DOCUMENT RESUME

ED 352 521 CE 062 676

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TITLE The Comprehensive High School: An International Perspective.
INSTITUTION National Center for Research in Vocational Education, Berkeley, CA.
SPONS AGENCY Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE Dec 92
CONTRACT V051A80004-92A
NOTE 68p.; In "New Designs for the Comprehensive High School. Volume II--Working Papers"; see CE 062 664.
PUB TYPE Information Analyses (070)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Comparative Education; Curriculum; *Educational Change; *Educational Development; Educational Finance; Educational Innovation; *Educational Practices; Educational Principles; Educational Research; Educational Technology; Educational Trends; Education Work Relationship; Foreign Countries; Guidelines; High Schools; Industrialization; Integrated Curriculum; International Educational Exchange; Relevance (Education); Role of Education; School Business Relationship; School Community Relationship; School Organization; School Role; *Teaching Methods; Vocational Education
IDENTIFIERS Australia; France; Germany; Great Britain; Japan; Sweden

ABSTRACT

This paper examines secondary schools in countries other than the United States to show the diversity of secondary school systems that operate within the industrialized world. The six countries are Australia, Germany, France, Japan, Sweden, and Great Britain. The descriptions are organized according to country and area of focus--learner outcomes, learning process (curriculum, instruction, assessment), organization, partnerships with the community, staffing, physical facilities, and cost. Each country description concludes with a section on implications for school design in the United States. A table gives an across-the-board comparison of the most important points in each country section. This information is arranged according to the key words or key phrases that most accurately represent the main theme of each area of focus for each country. An analysis of table similarities highlights the following common themes among the countries: need to satisfy the requirements of the work force, notion of development of the whole personality of the individual, provision of equality of opportunity to all citizens, a nationally prescribed core curriculum, various degrees of centralized management, and transition from school to work as a priority. The paper concludes with a list of implications for school design in the United States. A list of 26 references, a 35-item bibliography, and an appendix documenting procedures and sources used in data collection are provided. (YLB)

ED352521

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THE COMPREHENSIVE HIGH SCHOOL: AN INTERNATIONAL PERSPECTIVE

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This paper was developed pursuant to a grant with the Office of Vocational and Adult Education, U. S. Department of Education, for the National Center for Research in Vocational Education. While this paper has undergone review by project staff and the project's external Design Group, this document has not been reviewed using the customary NCRVE manuscript review procedures.

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THE COMPREHENSIVE HIGH SCHOOL: AN INTERNATIONAL PERSPECTIVE

The main question of this paper is: What can we learn from the designs of high schools in other countries in order to inform future designs of comprehensive high schools in the United States? The countries included in this paper — Australia, France, Germany (former West Germany), Japan, Sweden, and Great Britain — generally are considered economically competitive with the United States. Moreover, they are all industrialized, and, like the United States, have moved from a primarily agricultural, to a manufacturing, to a service-based economy.

In light of such similarities between countries, it is assumed that it would be beneficial to examine secondary schools in these countries in order to more effectively design a comprehensive high school in the United States. The focus of investigation within the secondary school system of each country includes learner outcomes, learning process (curriculum, instruction, assessment), organization, partnerships with the community, staffing, physical facilities, and cost.

The Context of Secondary Schools

Husen (1990) discusses what seems to be a common concern in most urban, industrialized, technological societies such as the United States — the decline of the secondary school. He notes that, at a recent Organization of Economic Cooperation and Development (OECD) meeting, when the U.S. Assistant Commissioner of Education was asked about the situation of secondary schools in the United States he described it as a "disaster area" (p. 9). This has been confirmed by the U.S. Secretary of Education Lamar Alexander's call "...to reinvent the public schools because our current system is an anachronism..." (Kantrowitz and Wingert, 1991).

There are certain trends which clearly indicate a problem. Husen points out that, in the past few decades, there has been an alarming rate of vandalism, absenteeism, and turn over of teaching staff in many countries. Moreover, attitudinal surveys conducted by the International Association for the Evaluation of Education (IEA), and other groups, found that the majority of young people (ages 13-16) surveyed tended to dislike school. Much of

the frustration found in the general public stems from a lack of understanding about what a secondary school is expected to achieve, and what it has actually been able to achieve.

In the United States, as in other countries, the school has been expected to serve all students through the provision of a variety of programs. Moreover, in a society where the role of the family has changed rapidly, it has been expected to make a major contribution to the social education of young people, making them cooperative, responsible, open-minded citizens who are willing to take part in the political process of a modern democratic society.

In Husen's words, it is clear that the "...discrepancy between rhetoric and reality has become strikingly large" (p. 9). The disparity between the aims and outcomes of education has led to frustration and dismay. Such frustration, however, is not confined to the United States. It can be found on a global scale. Throughout the industrialized world, there is an understanding that the school as an institution is facing difficulties that must be dealt with immediately. Yet, as Husen stresses, schools do not operate in a vacuum. It is within the context of the society at large that the problems of education must be addressed.

With this said, why should we look beyond our borders for answers? Although within the modern industrialized world an abundance of cultural, political, and economic differences exist, our young adults are increasingly faced with similar social dilemmas. The countries examined in this paper have numerous interrelated characteristics, which are linked to the advent of a service-oriented, high-technology, information society. Husen points out five prevalent features that characterize the common societal changes found in the industrialized world:

1. Urbanization: all have made transitions from agricultural, to manufacturing, to service-based economies.

2. Changes in family structure and role of family: cohabitation, increased divorce rate, and lower birth rates have resulted in smaller families throughout the industrialized world. Moreover, the majority of women now work outside the home.

3. Increased competition in the world market and world economy: national economies have become more closely linked with the global marketplace.

4. Increased value placed on formal education: formal education is increasingly viewed as the route to individual success and social mobility. Employment is based on the acquisition of adequate schooling. Thus, such societies are becoming meritocratic, requiring a higher level of individual academic achievement to compete successfully in the labor force.

5. Slowing of the absorptive capacity of the labor market is found throughout the industrialized world: changes in technology, such as automation and computerization, have led to drastic job cuts in certain fields.

Most evident is the changing role of the family as the result of such trends. Significant changes in the family structure and modes of production have taken place in modern societies. In a pre-industrial society, the family was the main unit of both production and consumption. Children quickly became productive members of the household at a young age. However, in a highly industrialized and urbanized society, a clear distinction between learning and production exists, which, Husen argues, has resulted in the following notable changes found in most modern societies:

1. Jobs have become highly specialized, with production moving outside the household to offices and factories.

2. Increasingly, both parents are working outside the home. In the last decade there has been an drastic rise in the number of working mothers.

3. The preparation period for adulthood, both as citizen and worker, has been extended. The skills and competencies required to become a responsible member of a complex society take much longer to acquire.

4. Institutions have increasingly taken over child care and child rearing. Day care and youth programs have developed, offering extended hours for working parents.

The changes noted above have shifted much of the responsibility for socialization from the family unit to established institutions such as the school. However, due to the rapidity of the changes, much of the social and welfare efforts are fragmented and highly specialized. Such changes were noted as early as 1977 at an international symposium

sponsored by the European Cultural Foundation. At the symposium which focused on issues concerning youth, education, and employment, the following conclusion was reached:

> ...there is in contemporary society a youth problem of extraordinary, unprecedented, and worsening proportions - lying beyond the reach of macro-economic, countercyclical measures and defying established institutional approaches. (Husen, 1990, p. 25)

Thus, such societal changes are apparent in varying degrees throughout the developed world. Given the similarities of the concerns facing young adults in modern, highly industrialized societies it is only fitting that we look across borders for new ideas and insights when attempting to forge solutions. Because of our common concerns, it may help us to examine, and attempt to learn from, the experiences of other comparable nations.

Summary Data about the Six Countries

The nations included in this paper — Australia, Germany (former West Germany), France, Japan, Sweden, and Great Britain — have been specifically selected in order to illuminate the diversity of secondary school systems which operate within the industrialized world. The United States secondary school data was not incorporated into this paper because it was assumed that the audience for the paper would be familiar with such information.

As illustrated in Table M.1, there is a wide variance in population among the countries, ranging from 8.34 million in Sweden to 120.62 million in Japan. All have high literacy rates and require at least nine years of compulsory schooling. Of the six countries, Australia, Germany, and Japan have a twelve-month school year, whereas France, Sweden, and Great Britain have a nine-month calendar.

Among the diverse selection of school systems examined in this paper, there may be some commonalities that arise from the descriptive comparisons. It is hoped that by identifying such common characteristics, a determination can be made as to whether or not they can assist in the design of a comprehensive high school in the United States. Additionally, there may be unique elements within a school system that could be equally beneficial to examine.

Insert Table M.1 about here

It should be understood that the authors recognize the danger of borrowing pieces of a school system without regard for the cultural context in which it operates. For example, it is unlikely that United States' students will automatically benefit from the implementation of a 240-day school year, as seen in Japan. Such a calendar is entrenched in various aspects of Japanese culture and may not be as readily accepted in the United States.

The following descriptive section has been organized according to country and area of focus. While a holistic picture of each country's secondary school system was the original aim, the magnitude of such an endeavor made this goal virtually impossible. This was partially due to a lack of time and partially to insufficient information regarding certain areas of focus. Consequently, the following descriptive section has various gaps that may need to be addressed in a subsequent paper.

Australia

Learner Outcomes

The aims of the Australian educational system indicate a changing balance between individual and community needs as the student moves through the system. At the secondary level of schooling, emphasis is placed upon the fullest possible development of potential in each individual student (Kurian, 1988).

Recently, the aims of education, although not officially stated, have increasingly focused on schooling as a means to improve national productivity and upgrade work-force skills. The emphasis has shifted from the intrinsic to the instrumental value of education (Blackmore, 1990).

Learning Process

Curriculum

The individual state or territory is primarily responsible for the preparation and development of curriculum materials. Although structural similarities exist, curricular differences are visible both between states and schools. This is most obvious at the junior and middle secondary school levels. Various strategies exist within each state or territory; however, the curriculum development unit works closely with the national Curriculum Development Center (CDC). The CDC has developed a *field services subprogram*, which supplies practical support to schools and practitioners. As a result, there is increased communication and organization at all levels of curriculum development.

The areas of curricular design that receive the most support include: (a) languages; (b) cultural, multi-cultural, and sociological education; (c) environmental education; (d) international education; (e) visual and performing arts; and (f) science and mathematics education.

Recently, the direction of curricular development has been influenced by three new trends: (a) a renewed emphasis on basic skills and knowledge, (b) an increased emphasis on continuity of curriculum throughout the school years, and (c) an expansion of subjects included in the curriculum (Kurian).

Junior Secondary School generally includes the years seven or eight through ten. For the first two years there is a basic core curriculum in all systems, which includes English, mathematics, and humanities or social sciences. In addition to the core, optional subjects such as humanities, languages, social sciences, commerce, art, music, home economics, manual arts, and agriculture are selected by the student. Some systems have experimented with subjects such as consumer education, shorthand, typing, drivers education, and drama.

Senior Secondary School, which includes years eleven and twelve, generally does not have a required core of subjects, although in practice most students study mathematics and English. In addition, there is a wide variety of optional courses such as computer science, history, economics, politics, technology, psychology, drama, and public speaking. Recently there has been a move to broaden the curriculum for those students who do not intend to pursue tertiary studies (Kurian).

Instruction

Assessment

In most states and territories, schools have the responsibility for examinations and assessment of progress at all levels. The first formal qualification, the *school certificate*, is awarded on the basis of internal school examinations and teacher assessment at the end of compulsory schooling, usually the end of year ten. At this time, students have the option to enter the labor market, or continue their studies at a Technical and Further Education (TAFE) institution or private business college. Only after the last year (twelve) of senior secondary is an external examination required. This examination leads to the *higher school certificate*. Recently, Queensland and ACT have replaced this with an internal accredited examination. Successful completion of the higher school certificate is the basis for qualification for entry into the university or other tertiary institutions.

