National Endowments for the Arts and the Humanities. Several recent developments in research are illustrated in the changes taking place in the National Institute of Education and the U.S. Office of Education of the Department of Health, Education, and Welfare.

THE NATIONAL INSTITUTE OF EDUCATION

During the period from 1976 through 1978, NIE concentrated its efforts on developing research projects in six priority problem areas (basic skills, education equity, finance and productivity, school capacity for problem solving, education and work, and dissemination), and also on strengthening its own organizational capacity to achieve its stated goals--to contribute to achieving equality of educational opportunity and improvement of educational practice.

Priority Areas

Basic skills.--NIE research in the basic skills area covered a broad range of fields, including literacy, teaching, measurement, and methodology. Specific projects have been concerned with such aspects as criterion-referenced testing, minimum competency assessment, and how to improve instruction in the basic skills. Many of these activities involved cooperative effort among researchers, practitioners, and school administrators.

Educational equity.--The Institute has studied the relationship between education and equity since its inception. Among its principal interests were learning more about the educational needs of bilingual speakers and research issues affecting the ability of schools and metropolitan areas to desegregate. NIE also sponsored examinations of societal factors that might affect women's opportunities in the education system.

NIE completed a congressionally mandated study of compensatory education that considered the most appropriate means by which the Federal Government can provide aid to States and localities for the purpose of improving equality of educational opportunity. This policy-oriented study was especially useful in congressional deliberations on relevant Federal education legislation.

Finance and productivity.--Another important activity of NIE has been sponsoring research aimed at increasing the productivity and effectiveness of educational services. NIE sought to assist States, school districts, and schools to improve their education finance systems and make the quality and costs of services more equitable for students and their families. NIE expects to continue this effort and will participate

in a congressionally mandated study examining policy and technical issues in school finance equalization.

The school capacity for problem solving.--Evaluations of management and organization in nine urban schools are being conducted to learn why certain approaches work better than others. A teacher's center exchange has been developed to help teachers share information about methods of staff development. A new research panel has been formed to advise on a program for fundamental research related to the organization of schools.

Education and work.--An experience-based career education program that combines work experience and academic training has been developed and tested. The program included an alternative high school program for 11th- and 12th-grade dropouts and potential dropouts, career counseling, occupational preparation, and the development of curriculums to assist students in learning about careers.

Dissemination.--While the support of educational research is a crucial NIE activity, the Institute recognizes the importance of developing the capacity of the research system to disseminate information. These activities take various forms. For example, research on sex role stereotyping provided a substantive basis for development of a young peoples' television series. Other Institute activities focus more on formal mechanisms for the dissemination of research knowledge. NIE supports the Educational Resources Information Center (ERIC) system, whose network of 16 specialized clearinghouses collects and makes available research reports and articles on education. Catalogs of educational products were developed under NIE sponsorship. Grants are given to some States for developing comprehensive dissemination programs; other States receive funds to carry out specific improvement in their dissemination programs or to plan for future programs.

Program Reorganization

In March 1978, NIE's structure was reorganized into three main program offices. The first is concerned with educational policy and organization; the second, the processes of teaching and learning; and the third, dissemination and improvement of practice. The future research plan contains four major initiatives: Student achievement, improving teaching, secondary schools, and urban schools.

THE U.S. OFFICE OF EDUCATION

USOE activities in educational research and development are concentrated principally in four program areas: Education for the handicapped, vocational education, bilingual education, and foreign language and international studies.

Education for the Handicapped

Sponsorship and financial assistance continue to a broad array of research and development activities designed to improve educational opportunities for the handicapped. Among the major trends during the period 1976 to 1978 were the following:

- Substantial support continued to be devoted to developing curriculum and instructional materials, especially materials for the mentally retarded, blind, and learning disabled.

- Increased research attention was given to issues associated with implementing the Education for All Handicapped Children Act. Projects were supported dealing with nondiscriminatory testing, least restrictive environments, individualized education programs, due process, and reporting requirements.

- Increased attention was being given to research related to attitudes toward the handicapped.

- Technology research and development continued to be a significant area of activity, especially in connection with aids for visually handicapped persons. A major achievement was development of the Kurzwell portable reading machine, which through an optical scanner and voice synthesizer "reads" aloud commonly printed English texts from books, newspapers, etc. This is a particular boon to students at the secondary and higher education levels and has made possible professional education and advancement in professional fields for a larger number of people who are blind or who have severely impaired vision. A major breakthrough to assist the deaf has been development of an effective closed captioned process for television through the cooperative effort of the Federal Government, public and private television networks, and American private industry.

Vocational Education

The Education Amendments of 1976 modified the vocational education research and development program to give greater emphasis to coordinating and planning and indicated that projects to be supported directly by the U.S. Office of Education be "of national significance" in contrast to those supported directly by the States, which are more concerned with specific State and local needs.

Currently, Federal, State, and local governments spend over $5 billion annually to provide vocational education to over 16 million students. In an attempt to ensure that these dollars are having maximum impact, the Congress mandated establishment of "Programs of National Significance." These programs employ a variety of strategies--including demonstrations, development, and dissemination--to help ensure that quality practices are identified, developed, and applied throughout the United States.

The new legislation stipulated that the U.S. Office of Education should fund establishment of a national center for research in vocational education (NCRVE). Such a center has been established at Ohio State Uni-

versity. Its mission is to (1) conduct applied research and development activities, (2) provide leadership development activities for State and local leaders, (3) disseminate the results of vocational education research and development, (4) maintain a clearinghouse on research and development projects supported by the States and the U.S. Office of Education, (5) generate national planning and policy development information, and (6) provide technical assistance to States, local, and other public agencies in developing methods for evaluating vocational education programs.

The new act also provides for a Coordinating Committee on Research in Vocational Education (CCRVE) to coordinate program planning for the vocational and career education research and development programs of the various educational agencies of the Department of Health, Education, and Welfare and to establish a consolidated project management information system to help it monitor and evaluate the programs and disseminate their results.

Bilingual Education

The purpose of the bilingual program is to help school districts develop or strengthen their capacity to provide equal educational opportunities for children with limited English proficiency. Assistance is provided to a variety of activities: Developing bilingual instructional programs at the elementary and secondary levels; training teachers, administrators, and other bilingual educational personnel; and developing and disseminating bilingual instructional materials.

Effective coordination of federally funded research in bilingual education was begun in 1978. A Coordinating Committee for Bilingual Education was established to review, coordinate, and direct the bilingual research activities of the Department's National Institute of Education, Office of Education, and National Center for Education Statistics.

Ongoing studies of the various agencies include one to determine the extent of bilingual services available to children of limited English proficiency; one to determine criteria for identifying such children; and another to determine when children have attained sufficient competency in the English language. Still another study will evaluate teacher training in bilingual education. The research agenda also includes developing models of effective bilingual instructional methods and studies of parental involvement in bilingual projects. A clearinghouse for bilingual education is supported jointly by the Office of Education and the National Institute of Education.

Foreign Language and International Education

Under the research authority (Section 602) of Title VI of the National Defense Education Act of 1958, as amended, the Office of Education is authorized to support studies, surveys, and preparation of specialized materials to improve and strengthen instruction in modern foreign language and area studies, particularly with regard to the world outside Western Europe.

Projects funded in recent years include the biennial survey of foreign language enrollments in American higher education, a national survey of foreign language teaching at the elementary and secondary levels, a comprehensive historical atlas of South Asia, and scholars' guides to resources in the Washington, D.C., area for Middle East Studies and for Central and East European Studies. Specialized instructional materials were developed for teaching a variety of non-Western languages including Albanian, Chinese, Egyptian and Gulf Arabic, Fula, Georgian, Hindi, Indonesian, Polish, Slovene, Tamil, and Uzbeck.

Attention to the international and intercultural dimensions of education at all levels continued through such projects as a national conference and study on the role of State education departments in developing global perspectives in elementary and secondary education, a national survey of the status of international education in community colleges, and an international survey of educational linkages in higher education. Initial steps were taken toward a national survey of the global awareness of freshmen and seniors in American higher education.

5. FOLLOW-UP TO RECOMMENDATIONS

IMPLEMENTATION OF RECOMMENDATION NO. 68 ADOPTED BY THE 35TH INTERNATIONAL CONFERENCE ON EDUCATION (IBE)

The period covered by this report (1976-78) has been especially significant in the area of vocational education. This is primarily so because of the Vocational Amendments of 1976, which went into effect for Fiscal Year 1978. While these amendments have initiated changes in vocational education that touch upon practically every sub-section of Recommendation No. 68, the purpose of this brief report is to highlight the more significant and relevant new directions in vocational education resulting from the new legislation.