Organization

The most common type of upper secondary school in Australia is the co-educational, comprehensive school, although some states still have separate high schools which concentrate on technical, agricultural, or commercial subjects.

Partnerships with the Community

There has been a growing concern in Australia that a majority of young people leaving secondary school are entirely unprepared for the work place. The students attribute this to the failure of schools to give them an adequate understanding of work, how the economy is shaped, the various groups in their society, and their own ability to take on socially responsible roles.

In response to this concern, Cole (1989) illustrates three general types of work-oriented programs which have been introduced into secondary schools. The first type of programs are *achievement oriented*, which attempt to give students experience in making important, informed decisions, exercising responsibility, and becoming accountable for decisions. The second are *experience oriented*, which focus on giving students an early introduction to the work place. Finally, the third type of programs are *inquiry oriented*, which teach students to develop a critical view of the work place.

Achievement oriented programs attempt to provide the student with skills which are not normally encouraged in the standard classroom learning environment. Three innovative programs which fall into this category include *student-participation programs*, *mini-enterprises*, and *negotiated work experience*. The goals of *student-participation programs* are threefold: (a) To give students the chance to acquire and demonstrate the ability to act as participants with adults in the planning of activities or resolution of problems in both school and community environments; (b) to learn, as a group, the necessary skills of debating, negotiating, and decision-making; and (c) to connect both academic content and learning in order to initiate and plan a project which is human-service centered or addresses important social issues.

Examples of these projects, which are developed by the school and co-sponsored by an outside agency, include student-run restaurants and catering services, publishing projects, radio shows, theater groups, conferences and seminars, community volunteer work, and research projects for local community or business organizations. Projects must be done in groups (usually four to six students), and must be based on cooperation, including the establishment of group goals and decision making. A primary aim of the projects is to benefit others; therefore, a client group must be identified. The projects generally last from a few weeks to a maximum of one school year. Often a formal project contract is designed which identifies key tasks, its usefulness, and a timeline for completion of the project. Various techniques used to monitor the progress of students include the use of student journals, student management meetings, and client progress reports.

The goals of the *mini-enterprise programs* are to allow students to design, organize, and cooperate in a common enterprise, and to comprehend concepts associated with entrepreneurship skills. They attempt to give students the opportunity to manage others; to improve their self-confidence and problem solving abilities; to develop working relationships with adult advisors from industry; and to convince them that the establishment of a small business is a viable option for their future. The students take on the responsibility of choosing a product or service to market, investigating the economic potential of their venture, and raising funds to finance their business. Schools are careful to ensure that (a) students are aware of their goals and responsibilities within the project; (b) students establish clear decision-making and problem solving guidelines; (c) students

are active participants in every stage of the project; and (d) students have access to sufficient resources, expert advisors, and adequate facilities for their project.

The primary elements of *negotiated work experience programs* include planned visits and conversations prior to work placement; and negotiations, which include the student, teacher, and employer. The aim is to enable the student to gain experience in work negotiation, designing project proposals, collaborative decision making, and managing limited resources.

Experience-oriented programs strive to give students an early introduction to the world of work. This may take the form of a vocationally-oriented work experience in a selected career or a more general experience that addresses aspects of work that are common in most professions. Such a program gives the participant insight about what it is like to be an employee through a real or simulated work environment.

Vocational work experience is offered as part of the secondary school curriculum throughout most of Australia. It is designed to allow the participant to sample and test different professions. Findings show that students are satisfied with the program; however, some feel that the work is often menial and repetitive without room for individual decision making.

The *work simulation* project has developed as an alternative to the vocational work experience program in order to reduce the reliance on the outside community. It is a clear example of an attempt to bring a work situation into the classroom. Teachers establish simulated environments, within the classroom, which illustrate the roles, relationships and organizational approaches found in commerce and industry. Individuals from industry are employed as consultants in order to ensure that the simulations reflect the actual work-force situations. Cole (1989) asserts the such simulations are relatively easy to organize and can be repeated in various forms.

Inquiry-oriented programs focus on the social, moral, political, and economic questions associated with the work place. In a *research work experience* program, an entire class must identify and prioritize a number of work related topics which are worthy of further investigation. After such topics are identified, participants are given corresponding lessons, seminars, and readings. Additionally, they are expected to

undertake individual research projects. Thus, students are exposed to a good mixture of both academic and vocational issues. Inquiry-oriented programs also employ a *work shadowing* technique. This allows participants to observe an individual at work, as well as interview the person about work related issues. Cole argues that such a program is incorporated easily into the curriculum, research-based, and economical.

Current Reforms

Recently, the education-economy link has become an important focus area of curricular reform and educational administration in Australia. As a result, states have introduced careers education, work experience, and new subjects such as *Technology and The World of Work*. Many areas of the school system are undergoing reform and restructuring in order to: (a) clarify the links between school and work, (b) encompass a broader range of educational activities and outcomes, and (c) encourage student retention (Blackmore, 1990). The areas targeted for reform include assessment and credentialing, school organization, and system administration.

At both the state and federal levels, youth policy has become an electoral issue in Australia. A multitude of reports have been produced by government, business, and educational authorities that emphasize the need to make education relevant to the needs of the individual, as well as the economic needs of the nation. This is exemplified at the Technical and Further Education (TAFE) colleges, where pre-vocational, vocational, and apprenticeship training programs have been extended. Interestingly, within the TAFE programs, the emphasis is on *general transferable skills* training. The off-the-job component of training programs is broad based, emphasizes families of occupations, and includes social science and humanities education (Blackmore, 1990).

As Blackmore explains, the distinctions between training for work and educating for life have virtually disappeared. Education has become much more vocationalized at all levels. Educational objectives are not just informed by the world-of-work, it has actually come to dominate them.

Implications for School Design

- When discussing curricula, there has been a distinct shift away from an emphasis on innovation and personal development, toward issues such as school effectiveness, labor market structures, and outcomes of schooling.

- Education is thought of as the means to upgrade workforce productivity and, consequently, increase national productivity.

- The need to impart general, transferable skills (adaptable from one work setting to another), both social and technical, is of utmost importance and is currently being addressed.

Germany

Learner Outcomes

The aim of the German educational policy is to "provide each citizen with *high-quality* academic and vocational training commensurate with his/her abilities and interests and to continue to make opportunities for personal, occupational and political education available to him/her throughout his/her life" (Federal Republic of Germany, 1988).

The following are important considerations that have helped to shape German policy:

- Education must enable individuals to become socially responsible citizens by learning through education and experience the values of independence, solidarity, and responsibility.

- Schooling should equip individuals the attitudes, knowledge, and skills to live an independent and successful life.

- Attempts should be made to provide equality of opportunity for both men and women, handicapped and nonhandicapped, and both German and non-German.

- It is imperative to develop a well-trained and productive workforce that will ultimately lead to a high quality of life for both the individual and the nation as a whole.

- The provision and promotion of vocational training, which is seen as a prerequisite for successful participation in professional and social life, should be a priority.

- Encouragement of ongoing vocational education, given the rapid pace of technological change, is a necessity.

- Parents and educational institutions should work cooperatively for the benefit of both the individual and the school system.

- All attempts should be made to promote equal access and opportunity for women.

The basic principle is that every individual has the right to a quality education. Each state is obligated to provide the type of education that parents prefer, as well as the kind that promotes the development of competent, responsible citizens. Due to the autonomous nature of the German states, their aims differ slightly, but the differences are mainly in language rather than intent (Federal Republic of Germany).

Learning Process

The learning process (curriculum, instruction, and assessment) is better explained and understood in relationship to the German secondary system,. Due to the complexity of that system, the format has been altered slightly for this section in order to present a brief description of the system and the four tracks of general education. Within each of the four, the curriculum, for example, is selected to reach the aims of the each school organization..

Curriculum

The first level of secondary education is made up of four tracks of general education, which include:

Hauptschule (grades five or seven through nine or ten)

The lower level, general secondary school; referred to as the main school; approximately thirty percent of all thirteen-year-olds in the country attend this type of school until the end of the compulsory years of education. Graduates receive a certificate of completion known as the Abschlusszeugnis without taking a terminal examination. Upon graduation, most individuals proceed to a part-time vocational school and apprenticeship, which leads to a career in a specific trade (Rust, 1988). Various forms of continuing education are available to Hauptschule graduates if they should want to gain qualifications for entrance into higher education.

Realschule (grades five or seven through ten)

The middle school, which gives access to upper secondary school. Over twenty-six percent of all thirteen- year-olds attend a middle school. Like the Hauptschule, the Realschule offers general education; however, it offers a more advanced form of technical training. Graduates receive the *RealschulabschluB*, an intermediate school leaving certificate, which enables them to enter a variety of training programs in nonacademic occupations. Moreover, it qualifies them to attend a *Fachoberschule*, a specialized technical secondary school, which, in turn, gives access to an institution of higher education known as Fachhohschule, which offers practice-related courses of a scientific nature.

Gymnasium (grades five or seven through thirteen)

The nine-year academic secondary school, provides both lower and upper level secondary education and leads to the acquisition of the Abitur, the higher education entrance qualification. During the upper levels of Gymnasium, students are able to choose the fields they want from a combination of courses; however, three general fields of study must be represented equally among the courses they select. These include (a) language, literature and art; (b) the social sciences; and (c) mathematics, science and technology. Moreover, in the upper levels of Gymnasium, there are several different types of programs, including the *Gymnasien*, which provides a general technical education, and *Kollegschulen* second way, which prepares students academically for higher education.

Gesamtschule (grades five or seven through ten)

The comprehensive school, which combines the tracks noted above into one, and confers a leaving certificate, which is similar to the general secondary school. In the states of West Berlin and Hesse, comprehensive schools are well established; however, in others, they are still in a trial stage (Rust).

Instruction

Assessment

Students' performance is evaluated by the traditional numerical grading system ranging from 1 - very good, 2 - good, 3 - satisfactory, 4 - passing, 5 - not passing. Different states have variations to this scale, including written reports and conferences with

parents. If an individual fails, he/she is held back one year. A second failure may result in the student being transferred to the same grade in the main school or a vocational school.

Organization

Individuals are able to advance automatically from primary school to the main school or comprehensive school. However, entrance into the middle school or academic secondary school is subject to a selection process.

Gaining entrance into the academic secondary school requires participation in an extremely rigorous selection process. This process serves to eliminate a great number of individuals who later have the will and ability to proceed to higher education. Several programs have been designed to alleviate this problem, allowing access at several points in the individual's academic career (Rust). Moreover, schools which provide alternative programs for obtaining the Abitur, are available to individuals who wish to further their education. These schools are referred to as *second way schools*, the usual route through academic secondary schools being the *first route*. Such schools are exemplified by the Abendgymnasium, an academic secondary evening school, and the Kolleg, a university preparatory school for adults, which provides intensive, full-time courses for a period of two to three years (Rust,1988). Entrance requirements for such programs can be met though the completion of the middle school or certain vocational programs with a great deal of consideration given to work experience. Both programs are designed to lead to the Abitur examination.

Foreign Workers

With approximately five million (1987) foreigners living in Germany, the government has made special provisions for their children, who make up over nine percent of the student population. Such students have the same rights and responsibilities as German students and all attempts are made to integrate them into classrooms with German children. Foreign children receive five hours of instruction in their native language each week, in addition to the core curriculum. The language classes, taught by native speakers, also include the history, geography and religion of the student's country.

A special program has also been designed to assist those foreigners who wish to complete a form of vocational training and is specifically geared to address various

problems they may encounter in a new country. The goal of the program is to enable as many individuals as possible to successfully complete a vocational training program.

Partnerships with the Community

As Nothdurft (1989) explains, the provision of a smooth, systematic transition from school to work is one of the strengths of the German school system. There is a unique blend of government and private industry cooperation, generally referred to as the *dual system*, which facilitates the preparation of workers who are skilled in both the theory and practice of their trade. Such skills are acquired both on-the-job and in school and often supplemented by specialized courses offered at various training centers.

It is at the second level of secondary education that the dual system comes into play. Currently, over two-thirds of compulsory school graduates participate in the dual system, where they choose from over 480 different trades. Upon choosing a trade, at the age of sixteen, graduates must find an employer who is willing to accept them as an apprentice. At this point, the employer and apprentice enter into a contract, which stipulates the expectations and responsibilities of each, and what the apprentice will be paid (Nothdurft, 1989).

The average apprenticeship continues for three years. During this time, the individual spends approximately one day each week at a state-run vocational school, and the remaining four days working under the supervision of a *Master* or other qualified instructor. It is the school's responsibility to provide a uniform theoretical background for the skills students are learning, and to attempt to make up for variations in training from one company to another.

Schools in the Dual System

There are a great variety of vocational and technical schools from which individuals can choose. The five most common types of schools include:

Berufsschule

Berufsschule is a part-time vocational school and the most common form of vocational education. Over three-fourths of all students pursuing vocational education choose this route. It provides the compulsory part-time schooling with an apprenticeship in fields such as business, trade and industry, home economics, mining, and agriculture.

Courses taken in school, one or two days per week, focus on the theoretical background to the practical training received in the apprenticeship. The program usually lasts three years. Graduates receive a certificate known as *Abschlusszeugnis*, which is a prerequisite to the final apprenticeship examination given by industry. If this final examination is passed, the graduate becomes *Facharbieter*, or a skilled worker. Most graduates of this program enter the workforce directly (Rust).

Berufsfachschule

Berufstachschule is a full-time vocational school, which was designed as an alternative to part-time vocational school, yet still holds the same objectives. It accepts graduates from the main, middle, and comprehensive lower secondary schools, offering them full-time training without an apprenticeship. Commercial and hotel trades, childcare, and cosmetology are common areas of study for students in such schools. Most programs last for a period of one to three years, and leads to a certificate which qualifies graduates as *skilled workers.*

Berufsaufbauschule

Berufsaufbauschule is an extended vocational school which offers additional general and vocational education, both part-time and full-time, to individuals who need to fulfill requirements in a chosen field. It is designed as a intermediate institution between general academic and vocational schools. General studies such as mathematics, German, history, citizenship, and science are combined with vocational courses. Students who enter must complete at least six months in a part-time vocational high school or other institution. Students must pass a leaving examination, Abschlussprufung, which certifies them for positions in business and industry at a more advanced level than skilled worker.

Fachoberschule

Fachoberschule is a specialized secondary school, specifically designed for the graduates of the middle school, which provides additional general or vocational opportunities in higher technical schools and perhaps tertiary education. Many graduates of vocational programs are admitted at the twelfth grade level. Graduates receive Abschlusszeugris, a certificate of completion, which gives them access to institutions of specialized higher education.

Fachsule

Fachsule is a technical secondary school with the most advanced form of full-time vocational training. Only graduates of part-time vocational schools, or the equivalent, who have received additional practical experience are accepted into Fachsule. Most programs last from one to three years and focus on areas such as agriculture, business and administration, chemistry and technology, data processing, home economics, industry, social work, mining, and textiles. After passing a terminal examination, graduates receive the Abschlusszeugnis and are prepared to enter one of many occupations as skilled technicians. Due to the highly specific nature of the program, graduates do not have the proper qualifications needed to pursue higher education.

Staffing

Physical Facilities

Cost

Future Goals

- The improvement and intensification of vocational preparation in general education, as well as vocational training.

- The improvement of vocational training opportunities available to women, as well as the promotion of their participation in technical training programs in the area of science and industry.

- Increased attention on modern communication technologies in schools, vocational training, continuing education, and higher education.

- The fostering of environmental awareness and environmentally appropriate behavior in all areas of life: family, home, work, industry, and leisure.

- The expanding of continuing education in order to keep up with rapid technological, economic, and social change.

Implications for School Design

Nothdurft has noted several compelling aspects of the German systems:

- The dual system is deeply ingrained in both the culture and economy of Germany.
- Such a system emphasizes the skills that the emerging economy demands, (i.e., problem solving, adaptability).
- As international markets becomes more integrated, the importance of the workforce increases. German school credentials serve as *seals of quality* and guarantee dependable levels of competence to employers.
- In order to succeed in vocational training programs, basic levels of knowledge in reading, calculating (mathematics), and problem solving are imperative.
- Unions and employers both are committed to the belief that industry should lead in the design and financing of vocational training programs.
- Such shared responsibility between employer/union/government means that cooperation is crucial to success.
- Youth make an indirect investment in their own future. Youth trainees receive a small income, but must commit to three years of study and training.
- Streaming (separation according to performance levels) is a primary, yet problematic, feature of the public school system which can create educational, social, and economic burdens in later years.

France

Learner Outcomes

Defined in 1947 by the Langevin-Wallon Commission report, the aims of education in France emphasize equal chances in life for all, the satisfaction of workforce-needs for qualified human resources, and, as a priority, the development of the personality of each student. However, since that time a great majority of the resources allocated to education

has served to develop a system which meets the needs of the economy rather than promoting equal opportunity for all.

Learning Process

Curriculum

The Ministry of Education employs national commissions for curricular development. Because of the highly centralized and standardized design of education, only slight curricular variations are permitted at the local level. Inspectors regularly visit classrooms to ensure that the established guidelines are followed.

Instruction

Assessment

The examination system is controlled by the teachers in France and the first form of certification is given to students after the first cycle of secondary education, which corresponds with approximately nine years of schooling.

At the end of two years in the second cycle of secondary education, guidance counselors participate in commissions which assess individual students and decide whether they will go on to the third grade of general secondary school, or be placed in special pre-apprenticeship classes. Schools have different policies when it comes to assessment at this level. Some feel the differing systems of assessment leads to the inequality of opportunities between individuals (Eicher).

At the end of four years in the second cycle, students take an examination for their *Baccalaureat*, a diploma which certifies successful completion of secondary education and also allows students free access to universities in France. Approximately 30% of the total candidates fail to pass the exam.

Organization

Education in France is highly centralized. Most operations are controlled by the Ministry of Education at all levels. However, the control of agricultural high schools is allocated to the Ministry of Agriculture. Moreover, some vocational training is controlled by different companies, or institutions created by companies.

There are two distinct cycles of secondary education. Most students attend the first cycle, *Colleges d'Enseignement Secondaire* (CES), for four years until the age of sixteen. However, approximately thirty percent of the student population are allowed to attend pre-technical education courses after completing two years in CES. In the second cycle there are two streams from which students can choose their course of study. The majority of students pursue the *long stream*, which leads to the *Baccalaureat* and most likely to tertiary education. Students may attend a general high school (28 percent) or a vocational high school (.8 percent). This course of study has been accused of being highly abstract, and lacking in relevance to the labor market.

The *short stream*, in which thirty percent of the total student population enrolls, is highly technical and leads to a *Certificat d'Aptitude Professionnelle* (CAP). This course of study takes only two years and prepares the student for work in technical fields. Many feel that the short stream has been neglected by the Ministry of Education. Discouraged by many parents, students almost never choose this stream voluntarily. Consequently, achievement levels have been consistently low.

Partnerships with Community

Although access to higher education has increased in recent years, there are still striking inequalities due to the socioeconomic differences among students. In some disadvantaged communities, partnerships aid the school-to-work transition.

There are several types of technical and vocational training programs available to students who attend vocational high schools. Training is available in schools or at special centers which employ instructors from the business community. Such centers are still under the strict control of the Ministry of Education.

Students may pursue a *short* or *long* technical education at the secondary level. Within the short technical education option, students choose to complete a two year *vocational studies certificate* (BEP) or a two to three year *vocational training certificate* (CAP). The BEP offers sixty-one fields from which students can choose, and is considered a more versatile vocational training program. Many of the fields students choose are also offered at the tertiary level, therefore they have the option of pursuing further study.

The long technical education option provides three years of advanced technical education in specially designed technical high schools. Students study for a technicians certificate in one of fifty-eight fields. Less than ten percent of students who choose this route go on to tertiary education. The popularity of this option is declining, with many students opting for the technical baccalaureate instead.

In 1982, with the problems of youth unemployment rapidly increasing, the government designed an experimental system of *Mission Locales* or local task forces. The purpose for the creation of the task forces is to locate, assist, and follow up with individuals who are having trouble securing employment, and to improve the individual and community conditions of the participants (Nothdurft).

Each Mission Locale has become a single resource center for the distribution of a wide variety of educational as well as social and economic services. With the cooperation of approximately 75 agricultural firms and 124 commercial and industrial firms, individuals are given access to adult literacy programs, work experience, job training, health and welfare services, housing and transportation services, and various types of counseling. Recently, thirty eight of the Mission Locales have been included in an experimental program which will help identify a variety of new skills needed by individuals in the face of rapid technological change (Nothdurft).

Staffing

Secondary school teachers are recruited nationally through a competitive examination which is taken after four years at a university.

Physical Facilities

Cost

The cost of education to students in France is minimal; however, it increases with age. There is financial aid available for secondary schools in the form of tax reductions or scholarships.

The total expenditure in 1980 was 176.9 billion French francs, which is equivalent to 6.4 percent of the GNP. The bulk of this amount is financed by the central government.

Communities and households pay only a small percentage of the cost. As compared to other countries, the per student cost for schooling is relatively low in France.

Future Reforms

The primary criticism of secondary education in France has been the increased production of untrained, uncertified youth. Students graduate without being qualified for jobs, or able to adapt to the communications revolution, therefore many feel there is a pressing need for knowledge that is found outside the school system.

Implications for School Design

- France has been successful in designing innovative partnerships to aid disadvantaged communities with the school-to-work transition.

- Local community-based educational programs are preferable to national programs which are implemented from the top-down.

- The integration of social service programs (social, educational, and economic) at the local level has encouraged individual participation in education and strengthened community ties.

Japan

Learner Outcomes

The goals of education in Japan are stated in the Fundamental Law of Education, written in 1947, which highlights the role of education in fostering the full development of personality. It advocates the raising of individuals who respect truth and justice, individual values, and labor. Moreover, they should be instilled with a strong sense of responsibility, and be committed to the building of a peaceful nation and society.

Recently, these goals have been updated for modern Japanese youth who are citizens in a larger, global society, which is undergoing rapid progress in science and technology, as well as economic and social development. It is now recommended that the aims of education for the development of personality should attempt to "...help people acquire the abilities for a satisfactory and spontaneous life, for adapting to social reality, and for the creative solution to difficulties. The Japanese people, showing tolerance for the

values of others... should contribute to the peace of the world and to the welfare of mankind through the development of a distinct but universal culture" (Kanaya, 1988, p. 404).

Clearly, the emphasis of education in Japan is on the development of general knowledge rather than training for specific occupational skills. This emphasis is based on the assumption that young people should have the ability to flexibly cope with swift progress in science and technology and adapt to rapid changes in society. Education is seen as a key to economic development, national cohesion, international status, personal development, character building, and the creation and maintenance of personal relationships (White, M., 1987).

Learning Process

Curriculum

During the first year of upper secondary school, students throughout Japan take the same courses based on government prescribed curriculum and textbooks, which allows for some differences among schools. In the second and third years, however, students are able to choose from an array of elective courses, such as languages and technical or vocational subjects (Suzuki, 1990).

All schools adhere to the guidelines spelled out in the *Course of Study for Upper Secondary Schools*, issued by the Ministry of Education. There are several categories by which courses can be classified, according to the pattern of curriculum: general academic, technical, commercial, and domestic arts. As of 1988, fifty-one percent of the upper secondary schools offered general courses only, twenty-seven percent offered both general and vocational, and the remaining offered only vocational courses. Currently, over seventy-three percent of all students are enrolled in general courses.