Added Emphasis on the Importance of Guidance and Personnel Development

A major purpose of the new Vocational Amendments is to provide fiscal support at the local educational level for vocational development guidance and counseling programs, services, and activities. Approximately 5 percent of all Federal vocational dollars flowing to local school systems through State departments of education are used for such programs, services, and activities. These include vocational counseling for children, youth, and adults leading to a greater understanding of educational and vocational options; vocational guidance and counseling training designed to acquaint guidance counselors with the changing work patterns of women; vocational and educational counseling for youth offenders and adults in correctional institutions; guidance and counseling activities for those with limited English-speaking ability; and establishment of vocational resource centers to meet the special needs of out-of-school individuals including those seeking second careers, individuals entering the job market late in life, handicapped individuals from economically depressed communities or areas, and early retirees.

Increased Cooperation between the Education Sector and Potential Employees

The new Vocational Amendments of 1976 continue to emphasize programs of cooperative vocational education. These programs provide students with the opportunity to spend a portion of their time in a realistic job situation where actual job skills are observed and practiced in a regular work environment. Through cooperative vocational education programs, educators and employers maintain constant contact and, in so doing, help to keep training programs realistic in light of on-the-job skills needed.

The continuing emphasis on maintaining job relevance in vocational training programs is being further enhanced through the new legislation by the requirement that each local education agency offering vocational education is to have a vocational advisory council. Each council has appropriate representation from industry, business, and labor. These representatives advise the local vocational educators on current job needs as well as the relevancy of the programs (courses) being offered.

Availability of Vocational Programs to All Persons

The new Vocational Amendments continue the philosophy that vocational education programs are to serve the various segments of society--males as well as females, able as well as disabled, affluent as well as disadvantaged. Several additional groups are identified for special focus and assistance through vocational education. Among these are displaced homemakers, single heads of households who lack adequate job skills, current homemakers who are seeking full-time employment, and men and women who are seeking jobs in occupational areas heretofore open primarily to members of the opposite sex.

Curriculums, Methods, and Examination

Approximately one-fifth of all Federal vocational funds disseminated to the States can be used to support research and exemplary and innovative curriculum programs. To use these funds, each State has established a research coordinating unit to coordinate the research, exemplary and innovative programs, and curriculum development activities on a statewide basis, and has developed a comprehensive plan for program improvement. Plans for curriculum development and program improvement cover a 5-year period and undergo annual reevaluation and revision as needed.

Evaluation and Dissemination

Evaluation is a major thrust of the new vocational legislation. Each State board for vocational education is evaluating in quantitative terms the effectiveness of each formally organized program or project at the local level supported by Federal, State, and local funds. These evaluations are being conducted over a 5-year period and are providing data on planning and operational processes, results of students' achievement as well as employment success, and program success in meeting the needs of women and members of minority groups, handicapped and disadvantaged persons, and persons of limited English-speaking ability. Results of these evaluations are being widely disseminated and used as a basis for revising and improving all ongoing programs.

These are examples of the types of activities and commitments in vocational education that relate to the spirit and purpose of Recommendation No. 68. Evaluation activities conducted for Fiscal Year 1978 under the auspices of the Bureau of Occupational and Adult Education within the Office of Education indicate that State departments of education and local education agencies are taking this amendment seriously.

IMPLEMENTATION OF RECOMMENDATION NO. 71 ADOPTED BY THE 36TH INTERNATIONAL CONFERENCE ON EDUCATION (IBE)

The United States has had a close relationship with the International Bureau of Education in establishing the international network system even prior to the 36th International Conference and has continued, through the Educational Resources Information Center (ERIC) program, to provide advice and technical assistance in setting up the IBE's computerized data base. The National Institute of Education furnishes ERIC microfiche collections on a regular basis to the IBE and has provided professional training on

occasion to staff of the Bureau. Guidance in developing the IBE Thesaurus of educational terms has also been given, patterned after the ERIC Thesaurus. Abstracts of selected documents on American education are incorporated in the Cooperative Educational Abstracting Services of IBE.

UNESCO documents and publications are disseminated through the ERIC. Various conference materials and texts of recommendations are sent to the ERIC Clearinghouses for their information and announcement in the abstracting journal, *Research in Education*. On-line searching of microfiche with respect to international materials has been possible for a number of years and will continue to grow in quantity and quality.

Copies of Recommendation No. 71 adopted during the 36th International Conference on Education were provided to the Council of Chief State School Officers for distribution to its members in the 50 States and territories. The recommendation received attention and publicity also at the 1978 National Dissemination Forum held in Arlington, Va., during sessions conducted by leaders of the National Diffusion Network.

The National Center for Education Statistics has worked closely with the National Center for Higher Education Management Systems and UNESCO headquarters in determining the most feasible way in which the United States can comply with the International Standard Classification of Education (ISCED).

Appendixes

APPENDIX A. FEDERAL GOVERNMENT AGENCIES REPRESENTED ON THE FEDERAL INTERAGENCY COMMITTEE ON EDUCATION (28)

ACTION

Community Services Administration

Council of Economic Advisers (observer)

Council on Environmental Equality (observer)

Department of Agriculture

Department of Commerce

Department of Defense

Department of Energy

Department of Health, Education, and Welfare

Department of Housing and Urban Development

Department of the Interior

Department of Justice

Department of Labor

Department of State

Environmental Protection Agency

Federal Communications Commission

International Communication Agency

National Academy of Sciences

National Aeronautics and Space Administration

National Endowment for the Arts

National Endowment for the Humanities

National Science Foundation

Office of Management and Budget

Office of Personnel Management

Small Business Administration

Smithsonian Institution (observer)

Tennessee Valley Authority

Veterans Administration

APPENDIX B. SELECTED LEGISLATIVE ENACTMENTS OF THE U.S. CONGRESS: 1977 AND 1978

Public Law No.	Title of Law	Date Signed into Law
95-40	Amendments of the Vocational Education Act of 1963. Minor and technical amendments to the Vocational Education Act, as amended by P.L. 94-482, the Education Amendments of 1976.	June 3, 1977
95-43	Amendments of the Higher Education Act of 1965. Minor and technical amendments to the Higher Education Act, as amended by P.L. 94-482, the Education Amendments of 1976.	June 15, 1977
95-49	Education of the Handicapped Amendments of 1977. Five-year extension of discretionary parts of the Education of the Handicapped Act.	June 17, 1977
95-112	Education Amendments of 1977. One-year extension of certain elementary and secondary education programs that are advance funded, in that authority would continue to exist for appropriations for those programs.	Sept. 24, 1977
95-123	Library Services and Construction Act Amendments of 1977. Five-year extension of the LSCA.	Oct. 7, 1977
95-180	Amendments of the Higher Education Act of 1965. Technical amendment to Higher Education Act that would provide authority for institutions in the Trust Territory of the Pacific Islands and the Northern Marianas to become eligible for programs authorized by the Higher Education Act.	Nov. 15, 1977
95-207	Career Education Incentive Act. Five-year new State grant program to develop, implement, and strengthen career education programs at the State and local level.	Dec. 13, 1977
95-272	White House Conference on Arts and Humanities. Authorization of White House Conference on Arts and Humanities.	May 3, 1978

95-336---Alcohol and Drug Abuse Education Amendments of 1978. Three-year extension of the Alcohol and Drug Abuse Education Act. Aug. 4, 1978

95-471---Tribally-Controlled Community College Assistance Act of 1978. Continuation of action begun in First Session authorizing new program of support for tribally-controlled community colleges. Oct. 17, 1978

95-561---Education Amendments of 1978. Five-year extension of the Elementary and Secondary Education Act. Nov. 1, 1978

95-566---Middle Income Student Assistance Act. Authorization to provide an increase in direct student assistance to postsecondary students from middle-income families. Nov. 8, 1978

APPENDIX C. SELECTED REFERENCES: 1977 AND 1978

NON-GOVERNMENT PUBLICATIONS [1]

NOTE: Publication of books about education have continued at a high rate, approximately 750 per year. A list as brief as the one below can make no claim for being representative, but the examples illustrate some of the important publications relevant to IBE concerns.

Alabiso, Frank P. and James C. Hansen. *The Hyperactive Child in the Classroom.* Springfield, Ill.: C.C. Thomas, c. 1977.
A comprehensive report on the hyperactive child syndrome. Recent research findings are brought into focus. Strategies are suggested for the classroom teacher to use for modifying unacceptable and asocial behavior patterns.