The following three examples of upper secondary schools illustrate the diversity of programs available to the Japanese student:

Public Upper Secondary School

In the public upper secondary school school, all students in grade ten are required to take the fundamental subjects required by the government. In grade eleven, in addition to the required subjects, they are allowed to choose one elective from subjects such as

Japanese literary history, world history, physics, sports, and English. During the final year, students must decide on either an academic, scientific, or physical course of study. Additionally, students are expected to actively participate in extra curricular activities and clubs.

Tokyo Metropolitan Upper Secondary School:

The requirements in the Tokyo Metropolitan Upper Secondary School are similar to the previous example. However, in grades ten and eleven there is a strong focus placed on homeroom activities. This focus is aimed at fostering the importance of group cooperation. Moreover, a great deal of emphasis is given to individual needs through the provision of extra academic guidance, either after school or during vacations (Ishizaka, 1989).

Public Upper Secondary School for the Promotion of International Understanding

Currently, a key issue in Japanese education is the promotion of international understanding. A number of schools are starting programs which focus on this goal. The aims of this specific school are: (a) To instill in students an international awareness and to teach them to utilize this knowledge appropriately; (b) to educate students about the diversity of world cultures and values, while concurrently strengthening their knowledge of Japanese language and culture, and the ability to introduce Japanese industry and culture to the global community; and (c) to give students a holistic view of the international community so that they are able to go beyond national borders and actively work for the resolution of disputes and the preservation of peace.

Thus, increased global awareness provides students with the ability to build relationships internationally through mutual understanding. To achieve these goals and motivate students to learn, teachers provide a rich view of international cultures through school instruction and activities. Moreover, students are offered courses in German, French, and Chinese languages (Ishizaka).

The above examples illustrate the options available to the Japanese student. Although there are variations in curriculum, students are subject to a rigorous national core curriculum and all attend school for 240 days each year. It is due to these factors, plus strong family support, that some scholars feel Japanese students learn in twelve years what it takes an American student sixteen years to learn (Walberg, 1988). However, the

additional instruction outside of school, in *Juku*, should be taken into consideration when discussing Japanese student achievement.

Juku

The term Juku refers to a private after-school class that most Japanese children in secondary school attend to receive instruction in some major academic subject. As Mary White explains, the term generally refers to all extracurricular academic lessons. However, there are a variety of educational settings and goals.

The instructional settings range from small groups of students who gather in a teacher's home to large schools with hundreds of students. Moreover, the content of the courses range from remedial to very advanced. The aim may be to raise a child to a certain level in a particular subject, or to prepare for an important entrance examination to a prestigious university (White, M.).

Juku, now a very lucrative industry in Japan, also serves as a type of unregulated and unaccredited addition to the formal educational system. White argues that its success is a response to pressures which have arisen due to the "...discrepancies between the goals of individual families, the egalitarian ideology, and the structuring of the formal school system" (White, M.).

Instruction

Teachers in Japan see their role as *facilitator* rather than merely conveyers of factual information. They have traditionally viewed knowledge as something to be constructed by the students, not simply transmitted by the instructor. As Sato and McLaughlin (1982) point out, teachers attempt to pose challenging questions, allow sufficient time for contemplation, and try to use a variety of instructional techniques in order to respond to different learning styles among students. Thus, without tailoring instruction to each student, teachers are able to address individual differences in learning (Sato & McLaughlin).

Due to the nature of teaching in Japan, teachers delegate a great deal of classroom management to the students. Instead of spending time on discipline and management, they are able to guide interpersonal relationships in the classroom. Much emphasis is placed on mixed-ability groupings, whereby students participate in peer supervision, peer teaching,

and group learning. It is strongly believed that students can learn from the diversity within the group. Japanese teachers view whole-group lessons as important because they can teach students, not only about the subject matter, but also about social interaction and problem solving (Sato & McLaughlin). Classroom disruption is not regarded as the sole responsibility of the teacher. It is the students who share a mutual responsibility to control the level of disruption within the classroom (Sato & McLaughlin).

Assessment

Assessment in the Japanese upper secondary school is influenced by a cultural bias against making distinctions between students, and by the egalitarian focus of the influential Teachers Union. As a result, attempts are made to avoid tracking according to student ability, and special efforts are taken to bring individual students up to speed if they happen to fall behind (White, M.).

Therefore, achievement in upper secondary school is calculated on a credit system which is based on attendance rather than performance. One credit is equal to thirty-five class hours, and eighty credits must be completed by the student in order to graduate from upper secondary school. This system is more a measure of the degree to which a student has participated in a specific set of educational experiences, but does not reflect what the individual has actually gained from such experiences (Howarth, 1991). However, it does serve as a reflection of the individual's persistence and determination. Reward is based on effort rather than innate ability.

Student achievement in Japan is viewed as changeable. Each student is taught to value the achievement of the entire class, and thereby helping assure that classmates do not fall behind (U.S. GAO, 1990). Moreover, promotion as a group takes first priority (White, M.).

Organization

Because upper secondary school is not a part of the compulsory school system, students in Japan are required to take examinations in order to gain access to public high schools. Near the end of lower secondary school, Japanese students prepare for an examination that will determine which, if any, upper secondary school they will attend. There are generally fewer places available within each district than students who would like to enter. However, over ninety-four percent of compulsory school graduates continue their

studies (White, M.). Upper secondary schools, both public and private, are hierarchically ranked within each district. This unofficial ranking is based on the school's reputation, which is earned by sending students to the most prestigious universities in Japan. Therefore, the more graduates a school sends to Tokyo University, which is the most prestigious in the country, the higher the school's ranking.

Each student tries to get into the best school possible. Those who take the examination must select their first choice of schools. This selection is very important, because rarely do schools accept students who do not choose them first. Therefore, the student must make a selection based on realistic expectations that he or she actually has a chance to be accepted (Howarth).

The examinations focus on five subject areas: Japanese, English, mathematics, general science, and social studies. In the non-mathematical subjects, the examinations place a great deal of emphasis upon recall and make use of limited response and multiple choice questions.

Occasionally, students may apply to schools which require test scores slightly higher that what they can realistically achieve. Consequently, these students attend *chugakko-ronin* or *cram school* for a period of twelve months and repeat the examinations the following year (Howarth, 1991).

Partnerships with the Community

Approximately thirty percent of high school graduates continue on to a university, technical college, or junior college. Another twenty-eight percent attend private schools, which provide preparation for the college entry examinations, and roughly thirty-five percent proceed directly to the work force (U.S. GAO).

The transition from high school to tertiary education mirrors the student's experience from lower to upper secondary school. Again, there is a highly competitive entrance examination, which students spend much of their school time and leisure time preparing to take. Institutions are ranked according to prestige and students attempt to get into the best one possible. This is important because social status in adult life is directly linked to academic achievement. In other words, adults are judged by the level of education they achieve and which university they attend (Cogan, 1984).

The graduates who directly enter the work force are almost always hired on the basis of the schools' recommendations (U.S. GAO). At the start of each school year, the high schools, acting as representatives of the public employment service, choose and rank their graduating students for each of the job openings. The main criteria used for selection are grades and behavior (i.e., attendance). Following the interview process, the employers usually hire all or most of the nominees (U.S. GAO).

In most situations, employers prefer to hire an individual with highly developed general skills and take the responsibility for providing occupational training that best fits the company's needs. Approximately three-quarters of the companies in Japan provide training for their employees, both on- and off-the-job. Such training includes rotation reform of workers among assignments, group activities aimed at improving the firm's performance, and correspondence courses (U.S. GAO).

Staffing

Teachers in Japan are highly respected at both the individual and collective level. Individually, teachers have a great deal of confidence in their specialties. They take a holistic approach to the motivation of students. They not only teach specialized subjects, but also attend to the academic and personal problems of the students. On the average, seventeen hours a week is spent teaching; the rest of the time is committed to class preparation, committee meetings, counseling, and guidance (Cogan). Teachers usually spend an average of ten hours a day at school performing a wide variety of administrative, teaching, outreach, and counseling duties. Moreover, it is expected that they work more than the 240 days of school each year. Most teachers work on more than half of their sixty vacation days (Sato & McLaughlin).

Collectively, the powerful Teachers Union acts as the guardian of the egalitarian nature of the Japanese educational system. Because the school is regarded as a moral community and has very high expectations of its student body, it is left up to the teachers to exercise moral authority over the students, both in and outside of school. Therefore, a strong personal relationship usually develops between the teacher, the student, and the student's parents (Shimahara, 1985).

The respect that teachers are given in Japan is reflected in their status and salary. Their annual salary at entry-level, plus bonuses, is higher than any other civil servant position. Moreover, their salaries are equal to, or greater than, corresponding salaries in large companies (White, M.).

In addition to all their professional responsibilities, Japanese teachers do have families of their own. Women receive a one-year maternity leave, and can feel confident in returning to work because there is an excellent government-funded child care program (Sato & McLaughlin).

Physical Facilities

Most Japanese secondary schools are less than fifty years old. Many were built during the post-war period and are structurally similar to the American schools of the 1940s. Although they are not luxurious, they are comfortable and functional (White, M.).

Cost

Compulsory schooling is free of charge to Japanese students. However, this only lasts through lower secondary school. At the upper secondary level, school is not free, yet post-compulsory education is still in high demand.

Current Reforms

The Japanese are currently focusing on three main areas of reform, which include the promotion of lifelong learning, increased respect for individuality in education, and the development of an educational system that is open to change. Lifelong learning reforms will provide for increased vocational and out-of-school education. Included in this is promotion of the home and community as places of learning. Additionally, public use of upper secondary school facilities by the local community for places of learning outside of school will be encouraged.

Increased respect for individuality in education will be promoted through more flexibility and diversification of the curricula, an emphasis on moral education, and corresponding teacher training. Finally, Japan is hoping to develop an educational system which is more open to change. Through increased foreign language promotion it will attempt to confront the "internationalization" of society (Suzuki, p. 25).

Implications for School Design

- The Japanese student usually has a very clear idea of what he or she must know in order to achieve a specific result. During lower secondary school, mock examinations are widely available and taken several times before the real thing.

- Coherent standards have been established through a national curricula and approved textbooks. This ensures a uniform schooling for all.

- Upper secondary school entrance examinations are taken early, at age fourteen, which allows students to focus their studies as soon as they enter lower secondary school (Howarth). Such a competitive sorting process acts as an incentive system for high achievement.

- There is a concentration on *the basics*, though the development of the individual is viewed holistically without neglect of art, music, or physical education.

- Extremely high levels of performance are demanded of the students.

- Teachers develop a close personal relationship with the student and family. Moreover, they take an interest in the moral actions of the student both in and outside of the school.

- Teachers are given a great deal of respect in Japan and are rewarded financially through a salary and bonus system.

- Japan has recognized the need for internationally transferable skills, and is attempting to define such skills and design appropriate reforms.

Sweden

Learner Outcomes

The official goals of both compulsory and upper secondary education in Sweden are to equip individuals with knowledge and to develop their skills. This is done in order to ensure that the next generation of Swedish youth develop into "balanced individuals and competent, responsible members of society" (Fact Sheets on Sweden, 1989). The general

goals and guidelines of secondary education in Sweden places a great deal of emphasis upon future vocational activity and further education. Specific aims are dependent upon the different school branches which have been integrated into upper secondary education. Upper secondary combines the academic traditions of the *gymnasium*, which prepares students for tertiary studies; the trade and skills focus of the vocational schools, which prepares students for skilled crafts occupations; and professional training of the *fackskola*, which prepares students in commerce and other professions. Upper secondary education clearly attempts to prepare students for either further study or entrance into the labor market.

Learning Process

Curriculum

The upper secondary school offers approximately thirty different lines of study, with over one hundred specialized courses to choose from after the completion of compulsory schooling. The lines are either theoretical or practical in nature, and fall within six educational or occupational divisions. The six divisions include: a) languages, social sciences, and artistic pursuits; b) caring professions, social services, and consumer education; c) economics, commerce, and office work; d) industrial trades and crafts; e) technology and natural sciences; and f) agriculture, horticulture, and forestry. Each line has a unique goal and specific curriculum designed in order to ensure that the goal is met.

Although there are a variety of options, the centrally framed core curriculum of Swedish, English, mathematics, physical education, civics, line-specific coursework, and industry specific worklife experiences is maintained. The length of study varies between two to four years, depending on the course of study. After the completion of a two-year course, upper secondary school offers higher specialized courses, such as computer servicing or industrial electronics. However, the specialized courses are carefully regulated in order to avoid saturation of the labor market in specific fields.

Sweden is reviewing and attempting to simplify the current complex array of lines and courses. There will be increased uniformity in the curricular core of the first grade, and all lines will be changed to three-year programs. In addition to vocational theory and practice, the vocational lines will include more general theoretical subjects, such as foreign languages and mathematics. Moreover, the lines, which currently lead to tertiary study, will be integrated more closely with working life (Fact Sheets on Sweden, 1989).

Instruction

Assessment

There are no examinations in either compulsory or upper secondary school. Grades are given at the end of each term and parents are made aware of their child's progress and difficulties through an interview process. Grades are awarded on a five-point scale, five being the highest point given. Each number refers to the average national level of achievement in each subject.

At the end of upper secondary school, after a minimum two-year line of study, a leaving certificate is awarded, which confers general eligibility for tertiary education. Even two-year vocational programs provide eligibility for study at the university level. This opportunity has attracted good students, with high aspirations, and has increased the prestige of vocational programs (Husen). However, it is becoming increasingly more common to have three years of upper secondary school as a foundation for a university education.

Organization

Currently, over ninety percent of the students who complete compulsory schooling continue their education in upper secondary school. However, not all students begin upper secondary immediately. Many opt to enter the work force for a year to gain valuable occupational skills. Most students are accepted into their line of first choice. Among those who apply, sixteen and seventeen year-olds are given priority.

The other ten percent of sixteen-year-olds who do not continue on to upper secondary school are not forgotten in Sweden. Because they lack an adequate education, and the proper skills needed for employment, they are considered an "incomplete person" in Swedish society (Nothdurft). Therefore, the government has established a *Youth Guarantee* and has supported the design of several innovative special programs for these individuals.

Partnerships with the Community

Nothdurft explains that Sweden has made a strong commitment to its youth. Such a commitment has resulted in low dropout, unemployment, and illiteracy rates. There are many reasons for this success.

First, the government has an aggressive, national labor market policy which focuses on training and work experience. Second, it is clearly recognized in Sweden that post-compulsory education is necessary to successfully enter the labor market. In light of this, Sweden recently reformed the upper secondary school system to a more comprehensive system. This was done in order to respond to the need for higher skills and to encourage more students to continue their studies. Currently, over ninety percent of the compulsory school graduates choose to continue their studies. Finally, and most importantly, there is a deep, national consensus that education and work are the foundations of a good society.

Clearly, the dominant theme in Swedish education is the relationship between school and work. Although students learn these values at a very young age, the school to work transition becomes a focal point in upper secondary school. During the first and second year, students spend ten to twenty percent of their time in work settings. During the third year, however, the amount of time spent in work settings increases to sixty percent. After graduating from upper secondary school, approximately seventy-five percent enter the workforce and twenty-five percent pursue tertiary education.

The Youth Guarantee gives to local school authorities the responsibility of tracking and finding work and/or further education opportunities for every young person, ages sixteen to eighteen. The programs designed to achieve this goal include:

The Youth Center Program

The Youth Center program is designed to serve the disaffected and disadvantaged, with the understanding that not all individuals are able to make it in the standard public school system. The students are recruited under the national follow-up program or through word-of-mouth. Many of the participants may lack a sense of vision, self-confidence, or knowledge of alternative pathways. The Youth Center is a voluntary program where individuals are encouraged to (a) set their own goals, (b) test out different occupational areas, and (c) strengthen their basic skills. It is designed to recognize, value, and encourage diversity among individuals. The students have a variety of options to chose

from including vocational courses, on-the-job training, academic studies, apprenticeship training, youth craft workshop, and a youth training scheme. It is staffed by teachers, career counselors, social workers, and a nurse. Beyond being a place of learning, the Center also gives students access to health care, welfare, and public assistance. As incentive, students are paid a small stipend to attend the Youth Center Program. As a result, approximately one-third of the students return to school, one-third enter the labor market, ten percent register at an employment service in pursuit of work, twenty percent relocate, and a small percentage fail to succeed at the Center (Nothdurft).

Humlan

Humlan is designed to serve as an alternative for those who do not make it in the Youth Center Program. It is considered "intensive care for the emotionally disadvantaged" (Nothdurft p. 20). Individuals who enter the Humlan program have suffered severe emotional trauma such as abandonment, physical and/or sexual abuse, or drug addiction. Such trauma has led to learned helplessness which resulted in school failure. Established in 1985, Humlan offers a gentle, caring approach to education and work for alienated youth. The four basic services offered include basic academic skills development, work experience, intensive personal therapy, and family counseling. The forty students who attend are cared for by five social workers and two teachers. The program is extremely expensive; however, the government views it as a long term investment which will help deter later social costs (Nothdurft).

Grimas Farm

Grimas Farm is also designed to serve as an alternative to the Youth Center Program. It promotes the idea of learning by doing and gives students the opportunity to immediately apply their academic skills through intensive work on a farm. For one year, students work forty hours per week, doing hands-on, farm related chores. Ten additional hours a week are spent in the classroom learning basic academic skills. Additionally, individuals complete personal projects and take part in family and personal therapy sessions. The farm employs three teachers and admits no more than twelve students. The goal is to give the students the opportunity to build self-confidence through various farm experiences. It is hoped that increased self-esteem may give them the confidence to return to the school system (Nothdurft).

Staffing

Physical Facilities

Cost

Implications for School Design

In his book *Schoolworks* (1990), Nothdurft helps identify key characteristics of the Swedish system, which may be important to American educators:

- The Swedish people recognize that education must have practical links to the world outside of school. By bringing the world of work into the classroom, the transition from school to work can be smoothed out (p. 25).

- It is beneficial to have varied and flexible alternative programs which fit a diverse population.

- Schools can provide more than just an education. Through a holistic approach they can try to strengthen and develop the entire individual. Therefore, schools should be efficiently used to provide access to a wide variety of services to the disadvantaged (i.e., job service, work experience, health services, counseling).

- Schools should provide individuals the opportunity for self-empowerment — the chance to make personal choices for the future.

- Innovations should be tested and evaluated, but most importantly given adequate time to work.

Great Britain

Learner Outcomes

Recently, the education system in Britain has gone through drastic changes. Such reforms, which are a direct result of the Education Reform Act of 1988, have been implemented in order to raise standards and to focus on the needs of a rapidly changing technological society. Moreover, some feel the reforms have also been implemented in order to prevent the dilution of a British national identity (Chira, 1992).

The government, feeling that standards have eroded over the years, now believes young people should "...be given the opportunity to acquire skills and knowledge that are of a high standard and directly relevant to the needs of an advanced technological country competing in international markets, and educational institutions should be enabled to offer education of a quality and kind expected by students, parents, and employers" (Education Reform in Britain, 1989).

The main objectives of the government's policies include: (a) higher standards at all levels of ability, (b) increased parental choice of schools, (c) increased access to post-secondary institutions which should attempt to be more responsive to the needs of the economy, and (d) highest possible returns on educational investments.

There are several ways in which the government has sought to raise the levels of achievement. A national curriculum, which is broader and more balanced, has been designed in order to help students develop and maintain the qualities and skills needed in adult life. Schools have been asked to become more sensitive and responsive to the needs of a multi-cultural society. The public examination system has been redesigned to focus on performance-based assessment. Finally, teacher quality has been addressed through better selection and increased training (Education Reform in Britain). Moreover, special attention has been given to the improvement of vocational education and training for students in the fourteen to eighteen year-old age group, including recognizing the need for cooperation between schools and industry in the quest for needed work-place skills.

Learning Process

Curriculum

For the first time ever, Britain has introduced a standardized national curriculum. It had been, for many years, one of the few countries in Europe that allowed schools and teachers to determine the curricula (White, J., 1990). Such a reform has gained wide acceptance throughout the country as a route to higher standards and equal opportunity for all (Chira). The government views the new curriculum as an *entitlement* for all citizens.

The new curriculum, which includes nine foundation subjects, has been designed by experts in specific fields and subsequently reviewed and approved by government officials (Chira). The nine subjects, which students ages five to sixteen are required to

study, include English, mathematics, science, technology, geography, history, art, music, and physical education. The study of a foreign language, which is the tenth foundation subject, begins at age eleven. Moreover, religion is a statutory requirement for all ages in Britain (Maeroff, 1992).

Instruction

Assessment

In addition to curricular reform, Britain has correspondingly implemented changes in the way students are tested. The government is attempting to develop standardized assessment techniques that measure the growth of individuals in various subjects as they proceed through the curriculum. Current assessment procedures have moved away from standard multiple-choice examinations to performance based testing which, many argue, enables students to demonstrate their acquired knowledge and skills more thoroughly (Chira).

The core techniques used in performance based assessment includes portfolios, performances, exhibits, and essays (Maeroff). With a renewed interest in group learning and working cooperatively, many believe individualized, multiple choice tests are not as useful as performance based tests for the assessment of such skills. Moreover, it aids in the evaluation of reasoning abilities, which are becoming increasingly more valuable in the work place (Chira).

Organization

The government often uses the term entitlement in conjunction with the new national curriculum. This is meant to convey its commitment to equal access for all young people regardless of their background (Maeroff).

With the current reform has come an increased emphasis on school choice. Mandated attendance zones no longer exist in Britain, and students can go to schools outside of their immediate area as long as there is space available.

Traditionally, the public schools in Britain have come under the jurisdiction of Local Education Authorities (LEAs). However, there have been several changes in school governance over the past few years. Currently, every public school is locally managed.

Each school has a governing body and receives funding allocations from the LEA. Consequently, all decisions concerning expenditures are made at the building level (Maeroff).

Moreover, a new category of schools has been created by the reform act. Any publicly maintained school now has the option to become grant-maintained. In order to secure grant maintained status, a school must first receive the approval of the parents and, subsequently, the secretary of state. Grant maintained schools must agree to provide free education to students and adhere to the new national curricula. To ensure this agreement is not broken, such schools are subject to inspection by school authorities. Once the ties with the LEAs are broken, schools are maintained through a direct grant from the national government (Maeroff).

Most classes are arranged according to single age groups. Assignments are highly individualized, without emphasis on cooperative learning skills. Often students are organized into groups, yet work at their own pace. British teachers do not pressure students with deadlines or a mandated amount of work which should be completed each day (Maeroff).

Partnerships with the Community

Historically, compulsory education in Britain has had little relevance to the world of work. Nothdurft explains that, traditionally, the wealthy have sent their children to exclusive private schools, while the working class children have left school as early as possible (Nothdurft). Currently, the average school-leaving age in Britain is sixteen, and only sixteen percent of those who graduate go on to a university (Nothdurft). Schools are not required to provide job training; therefore, most school leavers either enter the job market directly or attend an occupational training program of some sort (Maeroff).

Currently, the national unemployment rate is approximately eight percent. Much of the blame, according to Nothdurft, is not so much focused on the quantity but the quality of the work force. Therefore, Britain has introduced various new programs aimed at the improvement of work-force competence (Nothdurft).

Approximately ten years ago the government started a training initiative with three primary aims: "to: (a) create opportunities for employed and unemployed adults to update,

expand, or strengthen their skills; (b) assure trainees certified standards of skill; and (c) encourage young people to pursue either further education or formal training until at least age eighteen" (Nothdurft p. 60).