Baldridge, J. Victor, et al. *Policy Making and Effective Leadership: A National Study of Academic Management.* San Francisco: Jossey-Bass, 1978.
Published as part of the Stanford Project on Academic Governance, this assemblage of research and summaries deals with the issues of academic governance such as the impact of collective bargaining, patterns of management, and organizational characteristics of colleges and universities.

Bowen, Howard Ray, et al. *Investment in Learning: The Individual and Social Value of American Higher Education.* San Francisco: Jossey-Bass, 1977.
A major reference with an extensive bibliography, this book by an economist confronts the evidence dealing with the costs and benefits derived from higher education. Bowen emphasizes the non-monetary benefits of higher education.

Boyer, Ernest L. and Martin Kaplan. *Education for Survival.* New Rochelle, N.Y.: Change Magazine Press, 1977.
Dr. Boyer, the U.S. Commissioner of Education and former Chancellor of the State University of New York, and his colleague, Dr. Kaplan, make the case for a new core curriculum at the postsecondary level--a shared common body of knowledge that reflects our common history, culture, language, literature, traditions, and political and social experience. They advocate that students should be taught the past to understand the present and to learn from the past to help prepare to meet the challenges of the present and the future. From this common understanding, unity of purpose in society can develop and individual specialization in education areas can follow.

Brown, James W. *Educational Media Yearbook, 1978.* New York: R.R. Bowker Company, 1978.
Includes an assessment of "The Year in Review" as well as a wide range of information pertaining to educational media activities useful to professional workers in instructional-educational technology, audiovisual education, library science, information science, and telecommunications.

The 1978 edition includes articles by 41 authors, many of international interest, and is a notable example of the many yearbooks sponsored by various specialized professional organizations in the field of education that provide a ready source of up-to-date information.

Brubacher, John S. *On the Philosophy of Higher Education*. San Francisco: Jossey-Bass, 1977.

A fresh examination of the legitimacy of the purposes of higher education and a scholarly effort to integrate the plethora of philosophies that are associated with the diverse structure of American higher education.

Carnegie Council on Policy Studies in Higher Education. *Selective Admissions in Higher Education. Public Policy and Academic Policy*. San Francisco: Jossey-Bass, 1977.

Carnegie Council recommendations and comments relative to selective admissions problems, practices, and issues in 4-year colleges and universities, linked primarily to the issue of race and American efforts to become a more integrated society. There are also sections that deal with the Bakke v. University of California case and the present status of minorities in selective admissions practices.

Coons, John E. and Stephen D. Sugarman. *Education by Choice: The Case for Family Control*. Berkeley, Calif.: University of California Press, c. 1978.

Coons and Sugarman, law professors at the University of California, Berkeley, suggest an alternative solution to the traditional role of State control of education. From a legal perspective the authors marshall the reasoning for a program of parental choice that would have the benefit of professional counseling, that would be supported by public funds, and that would be regulated by minimal State requirements. Although polemical in its opposition to public education, it represents a significant current in American public opinion.

Cremin, Lawrence A. *Traditions of American Education*. New York: Basic Books, c. 1977.

The Merle Curti Lectures delivered by Professor Cremin at the University of Wisconsin in March 1976. In considerable measure it is derived from Cremin's monumental effort toward a comprehensive history of American education. He deals with education through the American Revolution, the development of "an authentic American vernacular" in education, and the transformation of American educative agencies under the influence of industrialization, urbanization, technical innovation, and transnational expansion.

Levine, Arthur. *Handbook on Undergraduate Curriculum*. San Francisco: Jossey-Bass, 1978.

Intended as a resource book, the first section deals with the basic issues such as tests and grades, general education, majors and concentrations, and methods of instruction. The second section deals with these issues in a philosophical, institutional, historical, and cultural framework. This is the last of three publications from the Carnegie Council on Policy Studies in Higher Education that re-

late to the higher education curriculum. The others are *Mission of the College Curriculum* (1977); and Frederick Rudolph, *Curriculum: A History of the American Undergraduate Course of Study Since 1636* (1977).

Mayhew, Lewis B. *Legacy of the Seventies*. San Francisco: Jossey-Bass, 1977.
An assemblage of essays on recent trends in higher education that deal with the nontraditional movement in higher education, the use of educational technology, new directions in curriculum development, financial crises, and academic governance.

Miller, George Armitage. *Spontaneous Apprentices: Children and Language*. New York: Seabury Press, c. 1977.
Information about language and vocabulary development among preschool children as well as an account of the obstacles and rewards encountered in planning and conducting a research effort.

Moores, Donald F. *Educating the Deaf: Psychology, Principles, and Practices*. New York: Houghton Mifflin, 1978.
An example of several excellent publications, each dealing with an aspect of special education. Moores' work includes a history of education of the deaf in the United States as well as chapters on rehabilitative techniques. Appendixes include lists of articles and reference books on deafness as well as a list of organizations for the deaf.

National Association of Secondary School Principals. *The Senior High School Principalship*. Vol. I. *The National Survey*, by David R. Byrne, Susan A. Hines, and Lloyd E. McClean; Vol. II. *The Effective Principal*, by Richard A. Gorton and Kenneth E. McIntyre. Reston, Va.: National Association of Secondary School Principals, 1978.
A comprehensive view of the high school principalship correlated with an NASSP study published in 1965. Vol. I reports and analyzes data from a random sample survey of over 1,200 principals; Vol. II reports and analyzes data from on-site interviews with 60 principals. The study also looks at the future forces and conditions acting upon the principalship.

Orfield, Gary. *Must We Bus: Segregated Schools and National Policy*. Washington, D.C.: The Brookings Institution, c. 1978.
A comprehensive study of the history and status of the school desegregation movement. The author argues for a federally supported desegregation policy.

Paul, James L. *Mainstreaming: A Practical Guide*. New York: Syracuse University Press, 1977.
A field-tested guide to mainstreaming, this text emphasizes the need for cooperation by administrators, educators, parents, students, and the community in order to accomplish a planned program of integrating handicapped children into the regular classroom. Samples of questionnaires, readings, and references to available films are included.

Persell, Caroline. *Education and Inequality: A Theoretical and Empirical Synthesis*. New York: Free Press, c. 1977.
A summary of more than a decade of research related to educational and social inequality in the United States. Includes an extensive bibliography and appendixes.

Rist, Ray C. *The Invisible Children: School Integration in American Society*. Cambridge, Mass.: Harvard University Press, 1978.
Utilizing the experiences of a single school in Portland, Oreg., a former associate director of the National Institute of Education illuminates the problems of desegregation in the United States; examines patchwork efforts at assimilation that overlook the realtiy of the inequalities black children bring to the school; and describes teachers who have succeeded with integration.

Rust, Val D. *Alternatives in Education*. Beverly Hills, Calif.: Sage Publications, 1977.
Rust has drawn on the empirical findings of over 250 of the Western world's major educational research studies and writings relative to his thesis and identified critical factors that have shaped the system of education in the West.

Savage, David G. *Educating All the Handicapped: What the Laws Say and What Schools are Doing*. Arlington, Va.: National School Public Relations Association, 1977.
This book explains the provisions of the Federal law (Public Law 94-142) mandating appropriate education for all handicapped children, to be fully implemented by 1980. This tremendous new development in U.S. education raises two paramount problems: The financial burden on the school districts and the need for teacher preparation to recognize and educate handicapped children.

Weinberg, Meyer. *A Chance to Learn, The History of Race and Education in the United States*. Cambridge, Mass.: Cambridge University Press, 1977.
This is a history of Black, Mexican-American, Indian-American, and Puerto Rican children in the United States. Much of the documentation is drawn from primary historical sources. The economic, sociopolitical, and legal context of each group's incorporation into the educational structure is examined. A companion work is *Minority Students: A Research Appraisal*. Washington, D.C.: U.S. Government Printing Office, 1976. This is an analysis of the principal social science research literature of the subject.

Yinger, J. Milton, Kiyoshi Ikeda, et al. *Middle Start: An Experiment in the Educational Enrichment of Young Adolescents*. Cambridge, Mass.: Cambridge University Press, 1977.
This is a report on the progress made by seventh and eigth grade students from inner city schools and impoverished family backgrounds, but of above-average mental ability, who spent 6 weeks at Oberlin College in Ohio for enriched social, cultural, and educational experience. Although the results from such a short period were limited, they were clearly positive in reducing the educational deficit resulting from economic deprivation in the family and home community.

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[1] Prepared by Dr. Sidney Forman, Professor Emeritus of Education, Teachers College, Columbia University, New York, N.Y.