Youth Training Scheme

Out of this initiative the *Youth Training Scheme* was developed, and has since grown at a rapid pace. It offers two years of training and work experience to sixteen and seventeen year-olds. The 450,000 students presently involved in the Youth Training Scheme are provided with roughly twenty-five weeks of both on- and off-the-job training, as well as planned work experience. Participation in the program leads to vocational qualifications which are recognized by industry in Britain. Moreover, trainees are provided with a small, non-taxed allowance. The primary benefit of such a program is the direct exposure of trainees to employers who choose to take part in the Youth Training Scheme (Nothdurft).

The success of such a program serves to reinforce the already held belief by employers that secondary school graduates are unprepared for the world of work. The Youth Training Scheme produces what employers need, individuals who are ready to enter the work force with the proper skills and knowledge (Nothdurft).

Technical and Vocational Education Initiative (TVEI)

In 1983, another pilot project, known as the *Technical and Vocational Education Initiative* (TVEI), was introduced by the government. The aim of the project was to increase "...the problem-solving skills, initiative, enterprise, and creativity of fourteen to eighteen year-olds" (Nothdurft, p. 61).

The purpose of TVEI is to provide students with educational experiences which foster a positive attitude towards commerce, industry and the community; improve their self-confidence, flexibility, and independence; relate academic education with the world of work through the use of work shadowing, work experience, and local projects; and encourage students to remain in school in order to achieve qualifications which are valuable to both themselves and potential employers (Nothdurft).

The Local Education Authorities who take part in the TVEI project are encouraged to be creative and experimental. Such freedom has allowed for the creation of regional

centers of expertise and extensive linkages with industry. Often, experts from industry are asked to act as curriculum or student advisors, or tutors.

Nothdurft describes one such TVEI project, located in a severely disadvantaged area of London, known as Newham Borough. The LEA decided to participate in TVEI in 1986, when it was faced with an unemployment rate of twenty percent (Nothdurft, p. 62). Through TVEI, Newham Borough has sought to: (a) design student-centered courses which have linkages to the outside-world; (b) ease the school-to-work transition for those in the program; (c) create a wider, more balanced curriculum; (d) provide girls with an equal opportunity; and (e) upgrade and build new technical facilities for schools (Nothdurft, 1989).

Currently, approximately two hundred and fifty students from four schools participate in the program. Each student must take core courses in academic, social, personal, and health areas. Additionally, they must choose two of four areas from the vocational/technical fields of study, including business and information technologies, graphic design, art, and technology sciences.

Since its implementation, TVEI has grown rapidly. Currently, most LEAs have a minimum of one TVEI project. By 1992, the TVEI program will be available in every British secondary school (Nothdurft).

Community School

Another that has attempted to aid in the school-to-work transition of British youths is the *Community School*. Traditionally used as a place for adult education, the Community School has been adapted to serve the needs of a society faced with high unemployment, a slow economy, and the need for new skills which would enable individuals to effectively compete in the workforce.

Currently, Community Schools, like secondary schools, serve students from the age of eleven to the age of eighteen. Many of the students continue after their compulsory schooling in order to learn new skills or to earn a higher grade diploma. These students share the facility with others who are participating in the YTS or TVEI projects, as well as with adults who may be enrolled in a special program.

Over half of the LEAs in Britain have a Community School, and some have quite a few within its boundaries. The Community School in Coventry, Nothdurft points out, is exceptional. Winning several national education and training awards, it is a model of community education. It offers programs such as: Adult Education, Open University, Women's Training Program, Sixth Form Courses for Adults, Job Training, Community Print Shop, Nursery/Daycare, Community Recreation Center, Youth Program, Gypsies Community Center Program, and a Health Clinic. Each week, approximately 6,000 adults participate in one or more programs at the Coventry Community School (Nothdurft).

Staffing

Physical Facilities

From his recent visit, Maeroff describes the surroundings of a typical British urban school as warm and comfortable. Many have cut flowers in the classrooms and gardens surrounding the building. Student work is displayed proudly on the walls and the classroom atmosphere is informal. Rarely are there feelings of hostility or tension; therefore, schools do not need to employ security personnel. Many believe this relative peacefulness of the school may be in jeopardy due to increasing levels of youth violence in Britain (Maeroff).

Cost

Current reforms have turned education into a virtual free-market for students. Because enrollments drive the allocation of resources by the government, a school's survival is dependent on its ability to attract a sufficient number of students. Many schools employ various public relations techniques in the quest to attract students. Moreover, it is not uncommon for schools to attempt to raise supplemental funding from private sources, some with the help of professional fundraisers (Maeroff).

Implications for School Design

Nothdurft points out some features of the British system which may be important to consider in the United States:

- Great Britain has recognized the need for performance-based assessment techniques which allow students to demonstrate acquired skills and knowledge more thoroughly.

- The implementation of a national, core curriculum may serve to increase standards and offer equal opportunity for all individuals.

- School should be considered an entitlement for all, rather than a privilege for a few.

- Community schools can offer a multitude of services for a diversity of individuals and groups.

- The school-industry linkage may serve to strengthen both the quality and relevance of education.

- The secondary school can best serve a community by being a multiple-use facility. By providing access to education, training, literacy, and health services, it empowers individuals of all ages, and thus the community as a whole.

Comparison of Important Themes in the Six Countries

The purpose of Table M.2 is to give a concise, across-the-board comparison of the most important points in each country section. Such information has been arranged according to the key words or key phrases that most accurately represent the main theme of each area of focus for each country. Due to space constraints, the data was selected according to what was considered most important in the literature. This was primarily determined by the recognition of recurring themes. Visually, the chart allows for uncomplicated country comparisons. Moreover, it clearly illuminates areas where information may be lacking for various reasons.

Insert Table M.2 about here

Analysis of Table M.2 Similarities

In terms of learner outcomes, the most common theme among the countries included in this paper is the need to satisfy the requirements of the work force. Although Japan, Sweden, and Great Britain do not state this need explicitly in their formal aims, its

significance is quite apparent in the literature. The desire to shape socially responsible citizens is an equally important focus in the literature. Such aims often go hand-in-hand. There is a solid belief in many industrialized countries that in order to be a socially responsible citizen, an individual must be an active participant in the labor market.

The notion of the development of the whole personality of the individual is also shared among nations. Such concerns illustrate the desire for education to fulfill wider ranging goals, including the satisfaction of workforce needs. Education is expected to "...prepare the individual to become a creative and participating citizen" (Husen, p. 31).

Another common focus area is the provision of equality of opportunity to all citizens. Although this is a significant concern among most countries, it seems to be a difficult goal to achieve. Recent reforms in Great Britain have referred to the newly implemented national curriculum as an *entitlement*. Such language clearly indicates the desire to provide equal opportunity for all citizens.

With regard to the learning process, a nationally prescribed core curriculum is a feature of most of the countries included in this report. With the exception of Australia, all have a core curriculum that is designed and implemented at the national level. Recently adopted by the United Kingdom, a common curriculum is assumed to provide a more equitable education to individuals. For example, the new national curriculum is frequently referred to as an entitlement. While France has rigid curricular guidelines, Germany, Japan, and Sweden offer a variety of optional fields for students to pursue. Subjects that focus on skill development and work-force training are increasingly being incorporated into the curriculum. Moreover, in conjunction with such subjects a re-emphasis on basic skills (i.e. reading and mathematics) is the topic of much discussion. Thus, most countries feel the need to offer a common core of subjects in order to provide everyone with the same educational base, while allowing enough freedom to pursue personal interests as well. Clearly, a centralized core curriculum offers a coherent map of what should be learned by each individual who participates in the secondary school system of that country.

Various assessment techniques are employed in the countries examined. In both Australia and Germany assessment is undertaken at the state level. Local school assessment is found in France in contrast to its rigid, centrally controlled curriculum. Critics of the French system charge that such random assessment techniques lead to

inequity in the secondary school system. Great Britain is currently attempting to implement performance-based assessment techniques, which allow for a more thorough evaluation of specific skills. Such assessment methods may be desirable, however the task is time consuming and still unrefined. Without proper training or financial rewards, teachers in Great Britain have been given the responsibility for implementing new methods for performance-based assessment. This had led to a great deal of frustration among teaching staff and could potentially hinder the reform process. Assessment in Japan is based on the degree of individual effort and participation, which could be considered an ongoing form of performance-based assessment.

Looking across the countries, it is impossible to find a dominant method or level (state, school, classroom) of assessment. However, there has recently been a call for the standardization of assessment techniques throughout the developed world and especially within the European community.

All the countries examined have various degrees of centralized management. Similar to the United States, Australia delegates a great amount of control to the individual states and territories. Great Britain has allowed local management of schools, but they must implement the new curriculum and follow national guidelines. Each secondary school, in conjunction with the community, has the option to be either public or grant maintained. Again, there is a delicate balance between central control and school/community decision making. Many countries seem to be striving for more of this balance. For example, France has relinquished some control to local communities with the implementation of Mission Locales, whereas Great Britain is attempting to do the opposite by centralizing school authority.

The transition from school-to-work is a common area of priority among the countries. What varies is the degree to which the school, industry, and the community share in the responsibility of preparing youth for the work place. Individuals are guided through this transition rather than being left to sink or swim. In the unique case of Sweden there is even a Youth Guarantee which charges local school authorities with the responsibility of those who may fall out of the system.

The staffing of schools is an issue which seems to be lacking in the literature. However, in two countries with highly regarded school systems, Japan and Germany,

teachers are clearly given a great amount of respect by students as well as community members. Moreover, this respect is reflected in the relatively high salaries which they receive.

Again, for the future most countries are attempting to identify needed skills for a rapidly changing, global society. Such skills are needed in order to meet workforce needs, which will in turn benefit the economic competitiveness of the country.

Conclusion

As seen in the case studies, there is a common belief in the linkage between a country's educational system and its economic prosperity. National governments look to education as the key to economic competitiveness and national cohesion. Youth are considered an important human resource and thus critical to the work force of the future.

A recurrent theme when looking at the present focus of *learner outcomes* in other industrialized countries is the call for a closer relationship between secondary schooling and the world of work. Much of this discussion is based on human capital theory, which assumes that those who invest in education will be rewarded appropriately in the labor market. In other words, the skills, competencies, and attitudes learned in school are transferable to the work place. Implicit in this view is the linear relationship between education, individual skills, labor-force participation, and national economic productivity.

France, Germany, and Great Britain explicitly state that one of the aims of education is to produce a well qualified and productive work force. Japan goes even further, praising education as the key to national cohesion, economic development, and international status. Although Australia does not explicitly state the importance of the school-to-work linkage, many of the current reforms have directly focused on schooling as a means to improve national productivity and upgrade work-force skills.

Currently, most nations, studied within the context of this paper, have recognized the need for students to be taught appropriate skills for an increasingly interdependent, highly technological, rapidly changing world. Such conditions will require more versatile workers who are able to improve their skills throughout their professional lives. However,

the language of skills is extremely generalized, and presents problems when trying to translate policy into practice.

When discussing skills there are two main areas of concern: (a) the acquisition of specialized technical skills, and (b) the need for an excellent foundation of general skills with which one can enter the work force. Although they are not mutually exclusive, the second of these two areas is most prevalent in the literature. With the rapid pace of technological innovation, individuals must be equipped with general skills in order to effectively respond to changes in technology. No longer can narrowly focused technical or vocational training answer the needs of the labor market.

As Husen notes, the classical industrial model of work organization has been a hierarchical one, where the employee performs a rigid set of work assignments under strict control and with minimal latitude for individual initiative. It is clear that this model is no longer viable in today's modern society with an increasingly well-educated work force.