Tables

Table 1.--Revenue receipts of public elementary and secondary schools from Federal, State, and local sources: United States, 1919-20 to 1976-77

School year	Total	Federal	State	Local (including intermediate)[1]	School year	Total	Federal	State	Local (including intermediate)[1]
1	2	3	4	5	1	2	3	4	5
	AMOUNT IN THOUSANDS OF DOLLARS					PERCENTAGE DISTRIBUTION			
1919-20	$ 970,120	$ 2,475	$ 160,085	$ 807,561	1919-20	100.0	0.3	16.5	83.2
1929-30	2,088,567	7,334	353,670	1,727,563	1929-30	100.0	.4	16.9	82.7
1939-40	2,260,527	39,810	684,354	1,536,363	1939-40	100.0	1.8	30.3	68.0
1941-42	2,416,580	34,306	759,993	1,622,281	1941-42	100.0	1.4	31.4	67.1
1943-44	2,604,322	35,886	859,183	1,709,253	1943-44	100.0	1.4	33.0	65.6
1945-46	3,059,845	41,378	1,062,057	1,956,409	1945-46	100.0	1.4	34.7	63.9
1947-48	4,311,534	120,270	1,676,362	2,514,902	1947-48	100.0	2.8	38.9	58.3
1949-50	5,437,044	155,848	2,165,689	3,115,507	1949-50	100.0	2.9	39.8	57.3
1951-52	6,423,816	227,711	2,478,596	3,717,507	1951-52	100.0	3.5	38.6	57.8
1953-54	7,866,852	355,237	2,944,103	4,567,512	1953-54	100.0	4.5	37.4	58.1
1955-56	9,686,677	441,442	3,828,886	5,416,350	1955-56	100.0	4.6	39.5	55.9
1957-58	12,181,513	486,484	4,800,368	6,894,661	1957-58	100.0	4.0	39.4	56.6
1959-60	14,746,618	651,639	5,768,047	8,326,932	1959-60	100.0	4.4	39.1	56.5
1961-62	17,527,707	760,975	6,789,190	9,977,542	1961-62	100.0	4.3	38.7	56.9
1963-64	20,544,182	896,956	8,078,014	11,569,213	1963-64	100.0	4.4	39.3	56.3
1965-66	25,356,858	1,996,954	9,920,219	13,439,686	1965-66	100.0	7.9	39.1	53.0
1967-68	31,903,064	2,806,469	12,275,536	16,821,063	1967-68	100.0	8.8	38.5	52.7
1969-70	40,266,923	3,219,557	16,062,776	20,984,589	1969-70	100.0	8.0	39.9	52.1
1971-72	50,003,645	4,467,969	19,133,256	26,402,420	1971-72	100.0	8.9	38.3	52.8
1973-74	58,230,892	4,930,351	24,113,409	29,187,132	1973-74	100.0	8.5	41.4	50.1
1975-76	70,802,804	6,210,343	31,065,354	33,527,107	1975-76	100.0	8.8	43.9	47.4
1976-77	75,322,532	6,629,498	32,688,903	36,004,134	1976-77	100.0	8.8	43.4	47.8

[1] Includes a relatively small amount from nongovernmental sources (gifts and tuition and transportation fees from patrons). These sources accounted for 0.4 percent of total revenue receipts in 1967-68.

NOTE.—Beginning in 1959-60, includes Alaska and Hawaii. Because of rounding, details may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of State School Systems;* and *Revenues and Expenditures for Public Elementary and Secondary Education.*

Table 2—Federal funds for education and related activities: Fiscal years 1977 and 1978
(In thousands of dollars)

Level and type of support	1977	1978[1]	Percentage change, 1977 to 1978
1	2	3	4
Federal funds supporting education in educational institutions			
Total grants and loans	$18,787,587	$21,451,846	14.2
Grants, total	18,465,834	20,292,764	9.9
Elementary-secondary education	5,064,514	5,699,154	12.5
Higher education	8,898,596	8,634,587	- 3.0
Vocational-technical and continuing education	4,502,724	5,960,023	32.4
Loans, total (higher education)	321,753	1,159,082	260.2
Other Federal funds for education and related activities			
Total	7,539,170	7,922,395	5.1
Applied research and development	2,575,100	2,835,500	10.1
School lunch and milk programs	2,792,343	2,810,082	0.6
Training of Federal personnel	1,036,731	1,058,018	2.1
Library services	210,991	234,919	11.3
International education	105,492	129,838	23.1
Other[2]	818,513	854,038	4.3

[1] Estimated.
[2] Includes agricultural extension services, educational television facilities, education in Federal correctional institutions, value of surplus property transferred, and any additional Federal programs.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Digest of Education Statistics, 1979*

Table 3.—Total and per-pupil expenditures of public elementary and secondary schools: United States, 1919-20 to 1977-78

School year	Expenditures for public schools (in thousands of dollars)					Expenditure per pupil in average daily attendance	
	Total	Current expenditures for day schools	Current expenditures for other programs	Capital outlay	Interest	Total[2]	Current[3]
1	2	3	4	5	6	7	8
1919-20	$1,036,151	$881,120	$3,277	$153,543	$18,212	$64	$54
1929-30	2,316,790	1,843,562	9,825	370,878	92,536	108	87
1939-40	2,344,049	1,941,799	13,367	257,974	130,909	106	88
1949-50	6,837,843	4,887,274	35,614	1,014,176	100,578	259	209
1959-60	15,619,256	12,329,389	132,566	2,661,786	489,514	472	375
1961-62	18,373,339	14,729,270	194,093	2,862,153	587,823	530	419
1963-64	21,324,993	17,218,446	427,528	2,977,976	701,044	559	460
1965-66	26,248,026	21,053,280	648,304	3,754,862	791,580	654	537
1967-68	32,977,182	26,877,162	866,419	4,255,791	977,810	786	658
1969-70	40,883,428	34,217,773	635,803	4,859,072	1,170,782	955	816
1971-72	48,060,283	41,817,782	[4] 395,319	4,468,949	1,378,236	1,128	990
1973-74	56,970,356	50,024,638	[4] 453,207	4,978,976	1,513,534	1,364	1,207
1975-76	70,829,345	62,262,415	[4] 750,533	5,920,065	1,896,332	1,699	1,509
1977-78([5])	81,097,000	69,894,000	2,600,000	6,423,000	2,180,000	1,953	1,739

[1] Includes expenditures for adult education, summer schools, community colleges, and community services (when separately reported).
[2] Includes current expenditures for day schools, capital outlay, and interest on school debt.
[3] Includes day school expenditures only; excludes current expenditures for other programs.
[4] Excludes data for adult education and community colleges.
[5] Estimated.

NOTE.—Beginning with 1959-60, includes Alaska and Hawaii. Because of rounding, details may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of State School Systems*; and *Digest of Education Statistics, 1979*.

Table 4.—Governmental expenditures for education and for all purposes: United States, 1972-73 to 1976-77

Fiscal Year	Total expenditures (in millions)	Expenditures for education	
		Amounts (in millions)	Percent of total
1	2	3	4
1972-73	$432,594	$75,690	17.5
1973-74	480,073	81,663	17.0
1974-75	556,339	95,011	17.1
1975-76	626,116	106,255	17.0
1976-77	680,329	110,643	16.3

Note.—Includes expenditures of Federal, State, and local governments.

SOURCE: U.S. Department of Commerce, Bureau of the Census, reports on *Governmental Finances.*

Table 5.--Gross national product related to total expenditures[1] for education: United States, 1929-30 to 1977-78

Calendar year	Gross national product (in millions)	School year	Expenditures for education	
			Total (in thousands)	As a percent of gross national product
1	2	3	4	5
1929	$103,400	1929-30	$3,233,601	3.1
1931	76,100	1931-32	2,966,464	3.9
1933	55,800	1933-34	2,294,896	4.1
1935	72,500	1935-36	2,649,914	3.7
1937	90,700	1937-38	3,014,074	3.3
1939	90,800	1939-40	3,199,593	3.5
1941	124,900	1941-42	3,203,548	2.6
1943	192,000	1943-44	3,522,007	1.8
1945	212,300	1945-46	4,167,597	2.0
1947	232,757	1947-48	6,574,379	2.8
1949	258,023	1949-50	8,795,638	3.4
1951	330,183	1951-52	11,312,446	3.4
1953	366,129	1953-54	13,949,870	3.8
1955	399,266	1955-56	16,811,651	4.2
1957	442,755	1957-58	21,119,565	4.8
1959	486,465	1959-60	24,722,464	5.1
1961	523,292	1961-62	29,366,305	5.6
1963	594,738	1963-64	36,010,210	6.1
1965	688,110	1965-66	45,397,713	6.6
1967	796,210	1967-68	57,213,374	7.2
1969	935,541	1969-70	70,400,980	7.5
1971	1,063,436	1971-72	82,999,062	7.8
1973	1,306,554	1973-74	98,019,434	7.5
1975	1,528,833	1975-76	121,832,813	8.0
1977	1,887,177	1977-78	[2] 141,200,000	7.5

[1] Includes expenditures of public and nonpublic schools at all levels of education (elementary, secondary, and higher).
[2] Estimated.