Consequently, modifications in curricula must be designed to supply a future-oriented vocational education. The traditional objective of providing a narrow range of skills and knowledge must be expanded to fit a wider range of scenarios, both in and out of the work place. Husen contends that:

> The central capacity that an individual in modern society needs to possess is the ability to learn - and re-learn. The ability to acquire knowledge on one's own is essential in a society where the majority of employees are forced to take further courses in order to keep up and to enhance their qualifications. (p. 38)

Moreover, in the primarily service and information based economies, the ability to read and write and communicate with others is of critical importance. Equally important, with the advent of sophisticated technologies, is that schools encourage critical thinking skills as well as the ability to solve problems, both individually and as a group (Husen).

Based on current literature regarding the new work environment, Levin and Rumberger (1989) have suggested a new set of worker competencies. Such competencies may be helpful when attempting to identify the ill-defined general skills mentioned above. According to the authors, the following skills should be cultivated in the schools, because they are mandatory for the workforce of the future:

1. Initiative: the motivation and creative ability to think and act independently.

2. Cooperation: productive, goal-directed interaction with others.

3. Peer training: coaching, advising, and training of peers, both formally and informally.

4. Evaluation: assessment and appraisal of a certain product or service.

5. Communication: correct use of verbal, written, and physical communication as well as proper listening, reading comprehension, and interpretive skills.

6. Reasoning: use of both inductive and deductive approaches to the evaluation and formation of logical arguments.

7. Problem-solving: identification of problems, generation of alternative solutions and their ramifications, selection of solution and subsequent implementation.

8. Decision-making: application of problem-solving skills on a continuous basis.

9. Obtaining and using information: Selecting relevant information, knowing where and how to secure it, and utilizing it appropriately.

10. Planning: establishment of goals as well as the prioritizing of activities.

11. Learning skills: cognitive and flexible skills that assist in the acquisition of new knowledge as needed.

12. Multicultural skills: understanding of different languages, communication styles, and values in order to successfully interact with persons from other cultures.

In Australia, the need for the acquisition of such skills has been addressed through the implementation of the work-oriented programs in secondary schools. Rather than training students in narrow occupational areas, the programs stress the acquisition of skills

such as individual and collaborative decision-making, accountability for decisions, exercising responsibility, goal setting, negotiation, cooperation, organization, problem solving, and critical analysis. Moreover, Australia's Technical and Further Education (TAFE) colleges, while providing specific vocational and apprenticeship programs, have increasingly emphasized the need for general transferable skills training through a broad based curriculum which includes the social sciences and humanities.

In Great Britain the need for general skills, with relevance to the world of work, has been addressed through the implementation of the Technical and Vocational Education Initiative (TVEI). The aims of TVEI are to increase the problem solving skills, initiative, enterprise, and creativity of fourteen to eighteen year-olds involved in the program. Furthermore, the improvement of self confidence, flexibility, independence, and fostering a positive attitude are all aims of the program.

In Japan, the focus on the development of general knowledge and skills has been based on the assumption that young people should be able to adapt to rapid changes in society, and have the ability to flexibly cope with swift advances in science and technology. Recently, the goals of education were updated to include the need for skills that will enable citizens to adapt to changing social realities and aid in the creative solution to difficulties. Interestingly, Japan has recognized a need for, and is now attempting to define, internationally transferable skills. This could be attributed to the fact that countries are becoming increasingly interdependent, both economically and culturally, as well as politically. A clear manifestation of this phenomenon can be seen in the European integration (Papadopoulos, 1991).

As Nothdurft emphasizes, the European Community (EC) has taken the challenge of generating a skilled and competitive workforce extremely seriously. This is particularly apparent in its commitment to youth employment and skill development. In addition to the efforts made by individual nations, the EC has implemented several EC-wide Action Programs. Such programs include: (a) a program that addresses the school-to-work transition and focuses on school-industry partnerships; (b) a program to upgrade the standards of vocational training and guarantee that it leads to recognized qualifications for the participants; and (c) a coinciding program that will upgrade the quality and relevance of compulsory education programs. While such nations continue to compete with one

another, they are also working cooperatively, and investing substantial sums of money in order to elevate skill levels throughout the EC (Nothdurft).

Thus, as Nothdurft illustrates, workforce needs in Europe are being met through community-specific programs, universal nationwide programs, and Europe-wide programs. Although there are considerable cultural differences among the EC nations, they are united when confronting the urgent need to reform education and training programs in order to elevate the quality and competitiveness of their future workforce.

By examining the experiences of other nations, Nothdurft has outlined what he considers to be appropriate guiding principles that should inform policy in the United States. They include:

1. For the individual, work is a fundamental defining element in life for which there is no substitute. It contributes to the national economy and builds personal self-respect. Having recognized that public welfare systems are not viable alternatives, many European countries have invested tremendous sums of money to ensure that young school-leavers are capable of securing work, and upgrading their skills when needed.

2. Smooth school-to-work transitions are based on work-relevant education and work-related experience. In Sweden, such experience may begin as young as primary school and continue through secondary. In Europe as well as Australia, this transitionary period is at the focus of educational reforms.

3. Universally recognized and accepted skill credentials should be one goal of education. Nothdurft argues that much needed *portable skills* (p. 89) will be mandatory in the workforce of the future. Similarly, Japan has recognized the need for internationally transferable skills, which will be recognized beyond its own borders.

4. Partnerships and private-sector involvement, at both the policymaking and operational levels, are imperative in the quest to create a competent workforce. Group collaboration is a more successful way to forge solutions and create innovative programs.

5. Local innovation and development is critical to the success and sustainability of a program. The role of national government should be limited to the implementation of broad policies which have been generated cooperatively by government, labor, and industry.

6. Education and training beyond compulsory schooling is necessary to produce work-ready individuals. In most European countries, there are distinct routes to skills and economic opportunity for those students who leave compulsory school, yet do not enter the university. Such opportunity is exemplified by the German Dual system, the Swedish three-year post-compulsory upper secondary school, and the British Youth Training Scheme.

Implications for School Design in the United States

In addition to Nothdurft's recommendations, there are numerous suggestions, extracted from the descriptive review of the six countries, that may be applicable in the design of a comprehensive high school in the United States. The following suggestions may just offer food-for-thought or perhaps guide further research:

- It is imperative that youth are given a clearly defined route to either meaningful employment or further education. In most of the countries examined, individuals are informed about the various options available to them and subsequently guided through the system.

- Education must have relevance to the world beyond the classroom. Students want to know that their personal time and energy will be rewarded both intrinsically and extrinsically. Such views are echoed on a worldwide scale. If there is not a meaningful reward, individuals will not participate in education. Moreover, parents will refuse to offer support or financial investment if they do not see it as beneficial for the individual and family unit.

- The responsibility for the school-to-work transition should be shared by the national and state government, industry, schools, and the local community.

- By working in a collaborative manner, relevant programs and sustainable solutions can be successfully designed and implemented.

- Offering a variety of work-oriented programs, such as in Australia, may better accommodate a diverse population of students.

- Although much of the current literature focuses on skills, it is important not to forget the basics. In other words, technical and skill training should not be a replacement for studies in social and natural sciences, or fine arts and humanities. As in Japan, a holistic education for the student should be emphasized without the neglect of fine arts or physical education.

- Group participation and cooperative learning are important aspects of the Japanese school system that may be useful in the United States. The ability to communicate and work well with others is a necessary skill for the modern work place. Moreover, the ramifications of placing less emphasis on the individual and more on group cooperation may serve to encourage learning and strengthen bonds among students. Additionally, such a learning style may be more compatible with the cultural traditions of many minority groups within the United States.

- Effort and participation should be rewarded rather than ability. Tracking can be more harmful to the individual than helpful. Peer training could be utilized to bring slower students up to speed.

- The role of the teacher should go beyond the classroom. Developing a closer, more personal relationship with the student and the family may encourage learning and participation.

- Teachers should be sufficiently rewarded both financially and professionally. The role of the teacher is continuously expanding and becoming increasingly more demanding; therefore, some form of reward system should be implemented to discourage burn-out.

- The design of assessment techniques which are more performance-based would be beneficial in the evaluation of general skills needed in today's workforce. The

student, or group of students, should be able to demonstrate skills such as problem-solving, cooperation, evaluation, reasoning, and decision-making.

- Members of the community and industry should be encouraged to utilize their expertise in the school. With the extra burdens being placed on teachers, such assistance should be welcomed. Such individuals can be a motivating force for students as both teachers and role models.

- The school can provide more than just an education. Other services could include job service, work experience programs, housing services, health services, and various types of counseling.

- In an increasingly multi-cultural society, the school should play a role in facilitating cross-cultural understanding.

References

Blackmore, J. (1990). The text and context of vocationalism: issues in a post-compulsory curriculum in Australia since 1970. *Journal of Curriculum Studies* 22 (2), 177-192.

Chira, S. (1992). A national curriculum: Fairness in uniformity? *The New York Times, CXLI*, (48, 839), January 8, 1992, 1 & 9.

Cogan, J. J. (1984). Should the U.S. mimic Japanese education? Let's look before we leap. *Phi Delta Kappan*, 463-468.

Cole, P. (1989). Work-oriented programmes at the secondary level in Australia. *Prospects, XIX*(1), 83-92.

Education reform in Britain. (1989). London: Reference Services, Central Office of Information, No. 301189

Fact sheets on Sweden: Primary and secondary education. (1989). Stockholm: The Swedish Institute, classification: FS39sEm

Federal Republic of Germany: The educational system. (1988). Bonn: Press and Information Office of the Federal Government.

Howarth, M. (1991). *Britain's educational reform: A comparison with Japan.* London: Routledge.

Husen, T. (1990). *Education and the Global Concern.* Oxford: Pergamon Press.

Ishizaka, K. (1989). *School education in Japan.* Tokyo: International Society for Educational Information.

Kanaya, T. (1989). Japan. *International Encyclopedia of Education.* New York: Pergamon, 403-408.

Kantrowitz, B., & Wingert, P. (1991, Dec. 2). The best schools in the world. *Newsweek*, 54-55.

Kurian, G. T. (1988). Australia. *World Education Encyclopedia*. New York: Facts on File, 69-93.

Levin, H. M., & Rumberger, R. W. (1989). Education, work and employment in developed countries: situation and future challenges. *Prospects*, *XIX*(2), 205-224.

Maeroff, G. I. (1992). Focusing on urban education in Britain. *Phi Delta Kappan*, January, 353-358.

Nothdurft, W. E. (1989). *SchoolWorks: Reinventing public schools to create the workforce of the future*. Washington, DC: The Brookings Institution.

Rust, V. D. (1988). Sweden. *World Education Encyclopedia*. New York: Facts on File, 1171-1182.

Papadopoulos, G. S. (1991). An educational agenda for the '90's. *The OECD Observer*, Feb./March, 36-39.

Sato, N., & McLaughlin, M. W. (1992). Context matters: Teaching in Japan and the United States. *Phi Delta Kappan*, January, 359-366.

Shimahara, N. K. (1985). Japanese education and its implications for U.S. education. *Phi Delta Kappan*, February, 418-421.

Suzuki, I. (1990). Educational reform in Japan: Towards the twenty-first century. *Prospects*, *XX*(1), 21-27.

The educational system in the Federal Republic of Germany. (1982). Bonn: Foreign Office of the Federal Republic of Germany.

U.S. General Accounting Office. (May 1990). *Training strategies: Preparing noncollege youth for employment in the U.S. and foreign countries*. GAO/HRD-90-88.

Walberg, H. (1988). Science, mathematics and national welfare: Retrospective and prospective achievement. *International Journal of Educational Research, 14*, 353-361.

White, J. (1990). Educational reform in Britain: Beyond the national curriculum. *International Review of Education, 36*(2), 131-143.

White, M. (1987). *The Japanese educational challenge: A commitment to children*. New York: The Free Press.

Bibliography

Bondi, L. (1991). .Choice and diversity in school education: Comparing developments in the United Kingdom and the USA. *Comparative Education*, 27 (2), 125-134.

Booth, C. (1989). United Kingdom. *World education encyclopedia.* New York: Facts on File, 691-697.