NOTE.--Beginning with 1959-60 school year, includes Alaska and Hawaii.

SOURCES: (1) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of State School Systems; Financial Statistics of Institutions of Higher Education;* and unpublished data. (2) U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, January 1976, July 1977, and July 1978.

Table 6--Expenditures of Federal, State, and local funds for vocational education: United States and outlying areas, 1920 to 1977

(In thousands of dollars)

Fiscal year	Total	Federal	State	Local
1	2	3	4	5
1920	$8,535	$2,477	$2,670	$3,388
1930	29,909	7,404	8,233	14,272
1940	55,081	20,004	11,737	23,340
1942	59,023	20,758	14,045	24,220
1944	64,299	19,958	15,016	29,325
1946	72,807	20,628	18,538	33,641
1948	103,339	26,200	25,834	51,305
1950	128,717	26,623	40,534	61,561
1952	146,466	25,863	47,818	72,784
1954	151,289	25,419	54,550	71,320
1956	175,886	33,180	61,821	80,884
1958	209,748	38,733	72,305	98,710
1960	238,812	45,313	82,466	111,033
1962	283,948	51,438	104,264	128,246
1964	332,785	55,027	124,975	152,784
1966	799,895	233,794	216,583	349,518
1968	1,192,863	262,384	400,362	530,117
1970	1,841,846	300,046	([1])	[1] 1,541,801
1972	2,660,759	466,029	([1])	[1] 2,194,730
1974	3,433,820	468,197	([1])	[1] 2,965,623
1975	4,037,277	536,140	([1])	[1] 3,501,137
1976	4,713,577	543,211	([1])	[1] 4,170,366
1977	4,962,555	533,611	([1])	[1] 4,428,945

[1] State funds are included with local funds in column 5.

NOTE.--Because of rounding, details may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education, reports on *Vocational and Technical Education;* and *Summary Data, Vocational Education.*

Table 7.—Enrollment in educational institutions, by level of instruction and by type of control: United States, fall 1976 and fall 1977[1]

(In thousands)

Level of instruction and type of control	Fall 1976	Fall 1977
1	2	3
Total elementary, secondary, and higher education	60,647	60,317
Public	53,228	52,818
Nonpublic	7,419	7,499
Kindergarten-grade 12 (regular and other schools)[2]	49,635	49,031
Regular public schools	44,335	43,731
Regular nonpublic schools	5,000	5,000
Other public schools	240	240
Other nonpublic schools	60	60
Kindergarten-grade 8 (regular and other schools)[2]	33,812	33,231
Regular public schools	30,012	29,431
Regular nonpublic schools	3,600	3,600
Other public schools	175	175
Other nonpublic schools	25	25
Grades 9-12 (regular and other schools)[2]	15,823	15,800
Regular public schools	14,323	14,300
Regular nonpublic schools	1,400	1,400
Other public schools	65	65
Other nonpublic schools	35	35
Higher education (total enrollment in colleges, universities, professional schools, teachers colleges, and junior colleges)	11,012	11,286
Public	8,653	8,847
Nonpublic	2,359	2,439
Undergraduate[3]	9,434	9,716
First-professional	244	251
Graduate[3]	1,334	1,318

[1] The 1976 and 1977 figures for regular nonpublic and other elementary and secondary schools are estimates. Surveys of nonpublic elementary and secondary schools have been conducted at less frequent intervals than those of public schools and of institutions of higher education. Consequently, the estimates for nonpublic schools are less reliable than those for other types of institutions. The estimates are derived from the increases expected from population changes combined with the long-range trend in school enrollment rates of the population.

[2] "Regular" schools include schools which are a part of State and local school systems and also most non-profit-making nonpublic elementary and secondary schools, both church-affiliated and nonsectarian. "Other" schools include subcollegiate departments of institutions of higher education, residential schools for exceptional children, Federal schools for Indians, and Federal schools on military posts and other Federal installations.

[3] Includes students who are unclassified, distributed by level.

NOTE.—Fall enrollment is usually smaller than school-year enrollment, since the latter is a cumulative figure which includes students who enroll at any time during the year. Because of rounding, details may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools; Fall Enrollment in Higher Education:* and estimates of the National Center for Education Statistics.

Table 8.--Enrollment of 3-, 4-, and 5-year-old children in preprimary programs, by age and by type of program: United States, October 1975 and October 1976

[Numbers in thousands]

Enrollment status and type of program	October 1975[1]				October 1976[2]			
	Total 3-5 years old	3 years old	4 years old	5 years old	Total 3-5 years old	3 years old	4 years old	5 years old
1	2	3	4	5	6	7	8	9
Enrollment status								
Total population	10,185	3,177	3,499	3,509	9,727	3,019	3,220	3,488
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Enrolled	48.7	21.5	40.5	81.3	49.2	19.9	41.8	81.4
Not enrolled in these programs	51.3	78.5	59.5	18.7	50.8	80.1	58.2	18.6
Type of program								
Total enrolled	4,955	683	1,418	2,854	4,790	602	1,346	2,839
Prekindergarten	1,745	653	976	115	1,515	568	860	85
Public	570	179	332	59	([3])	([3])	([3])	([3])
Nonpublic	1,174	474	644	57	([3])	([3])	([3])	([3])
Kindergarten	3,211	30	442	2,739	3,275	34	486	2,754
Public	2,682	11	313	2,358	([3])	([3])	([3])	([3])
Nonpublic	528	18	129	381	([3])	([3])	([3])	([3])

[1] Excluded are 322,000 5-year-olds enrolled at the primary level, and 186,000 6-year-olds in preprimary programs.

[2] Excluded are 371,000 5-year-olds enrolled at the primary level, and 226,000 6-year-olds in preprimary programs.

[3] Data not available.

NOTE.--Because of rounding, details may not add to totals.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Preprimary Enrollment, October 1975*, and U.S. Department of Commerce, Bureau of the Census, unpublished data.

Table 9.--Percent of the population 3 to 34 years old enrolled in school,[1] by race, sex, and age: United States, October 1977

Sex and age	All races	White	Black	Spanish origin[2]
1	2	3	4	5
BOTH SEXES				
Total, 3 to 34 years	52.5	51.6	57.7	50.8
3 and 4 years	32.0	31.1	35.2	19.5
5 and 6 years	95.8	95.6	96.5	93.7
7 to 9 years	99.5	99.5	99.3	99.0
10 to 13 years	99.4	99.4	99.0	99.3
14 and 15 years	98.5	98.5	98.8	97.6
16 and 17 years	88.9	88.5	90.8	83.6
18 and 19 years	46.2	45.5	48.3	40.6
20 and 21 years	31.8	31.8	29.5	23.1
22 to 24 years	16.5	16.3	15.2	10.8
25 to 29 years	10.8	10.6	11.3	9.3
30 to 34 years	6.9	6.6	9.0	6.0
MALE				
Total, 3 to 34 years	54.3	53.3	60.3	54.7
3 and 4 years	31.1	31.7	32.4	23.2
5 and 6 years	94.7	94.3	96.0	91.4
7 to 9 years	99.5	99.6	99.1	100.0
10 to 13 years	99.2	99.3	98.6	98.7
14 and 15 years	98.7	98.7	99.0	99.1
16 and 17 years	90.0	89.5	92.5	89.4
18 and 19 years	48.4	47.7	50.5	43.1
20 and 21 years	34.6	34.7	31.0	22.8
22 to 24 years	19.7	19.4	18.5	16.0
25 to 29 years	12.6	12.6	12.1	13.1
30 to 34 years	7.1	6.8	9.2	6.4
FEMALE				
Total, 3 to 34 years	50.7	49.9	55.4	47.6
3 and 4 years	32.0	30.5	38.1	15.8
5 and 6 years	96.9	96.9	97.0	96.3
7 to 9 years	99.5	99.5	99.4	97.9
10 to 13 years	99.6	99.6	99.4	99.9
14 and 15 years	98.3	98.4	98.5	95.9
16 and 17 years	87.7	87.4	89.1	77.4
18 and 19 years	44.0	43.4	46.3	38.5
20 and 21 years	29.1	29.0	28.2	23.4
22 to 24 years	13.6	13.3	12.6	6.2
25 to 29 years	9.1	8.8	10.7	5.9
30 to 34 years	6.7	6.3	8.9	5.6

[1] Includes enrollment in any type of graded public, parochial, or other private school in the regular school system. Includes nursery schools, kindergartens, elementary schools, high schools, colleges, universities, and professional schools. Attendance may be on either a full-time or part-time basis and during the day or night. Enrollments in "special" schools, such as trade schools or business colleges, are not included.

[2] Persons of Spanish origin may be of any race.

NOTE.—Data are based upon a sample survey of the civilian noninstitutional population.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 278.

Table 10.--Enrollment in grades 9-12 in public and nonpublic schools compared with population 14-17 years of age: United States, 1889-90 to fall 1977

School year	Enrollment, grades 9-12[1]			Population 14-17 years of age[2]	Total number enrolled per 100 persons 14-17 years of age
	All schools	Public schools	Nonpublic schools		
1	2	3	4	5	6
1889-90	359,949	[3]202,963	[3]94,931	5,354,653	6.7
1899-1900	699,403	[3]519,251	[3]110,797	6,152,231	11.4
1909-10	1,115,398	[3]915,061	[3]117,400	7,220,298	15.4
1919-20	2,500,176	[3]2,200,389	[3]213,920	7,735,841	32.3
1929-30	4,804,255	[3]4,399,422	[3,4]341,158	9,341,221	51.4
1939-40	7,123,009	6,635,337	487,672	9,720,419	73.3
1941-42	6,933,265	6,420,544	512,721	9,749,000	71.1
1943-44	6,030,617	5,584,656	445,961	9,449,000	63.8
1945-46	6,237,133	5,664,528	572,605	9,056,000	68.9
1947-48	6,306,168	5,675,937	629,231	8,841,000	71.3
1949-50	6,453,009	5,757,810	695,199	8,404,768	76.8
1951-52	6,596,351	5,917,384	678,967	8,516,000	77.5
1953-54	7,108,973	6,330,565	778,408	8,861,000	80.2
1955-56	7,774,975	6,917,790	857,185	9,207,000	84.4
1957-58	8,869,186	7,905,469	963,717	10,139,000	87.5
1959-60	9,599,810	8,531,454	1,068,356	11,154,879	86.1
1961-62	10,768,972	9,616,755	1,152,217	12,046,000	89.4
Fall 1963	12,255,496	10,935,536	1,319,960	13,492,000	90.8
Fall 1965	13,020,823	11,657,808	1,363,015	14,145,000	92.1
Fall 1969	14,418,301	13,084,301	[5]1,334,000	15,550,000	92.7
Fall 1971	15,226,000	13,886,000	[5]1,340,000	16,279,000	93.5
Fall 1973	15,476,526	14,141,526	[5]1,335,000	16,745,000	92.4
Fall 1975	15,804,098	14,369,098	[5]1,435,000	16,932,000	93.3
Fall 1977[6]	15,800,000	14,365,000	[5]1,435,000	16,781,000	94.2

[1] Unless otherwise indicated, includes enrollment in subcollegiate departments of institutions of higher education and in residential schools for exceptional children. Beginning in 1949-50, also includes Federal schools.

[2] Includes all persons residing in the United States, but excludes Armed Forces overseas. Data from the decennial censuses have been used when appropriate. Other figures are Bureau of the Census estimates as of July 1 preceding the opening of the school year.

[3] Excludes enrollment in subcollegiate departments of institutions of higher education and in residential schools for exceptional children.

[4] Data for 1927-28.

[5] Estimated.

[6] Preliminary data.

NOTE.--Beginning in 1959-60, includes Alaska and Hawaii.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of State School Systems; Statistics of Public Elementary and Secondary Day Schools; Statistics of Nonpublic Elementary and Secondary Schools;* and unpublished data.

Table 11.--Degree-credit enrollment in institutions of higher education compared with population aged 18-24: United States, fall 1950 to fall 1977

Year	Population 18-24 years of age[1]	Enrollment	Number enrolled per 100 persons 18-24 years of age
1	2	3	4
1950	16,076,000	2,286,500	14.2
1951	15,781,000	2,107,109	13.4
1952	15,473,000	2,139,156	13.8
1953	15,356,000	2,235,977	14.6
1954	15,103,000	2,452,466	16.2
1955	14,968,000	2,660,429	17.8
1956	14,980,000	2,927,367	19.5
1957	15,095,000	3,047,373	20.2
1958	15,307,000	3,236,414	21.2
1959	15,677,000	3,377,273	21.5
1960	16,128,000	3,582,726	22.2
1961	17,004,000	3,860,643	22.7
1962	17,688,000	4,174,936	23.6
1963	18,268,000	4,494,826	24.6
1964	18,783,000	4,950,173	26.4
1965	20,293,000	5,526,325	27.2
1966	21,376,000	[2]5,928,000	27.7
1967	22,327,000	[2]6,406,000	28.7
1968	22,883,000	6,928,115	30.3
1969	23,723,000	7,484,073	31.5
1970	24,887,000	7,920,149	32.1
1971	25,779,000	8,116,103	31.5
1972	25,913,000	8,265,057	31.9
1973	26,397,000	8,518,150	32.3
1974	26,916,000	9,023,446	33.5
1975	27,605,000	9,731,431	35.3
1976	28,163,000	[2]9,589,000	34.0
1977	28,602,000	[2]9,807,000	34.3

[1] These Bureau of the Census estimates are as of July 1 preceding the opening of the academic year. They include Armed Forces overseas.
[2] Estimated.

NOTE.--Data are for 50 States and the District of Columbia. Beginning in 1953, enrollment figures include extension students.

SOURCES: (1) U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Fall Enrollment in Higher Education*. (2) U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-25, Nos. 311, 519, and 721.

Table 12.--Enrollment in federally aided vocational education classes, by type of program: United States and outlying areas, 1920 to 1977

Fiscal year	Type of program								
	Total	Agriculture	Distributive occupations	Home economics	Trades and industry	Health occupations	Technical education	Office occupations	Other programs
1	2	3	4	5	6	7	8	9	10
1920	265,058	31,301	...	48,938	184,819	...	...	...	...
1930	981,882	188,311	...	174,967	618,604	...	...	...	...
1940	2,290,741	584,133	129,433	818,766	758,409	...	...	...	...
1942	2,624,786	605,099	215,049	954,041	850,597	...	...	...	...
1944	2,001,153	469,959	181,509	806,605	543,080	...	...	...	...
1946	2,227,663	510,931	174,672	911,816	630,844	...	...	...	...
1948	2,836,121	640,791	292,936	1,139,766	762,628	...	...	...	...
1950	3,364,613	764,975	364,670	1,430,366	804,602	...	...	...	...
1952	3,165,988	746,402	234,984	1,391,389	793,213	...	...	...	...
1954	3,164,851	737,502	220,619	1,380,147	826,583	...	...	...	...
1956	3,413,159	785,599	257,025	1,486,816	883,719	...	...	...	...
1958	3,629,339	775,892	282,558	1,559,822	983,644	27,423	...	...	...
1960	3,768,149	796,237	303,784	1,588,109	938,490	40,250	101,279	...	...
1962	4,072,677	822,664	321,065	1,726,660	1,005,383	48,985	148,920	...	...
1964	4,566,390	860,605	334,126	2,022,138	1,069,274	59,006	221,241	...	...
1966	6,070,059	907,354	420,426	1,897,670	1,269,051	83,677	253,838	1,238,043	...
1968	7,533,936	851,158	574,785	2,283,338	1,628,542	140,987	269,832	1,735,997	49,297
1970	8,793,960	852,983	529,365	2,570,410	1,906,133	198,044	271,730	2,111,160	354,135
1972	11,710,767	896,460	640,423	3,445,698	2,397,968	336,652	337,069	2,351,878	1,304,619
1974	13,794,512	976,319	832,905	3,702,684	2,824,317	504,913	392,887	2,757,464	1,803,023
1975	15,485,828	1,012,595	873,224	3,746,540	3,016,509	616,638	447,336	2,951,065	2,821,921
1976	15,345,863	1,059,717	900,604	3,986,331	3,109,950	684,904	484,807	3,114,692	2,004,858
1977	[1]16,464,178	1,056,259	966,156	4,163,609	3,246,688	740,520	519,537	3,273,049	3,498,360

[1] Because of duplication, details may not add to totals.

SOURCES: U.S. Department of Health, Education, and Welfare, Office of Education, *Vocational and Technical Education*, and *Summary Data, Vocational Education*.