Bottani, N. & Delfau, I. (1990). The search for international educational indicators. *The OECD Observer*, Feb/March, 14-18.

Campbell, C. P., & Richardson, W. E. (1989). Vocational training and full employment: the core of Swedish economic policy. *International Education Journal*, 5-15.

Cantor, L. (1989). *Vocational education and training in the developed world: A comparative study.* London: Routledge.

Cheney, L. V. (1991). *National tests: What other countries expect their students to know.* Washington, DC: National Endowment for the Humanities.

Course of study for upper secondary schools in Japan. (1983). Government of Japan: Ministry of Education, Science and Culture, No.163.

Cummins, B. R. (1990). *Australia.* Canberra: Australian Government Publishing Service.

Cummings, W. K. (1982). The egalitarian transformation of postwar Japanese education. Comparative Education Review, 26(1), 16-35.

Dore, R. P., & Sako, M. (1989). *How the Japanese learn to work.* London: Routledge.

Education and work: The views of the young. (1983). Paris: Organization for Economic Co-operation and Development.

Fact sheets on Sweden: General facts on Sweden. (1990). Stockholm: The Swedish Institute, classification: FS99uNc.

Facts about Japan. (1991). Tokyo: The International Society for Educational Information, Code No. 05501-1289.

Fagerlind, I., & Saha L. J. (1989). *Education and national development: A comparative perspective*. Oxford: Pergamon.

Fiddy, R. (Ed.). (1985). *Youth, unemployment, and training: A collection of national perspectives*. London: Falmer.

Furth, D. (1988). School and beyond. *The OECD Observer*. Oct./Nov., 12-14.

Hess, R. D., & Azuma, H. (1991). Cultural support for schooling: Contrasts between Japan and the United States. *Educational Researcher*, December, 2-8.

Ichikawa, S. (1989). Japanese education in American eyes: A response to William K. Cummings. *Comparative Education*, 25(3), 303-307.

Istance, D. (1990). What changes for education? *The OECD Observer*, Feb./March, 39-42.

Istance, D. (1988). Policies for quality in schooling. *The OECD Observer*, Oct./Nov., 15-17.

Kobayashi, V. N. (1988). Japan. World Education Encyclopedia. New York: Facts on File, 696-714.

Male, G. A. (1988). United Kingdom. *World Education Encyclopedia.* New York: Facts on File, 1321-1343.

Malkova, Z. A. (1989). The quality of mass education. *Prospects*, *XIX*(1), 35-37.

Marklund, S. (1989). Sweden. *International Encyclopedia of Education.* New York: Pergamon, 630-637.

Marshall, R. (1991, Dec. 2). Prescribing a realistic cure for the epidemic of innumeracy. *Newsweek*, 54-55.

McCormick, K. (1989). Towards a lifelong learning society? The reform of continuing vocational education and training in Japan. *Comparative Education*, *25*(2), 133-149.

McKenzie, P. (1989). Australia. *International Encyclopedia of Education*, New York: Pergamon, 106-113.

Pathways for learning. (1989). Paris: Organization for Economic Co-operation and Development.

Ra ki, A., & Fisher, A. (1990). Life in a restructured school. *Educational Leadership*, January, 46-51.

Papadopoulos, G. S. (1988). Education: The search for a new consensus. *The OECD Observer*, Oct./Nov., 4-8.

Takeuchi, Y. (1991). Myth and reality in the Japanese educational selection system. *Comparative Education*, *27*(1), 101-112.

Waldrop, T. (1991, Dec. 2). They are engineered like no other student in the world. *Newsweek*, 61-62.

Watanabe, A. M. (1989). Vocational guidance in Japan. *Prospects*, *XIX*(1), 57-63.

Williams, C. G., & Hornsby, H. H. (1989). Vocationalism in U.S. and U.K. high schools. *Economics of Education Review*, *8*(1), 37-47.

Wurzburg, G. K. (1988). Education, economy and political will. *The OECD Observer*, Oct./Nov., 9-11.

Appendix
Procedures and Sources Used in the Collection of Data

The methodology section of this paper will be relatively detailed in anticipation of subsequent research to be done on the subject. We will attempt to draw a map of the procedures and sources used in the gathering of data for this report.

The first step in undertaking a paper such as this is defining a purpose statement and designing a relevant outline. The focus question of the paper is: What can we learn from the designs of high schools in other countries in order to inform future designs of comprehensive high schools in the United States?

Once the purpose of the paper was defined, the selection of the countries and appropriate criteria for investigation was determined. As stated above, a range of industrialized countries were selected which illustrated a diverse cross-section of school systems. The countries selected include Australia, the Federal Republic of Germany, France, Japan, Sweden, and the United Kingdom.

The focus of investigation within the secondary school system of each country includes learner outcomes; learning process (curriculum, instruction, assessment); organization; partnerships with the community; staffing; physical facilities; and cost.

The object was to gather as much information as possible about each area of focus, within each country, in order to adequately respond to the guiding question. However, it became apparent during the research process that some areas would be neglected, due to an insufficient amount of available information and time limitations of the project.

After defining the guiding question, the countries, and the areas of focus, it was necessary to select key words and terms which would correspond to the subject indexes of the preliminary sources used for this paper. The most helpful key words, used in conjunction with a specific country name, included:

access	educational reform
assessment	high school
curriculum	instruction

educational change	secondary school
educational innovation	standards

To aid in the identification of key words or terms, the Educational Resources Information Center (ERIC) has published the *Thesaurus of ERIC Descriptors*, which is available in the reference section of most educational libraries.

In order to locate the primary sources of relevant educational research, including articles and other documents, preliminary sources such as *Resources in Education* (RIE), *Education Index* and *Current Index to Journals in Education* (CIJE) were used. Organized by subject, such preliminary sources give the author, title, and place of publication of various articles in education.

Resources in Education reviews `report literature,' including speeches, reports, and documents related to education, which are not available in journals. Although much of the information was compelling, it was often difficult to obtain, especially documents relating to other countries.

The most helpful preliminary source was *Current Index to Journals in Education*, which is published monthly as part of the Educational Resources Information Center (ERIC) system. It gives a thorough coverage of educational periodicals and journals, and includes many foreign publications. Although it is not as detailed as RIE, it provides abstracts of articles from over 780 national and international publications.

Education Index is a monthly index which covers periodicals, yearbooks, and monographs in education. Although articles from over 300 periodicals are indexed, it only includes bibliographic data. For this reason, CIJE was much more helpful.

In addition to the manual indexes listed above, the *ERIC database* for computerized searching of the literature was extremely useful. The key benefits of conducting a computer search for this project included: the relative speed with which resources were identified; the provision of a printout which contained either descriptors and bibliographic information, or the complete citation; and the ability to conduct simultaneous searching of descriptors.

Through the use of preliminary sources, primary and secondary sources of information were identified. The most useful primary sources, usually journals, in the field of comparative education include: *Comparative Education*, *Comparative Education Review*, *International Education Journal*, *International Review of Education*, *Prospects*, *Journal of Curriculum Studies*, *Phi Delta Kappan*, and the *International Yearbook of Education*.

The books, or secondary sources, that were used were identified through the Libraries of the University of Minnesota Integrated Network Access (LUMINA) system. LUMINA is an automated system which enhances and extends access to the University Libraries collections. It includes a public access, on-line catalog that provides access to over two million records by author, title, subject, and keyword. The keywords listed above were also used with the LUMINA system.

In addition to the sources mentioned above, information regarding the secondary school system in each country investigated was requested (via telephone) of each country's embassy in New York. With little delay, a significant amount of valuable material was sent by the embassies.

Although all of the above steps were taken, at times it was useful to browse through the most recent education journals in search of valuable material. Although time consuming, this process can lead to the discovery of information which may have been hidden by the limiting use of key words.

The abundance of information available on certain aspects of secondary education in the world is overwhelming. Learner outcomes, curriculum, assessment, and organization are all well represented in the literature. The areas which were more difficult to uncover include staffing, cost, and physical facilities. Consequently, there are many gaps in this paper which may need further investigation in the future. There is no doubt that an entire paper could be written on each area of focus included in this report, and perhaps a more detailed inquiry on specific areas (i.e. curriculum, performance-based assessment) would be an advisable next step.

Table M.1
Descriptive Information About the Six Countries

	Australia	Germany	France	Japan	Sweden	Great Britain
Population (1985)	15.5 million	61.39 million	55.09 million	120.62 million	8.34 million	56.02 million
Language of Instruction	English	German	French	Japanese	Swedish	English
Literacy Rate	98.5%	99%	99%	99%	99%	99%
Academic Year	January - December	August - July	September - June	April - March	August - June	October - July
School Days Per Year		210		240		
Duration of Schooling	7+3+2	7+3+3	5+4+3	6+3+3	6+3+3	4+4+4
Compulsory Schooling	10 years (ages 6-16)	9 years (ages 6-15)	10 years (ages 6-16)	9 years (ages 7-16)	9 years (ages7-16)	11 years (ages 5-16)
Teacher: Student Ratio			25:1			15:1

Table M.2
Main Themes of Secondary Education Reform in Six Countries

FOCUS	COUNTRY					
	Australia	Germany	France	Japan	Sweden	Great Britain
Learner Outcomes	• Development of potential in individual • Satisfaction of workforce needs	• Socially responsibleresponsible citizens • Equality of opportunity • Well trained, productive work force • Independence	• Equality of opportunity • Satisfaction of workforce needs • Full development of personality	• Full develop-ment of personality • Responsibility • Respect • Flexibility	• Socially responsible citizens • Balanced individuals • Skill development for entering work force	• Quality skills and knowledge • Adaptability • Reasoning abilities
Learning Process (Curriculum, Instruction, Assessment)	• New emphasis: basic skills; continuity of curriculum; expansion of subjects • State assessment	• Three core fields, plus options • State assessment • Numerical grading (1-5) • Written reports, conferences	• National curriculum • Assessment by commissions • Differing assessment among schools	• National curriculum & texts (some flexibility) • Juku • Credit system • Reward for effort & participation	• Centrally framed core curriculum • 30+ lines of study • Numerical grading (1-5) • No exams/ parent conference	• New national curriculum = entitlement • 9 foundation subjects + religion and foreign language • Performance-based assessment
Organization	• Coeducational/ comprehensive • Decentralized	• Dual system • Vocational and Academic • Rigorous selection to academic secondary	• Comprehensive • Highly centralized	• Centralized • Competitive exam for secondary school • Unofficial ranking of schools	• Centralized • Secondary school application	• Centralized curriculum • Local management • Public or grant maintained • Emphasis on school choice
Partnerships with Community	• Work-oriented programs: achievement, experience and inquiry	• Strength of system = smooth transition from school to work • Government and industry cooperation • Apprenticeship	• Short or Long technical education programs • Technical education = last resort • Mission Locales		• Youth Guarantee: ensures job or school for 16-18 year-olds • Work exper-ience is focal point in upper secondary	• Youth Training Scheme = training + work experience = vocational qualifications • Tech. & voc. ed. initiative = industry + community

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Table 2 continued

FOCUS	Australia	Germany	France	Japan	Sweden	Great Britain
Staffing	• Members of community and industry employed in work-oriented programs	• Well respected • High salary • Tenure	• National recruitment • Competitive exam	• Well respected • Moral guide • Powerful union • High salary		
Physical Facilities				• Simple, functional		• Peaceful, comfortable, no security needs
Cost		• Shared by industry, labor, and schools	• Minimal cost, financial aid available	• Free compulsory schooling • Fee for upper secondary school	• Sizeable investment by central government	• Free market competition for enrollments • Professional fund raisers employed
Future Focus	• Transition to work — linkages	• Environmental awareness education • Women in science and industry	• Training for work • Educational linkages to work	• Lifelong learning • Individuality • Flexibility • Global view		• Refining assessment techniques for performance-based assessment

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