Table 13.—Estimated number of classroom teachers in elementary and secondary schools and instructional staff in institutions of higher education: United States, fall 1976 and fall 1977[1]

Level of instruction and type of control	Fall 1976	Fall 1977
1	2	3
Total elementary, secondary, and higher education	3,254,000	3,280,000
Public	2,789,000	2,810,000
Nonpublic	465,000	470,000
Elementary and secondary classroom teachers in regular and other schools[2]	2,461,000	2,460,000
Public	2,209,000	2,210,000
Nonpublic	252,000	250,000
Elementary classroom teachers in regular and other schools[2]	1,342,000	1,330,000
Public	1,182,000	1,170,000
Nonpublic	160,000	160,000
Secondary classroom teachers in regular and other schools[2]	1,119,000	1,130,000
Public	1,027,000	1,040,000
Nonpublic	92,000	90,000
Higher education instructional staff for resident courses[3]	793,000	820,000
Public	580,000	600,000
Nonpublic	213,000	220,000

[1] The figures for nonpublic and other elementary and secondary schools in 1976 and 1977, are estimates. Data for nonpublic elementary and secondary schools are not as complete as those for public schools; consequently, the estimates for nonpublic schools are not as reliable as those for public schools. The estimates are derived from enrollment changes combined with the long-term trend in pupil-teacher ratios. The 1976 figures for higher education instructional staff, by control, and all 1977 figures, are estimates.

[2] The figures include elementary and secondary classroom teachers in regular public and nonpublic schools and other schools such as Federal schools for Indians, federally operated schools on posts, subcollegiate departments of colleges, and residential schools for exceptional children. For 1976 and 1977, the numbers of such teachers are estimated as 12,000 in public and 2,000 in nonpublic elementary schools; 4,000 in public and 3,000 in nonpublic secondary schools. Teachers are reported in terms of full-time equivalents.

[3] Includes full-time and part-time staff with rank of instructor or above and junior staff such as graduate assistants.

SOURCES: Surveys and estimates of the National Center for Education Statistics, U.S. Department of Health, Education and Welfare.

Table 14.—Selected statistics for public elementary and secondary schools: United States, fall 1972 and fall 1977

Item	Fall 1972	Fall 1977	Percentage change, 1972 to 1977
1	2	3	4
Local school districts:			
Total	16,960	16,211	- 4.4
Operating	16,515	15,889	- 3.8
Nonoperating	445	322	-27.6
Number of schools:			
Total	88,864	([2])88,025	- 0.9
Elementary only	62,942	([2])61,123	- 2.9
Secondary only	23,919	([2])23,857	- 0.3
Combined elementary and secondary	2,003	([2]) 1,521	-24.1
Special education schools for the handicapped	([3])	([2]) 1,524	([3])
Enrollment:			
Total	45,744,000	43,730,964	- 4.4
Elementary	27,323,000	24,810,442	- 9.2
Secondary	18,421,000	18,920,522	2.7
Percent of total enrollment in elementary schools	59.7	56.7	...
Percent of total enrollment in secondary schools	40.3	43.3	...
Classroom teachers:			
Total, full-time and part-time teachers	2,103,000	2,197,477	4.5
Pupil-teacher ratio:			
All schools	21.8	19.9	...
Public high school graduates([2]):			
Total graduates of regular day school programs	2,699,000	2,836,719	5.1
Boys	1,342,000	1,395,176	4.0
Girls	1,357,000	1,441,543	6.2
Other programs	29,839	37,378	25.3
High school equivalency certificates	180,000	222,929	23.8

[1] Whether grades 7 and 8 are counted as "elementary" or "secondary" depends on the structure of the local school system.
[2] Data for previous school year.
[3] Data not available.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of Public Elementary and Secondary Day Schools, Fall 1973* and *Fall 1977*.

Table 15.--Number of high school graduates compared with population 17 years of age: United States, 1869-70 to 1976-77

School year	Population 17 years old	High school graduates[2]			Number graduated per 100 persons 17 years of age	School year	Population 17 years old[1]	High school graduates[2]			Number graduated per 100 persons 17 years of age
		Total	Boys	Girls				Total	Boys	Girls	
1	2	3	4	5	6	1	2	3	4	5	6
1869-70	816,000	16,000	7,064	8,936	2.0	1953-54	2,128,600	1,276,100	612,500	663,600	60.0
1879-80	946,026	23,634	10,605	13,029	2.5	1955-56	2,270,000	1,414,000	679,500	735,300	62.3
1889-90	1,259,177	43,731	18,549	25,182	3.5	1957-58	2,324,000	1,505,900	725,500	780,400	64.8
1899-1900	1,489,146	94,883	38,075	56,808	6.4	1959-60	2,862,005	1,864,000	898,000	966,000	65.1
1909-10	1,786,240	156,429	63,576	92,753	8.8	1961-62	2,768,000	1,925,000	941,000	984,000	69.5
1919-20	1,855,173	311,266	123,684	187,582	16.8	1963-64	3,001,000	2,290,000	1,121,000	1,169,000	76.3
1929-30	2,295,822	666,904	300,376	366,528	29.0	1965-66	3,515,000	2,632,000	1,308,000	1,324,000	74.9
1939-40	2,403,074	1,221,475	578,718	642,757	50.8	1967-68	3,521,000	2,702,000	1,341,000	1,361,000	76.7
1941-42	2,425,574	1,242,375	576,717	665,658	51.2	1969-70	3,825,343	2,896,000	1,433,000	1,463,000	75.7
1943-44	2,410,389	1,019,233	423,971	595,262	42.3	1971-72	3,957,000	3,008,000	1,490,000	1,518,000	76.0
1945-46	2,264,738	1,080,033	466,926	613,107	47.9	1973-74	4,096,000	3,080,000	1,515,000	1,565,000	75.2
1947-48	2,202,927	1,189,909	562,863	627,046	54.0	1975-76	4,215,000	3,154,000	1,554,000	1,600,000	74.8
1949-50	2,034,450	1,199,700	570,700	629,000	59.0	1976-77[4]	4,206,000	3,154,000	1,548,000	1,606,000	75.0
1951-52	2,040,800	1,196,500	569,200	627,300	58.6						

[1] Data from Bureau of the Census.
[2] Includes graduates of public and nonpublic schools.
[3] Revised since originally published.
[4] Preliminary data.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Statistics of State School Systems; Statistics of Public Elementary and Secondary Day Schools, Fall 1977; Statistics of Nonpublic Elementary and Secondary Schools;* and unpublished data.

Table 16.--Earned degrees conferred by institutions of higher education, by level of degree: United States, 1869-70 to 1976-77

Year	Earned degrees conferred				
	All degrees	Bachelor's[1]	First professional[1]	Master's except first professional[2]	Doctor's
1	2	3	4	5	6
1869-70	9,372	9,371	...	0	1
1879-80	13,829	12,896	...	879	54
1889-90	16,703	15,539	...	1,015	149
1899-1900	29,375	27,410	...	1,583	382
1909-10	39,755	37,199	...	2,113	443
1919-20	53,516	48,622	...	4,279	615
1929-30	139,752	122,484	...	14,969	2,299
1939-40	216,521	186,500	...	26,731	3,290
1941-42	213,491	185,346	...	24,648	3,497
1943-44	141,582	125,863	...	13,414	2,305
1945-46	157,349	136,174	...	19,209	1,966
1947-48	317,607	271,019	...	42,400	4,188
1949-50	496,661	432,058	...	58,183	6,420
1951-52	401,203	329,986	...	63,534	7,683
1953-54	356,608	290,825	...	56,788	8,995
1955-56	375,973	308,612	...	59,268	8,903
1957-58	436,979	362,554	...	65,487	8,938
1959-60	476,704	392,440	...	74,435	9,829
1961-62	514,323	417,846	...	84,855	11,622
1963-64	614,194	498,654	...	101,050	14,490
1965-66	709,832	519,804	31,236	140,565	18,237
1967-68	866,648	632,289	34,421	176,749	23,089
1969-70	1,065,391	792,316	34,918	208,291	29,866
1971-72	1,215,680	887,273	43,411	251,633	33,363
1973-74	1,310,441	945,776	53,816	277,033	33,816
1975-76	1,334,230	935,746	62,649	311,771	34,064
1976-77	1,334,304	919,549	64,359	317,164	33,232

[1] From 1869-70 through 1963-64, first-professional degrees are included with bachelor's degrees.
[2] Beginning in 1955-56, includes all master's degrees.

NOTE.--Beginning in 1959-60, includes Alaska and Hawaii.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Biennial Survey of Education in the United States; Earned Degrees Conferred*, and unpublished data.

Table 17.—Earned degrees conferred by institutions of higher education, by field of study and by level: United States, 1976-77

Field of study	Earned degrees conferred			
	Bachelor's degrees (requiring 4 or 5 years)	First professional degrees (requiring at least 6 years)	Master's degrees	Doctor's degrees (Ph.D., Ed.D., etc.)
1	2	3	4	5
All fields	919,549	64,359	317,164	33,232
Agriculture and natural resources	21,467	...	3,724	893
Architecture and environmental design	9,222	...	3,213	73
Area studies	2,953	...	989	153
Biological sciences	53,605	...	7,114	3,397
Business and management	152,088	...	46,545	869
Communications	23,214	...	3,091	171
Computer and information sciences	6,407	...	2,798	216
Education	143,658	...	126,375	7,955
Engineering	49,283	...	16,245	2,586
Fine and applied arts	41,793	...	8,636	662
Foreign languages	13,944	...	3,147	752
Health professions	57,328	24,371	12,951	538
Home economics	17,439	...	2,334	160
Law	559	34,104	1,574	60
Letters[1]	47,071	...	10,451	2,199
Library science	781	...	7,572	75
Mathematics	14,196	...	3,695	823
Military sciences	933	...	43	...
Physical sciences	22,497	...	5,331	3,341
Psychology	47,373	...	8,301	2,761
Public affairs and services	36,341	...	19,454	335
Social sciences	117,376	...	15,458	3,784
Theology	6,109	5,861	3,625	1,125
Interdisciplinary and other fields	33,912	23	4,498	304

[1] Includes general English; English literature; Comparative literature; Classics; Linguistics; Speech, debate, and forensic science; Creative writing; Teaching of English as a foreign language; Philosophy; and Religious studies.

SOURCE: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Earned Degrees Conferred*, 1976-77.

Table 18.--Estimated retention rates,[1] 5th grade through college entrance, in public and nonpublic schools: United States, 1924-32 to 1969-77

School year pupils entered 5th grade	Retention per 1,000 pupils who entered 5th grade								High school graduation		First-time college students
	5th grade	6th grade	7th grade	8th grade	9th grade	10th grade	11th grade	12th grade	Number	Year of graduation	
1	2	3	4	5	6	7	8	9	10	11	12
1924-25	1,000	911	798	741	612	470	384	344	302	1932	118
1926-27	1,000	919	824	754	677	552	453	400	333	1934	129
1928-29	1,000	939	847	805	736	624	498	432	378	1936	137
1930-31	1,000	943	872	824	770	652	529	463	417	1938	148
1932-33	1,000	935	889	831	786	664	570	510	455	1940	160
1934-35	1,000	953	892	842	803	711	610	512	467	1942	129
1936-37	1,000	954	895	849	839	704	554	425	393	1944	121
1938-39	1,000	955	908	853	796	655	532	444	419	1946	(2)
1940-41	1,000	968	910	836	781	697	566	507	481	1948	(2)
1942-43	1,000	954	909	847	807	713	604	539	505	1950	205
1944-45	1,000	952	929	858	848	748	650	549	522	1952	234
1946-47	1,000	954	945	919	872	775	641	583	553	1954	283
1948-49	1,000	984	956	929	863	795	706	619	581	1956	301
1950-51	1,000	981	968	921	886	809	709	632	582	1958	308
1952-53	1,000	974	965	936	904	835	746	667	621	1960	328
1954-55	1,000	980	979	948	915	855	759	684	642	1962	343
1956-57	1,000	985	984	948	930	871	790	728	676	1964	362
Fall 1958	1,000	983	979	961	946	908	842	761	732	1966	384
Fall 1960	1,000	980	973	967	952	913	858	787	749	1968	452
Fall 1962	1,000	987	977	967	959	928	860	790	750	1970	461
Fall 1964	1,000	888	985	976	975	942	865	791	748	1972	433
Fall 1966	1,000	989	986	985	985	959	871	783	744	1974	448
Fall 1968	1,000	992	992	991	983	958	869	786	749	1976	(2)
Fall 1969	1,000	992	986	986	984	959	876	789	744	1977	(2)

[1] Rates for the 5th grade through high school graduation are based on enrollments in successive grades in successive years in public elementary and secondary schools and are adjusted to include estimates for nonpublic schools. Rates for first-time college enrollment include full-time and part-time students enrolled in programs creditable toward a bachelor's degree.

[2] Data not available.

NOTE.--Beginning with the class in the 5th grade in 1958, data are based on fall enrollment and exclude ungraded pupils. The net effect of these changes is to increase high school graduation and college entrance rates slightly.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, *Biennial Survey of Education in the United States; Statistics of State School Systems; Fall Statistics of Public Elementary and Secondary Day Schools;* and unpublished data.

Table 19.--Level of school completed by persons age 25 and over and 25 to 29, by race: United States, 1910 to 1978

Race, age, and date	Percent, by level of school completed			Median school years completed	Race, age, and date	Percent, by level of school completed			Median school years completed
	Less than 5 years of elementary school	4 years of high school or more	4 or more years of college			Less than 5 years of elementary school	4 years of high school or more	4 or more years of college	
1	2	3	4	5	1	2	3	4	5
All races									
25 and over:					25 to 29:				
1910[1]	23.8	13.5	2.7	8.1	1920[1]	12.9	22.0	4.5	8.5
1920[1]	22.0	16.4	3.3	8.2	April 1940	3.4	41.2	6.4	10.7
1930[1]	17.5	19.1	3.9	8.4	April 1950	3.2	55.2	8.1	12.2
April 1940	13.5	24.1	4.6	8.6	April 1960	2.2	63.7	11.8	12.3
April 1950	10.8	33.4	6.0	9.3	March 1970	0.9	77.8	17.3	12.6
April 1960	8.3	41.1	7.7	10.5	March 1975	1.0	84.5	22.9	12.8
March 1970	5.3	55.2	11.0	12.2	March 1978	0.8	86.3	24.5	12.9
March 1975	4.2	62.6	13.9	12.3					
March 1978	3.6	65.9	15.7	12.4	*Black and other races*				
25 to 29:					25 and over:				
April 1940	5.9	37.8	5.8	10.4	April 1940	41.8	7.7	1.3	5.7
April 1950	4.6	51.7	7.7	12.1	April 1950	31.4	13.4	2.2	6.9
April 1960	2.8	60.7	11.1	12.3	April 1960	23.5	21.7	3.5	8.2
April 1970	1.1	75.4	16.4	12.6	March 1970	14.7	36.1	6.1	10.1
March 1975	1.0	83.2	22.0	12.8	March 1975	11.8	46.4	9.1	11.4
March 1978	0.9	85.3	23.3	12.9	March 1978	9.6	50.6	10.0	12.0
White									
25 and over:					25 to 29:				
April 1940	10.9	26.1	4.9	8.7	1920[1]	44.6	6.3	1.2	5.4
April 1950	8.7	35.5	6.4	9.7	April 1940	26.7	12.1	1.6	7.1
April 1960	6.7	43.2	8.1	10.8	April 1950	15.4	23.4	2.8	8.7
March 1970	4.2	57.4	11.6	12.2	April 1960	7.2	38.6	5.4	10.8
March 1975	3.3	64.6	14.5	12.4	March 1970	2.2	58.4	10.0	12.2
March 1978	2.8	67.9	16.4	12.5	March 1975	0.7	73.8	15.2	12.6
					March 1978	1.3	78.5	15.3	12.7

[1] Estimates based on retrojection of 1940 census data on education by age.

NOTE.--Prior to 1950, data exclude Alaska and Hawaii. Data for 1975 and 1978 are for the noninstitutional population.

SOURCES: U.S. Department of Commerce, Bureau of the Census, *1960 Census of Population*, Vol. 1, Part 1; *Current Population Reports*, Series P-20; Series P-19, No. 4; and 1960 Census Monograph, *Education of the American Population*, by John K. Folger and Charles B. Nam.

Table 20.—Percent of illiteracy[1] in the population: United States, 1870 to 1969

Year	Percent illiterate[2]	Year	Percent illiterate[2]
1	2	1	2
1870	20.0	1930	4.3
1880	17.0	1940	[3]2.9
1890	13.3	1947	2.7
1900	10.7	1952	2.5
1910	7.7	1959	2.2
1920	6.0	1969	1.0

[1] Illiteracy is defined as the inability to read or write a simple message either in English or in any other language.

[2] Percentages refer to the population 10 years old and over from 1870 to 1940 and to the population 14 years old and over from 1947 to 1969.

[3] Estimated.

SOURCE: U.S. Department of Commerce, Bureau of the Census, *Current Population Reports*, Series P-20, No. 217.

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