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DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By
Omer Cevat Alkan, B.S., M.S.

The Ohio State University

1969

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This is original copy with very light type. Filmed as received.

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CHAPTER I
INTRODUCTION

Assertion

The complexity of modern life and the expanding new intellectual technology make it imperative that each particular problem be studied in terms of its relation to the total setting under consideration. The implication of this for education is that the basic educational model, "man-knowledge-society" continuum, must be considered in its general perspective for the adequate study of any single educational problem.

The revolutionary developments and the fluxionary character of the time are creating new and challenging problems for education calling for better and more education for all and new programs based on new assumptions. Today's educational system with its great complexity and diversity of tasks is coming more and more under the pressure of the demand for equality of opportunity, the appeal for excellence, and the need for better use of human resources in the development of the individual as well as for the social and economic welfare of a nation.

Achievement of these objectives is a high undertaking and requires change in the educational policies and practices. The implication of these conceptual changes for vocational education is the re-orientation according to these challenging frontiers. In fact,
new aspirations and expectations of modern man, rapid social change, and increasing occupational mobility make this adaptation imperative for vocational education. Today there is an increasing realization that:

1. One of the main sources of wealth and strength of a country is the effective utilization of its human and material resources. Vocational education is one of the fundamental means of accomplishing this goal.

2. A skilled labor force is one of the pre-requisites for a satisfactory economic development of a nation.

3. The utilization of a variety of programs is necessary in the field of vocational education, because of the variation of individual abilities and needs, the complex nature of occupational life, and the different educational requirements of each occupation.

4. The traditional types of vocational education programs, old apprenticeship and all-day programs are becoming inadequate under the influences of changing occupational structures.

5. Limitation of full-time day programs of vocational education in terms of cost and capacity to produce needed new workers with an adequate level of skill require the application of some other types of programs.

6. There is a need for continuous modification of vocational education programs under the influence of steadily changing occupational structures, new advances in the world of work and changing needs of economic life.
Under these circumstances it becomes imperative for a vocational education system to re-evaluate its theoretical basis, re-organize its structure, modify its programs and develop new methods and processes. Failure to do so means unemployment, social disorder, retardation, poverty and frustration among youth as well as among adults. Vocational education must, therefore, orient itself continuously according to the challenging frontiers of the time.

The Problem

The revolutionary and fluxionary nature of the times have serious consequences in the life of nations, especially those which are in the process of rapid modernization and progress.

Turkey is one of those countries with a national commitment to create a planned democratic society based on a mixed economic system, and is facing a series of social, economic and educational problems.

The rapid change in social structure, high rate of population increase, primitive living conditions of great masses, low rate of literacy, lack of skilled manpower, ever-increasing unemployment of unskilled labor, and the low rate of productivity are among the most typical factors impeding rapid development.

Increasing the national product and the standards of living as established in the 15-year development plan depends upon the intelligent use and the effective concentration of resources in industry, and raising the efficiency in agriculture which presents a special challenge to the vocational education program.
One of the crucial problems is the change in structure of employment and the shortage of skilled labor. As Table 1 indicates, preparation of technical personnel at all levels must be tripled during the period of 1968-1982 with a particularly higher rate of increase at the technician level.

Table 1

Demand for Manpower During 1968-1982

<table>
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<tr>
<th>Occupations</th>
<th>1967</th>
<th>1982</th>
<th>Ratio of Increase</th>
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<tr>
<td>Engineer</td>
<td>25.5</td>
<td>94.8</td>
<td>3</td>
</tr>
<tr>
<td>Technician</td>
<td>42.6</td>
<td>261.4</td>
<td>6</td>
</tr>
<tr>
<td>Agriculture and Forestry</td>
<td>13.6</td>
<td>43.0</td>
<td>3</td>
</tr>
<tr>
<td>Craftsman</td>
<td>1387.0</td>
<td>4129.7</td>
<td>3</td>
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*Numbers in thousands.


In the Development Plan priority is given to raising the educational level of the society and the training of large numbers of technical personnel and skilled laborers to meet the present shortages. For this purpose it is recommended that:

1. The training of human resources as a prime source for development be given priority.
2. The target at the secondary level be to train required manpower in terms of quantity and quality.

3. Necessary measures be taken and curriculum be prepared in various schools to conform to modern technological standards and to conditions of the country.¹

It is estimated that if the required expansion cannot be realized by 1972, there will be a shortage of 16,000 engineers, 34,000 technicians, 7,000 agriculture personnel, and 520,000 craftsmen. The fact is that the present formal educational system is not able to meet these needs imposed by rapid economic and social change, especially at the craftsman level. The present educational system is inadequate both in size and in distribution of educational opportunities.

There is urgent need for a thorough exploration of every possible means to achieve an optimum return on educational investment, and of alternative means to provide education by the use of less critical resources.

Together with the high proportion of the population in the 7-22 age group, the commitment to rapid development, the efforts to realize universal-technical education in terms of providing required skilled manpower are all creating a heavy burden on the country’s educational resources.

In spite of these facts, the existing educational system is suffering from the strict hierarchy of central administration, lack of financial resources, unequal distribution of schools with a concentration

on urban centers, lack of mobility, and above all, a traditional split between vocational and academic education. One of the serious consequences of these shortcomings is leaving 90 percent of the 13-22 year age group outside the school with no preparation for any kind of employment whatsoever.

A Proposal

Under these circumstances, it becomes imperative to search for more and better ways of making vocational education programs more effective and productive to meet the present challenges. Therefore, creation of a new design is necessary to supplement the prevailing programs in meeting the emerging demands of industry. Furthermore, such a new design must be based on the following criteria:

1. The first consideration in the design must be to make use of the existing capacity of the educational system more intensively and more productively.

2. Since the chief obstacle to economic growth lies in the lack of middle level technicians and skilled craftsmen and workers, special emphasis must be given to a mass education producing a large supply of manpower below the managerial and professional level.

3. A balanced distribution of educational opportunities throughout the country with a special emphasis on manpower requirements and the needs of out-of-school youth must be the fundamental objectives of the design.

4. Exploration and the utilization of new channels of education within industry, government organizations, and business enterprises must be considered.
5. Establishing links between vocational, technical, and professional education; and between education and industry must be given consideration in every stage of the design—planning, organization, operation, and development.

6. Creation of additional resources which will, directly or indirectly, relieve the financial pressure on the central budget, must be taken into consideration.

7. Possibilities of establishing regional production units in connection with vocational schools and primary regional schools, establishing youth organizations, and undertaking some social services through these organizations should be taken into consideration in order to create employment opportunities for youth who otherwise could not secure a job.

In summing up, among many others there is a crucial three-part problem: (1) the emergence of serious skilled manpower needs, (2) the educational need of youth leaving school with little or no preparation for work, and (3) the modification of existing educational programs to meet the emerging needs and the realities of the country.

The problem lies at the middle of a continuum which has developing Turkish society on the one hand, and the vocational technical education on the other. The purpose of this study is to search for a functional program supplemental to present trade and industrial education programs which will meet at least part of the need for training skilled labor for industry and provide a new channel of educational opportunity for those youth who are not being served by the existing educational programs.
The thesis of this study is that a kind of cooperative vocational education program geared to the particular needs and the requirements of the country would be one of the best solutions to the problem. Since the Turkish government is in the second stage of her 15-year development plan, the time seems ripe for the inauguration of this new type of program.

Thus, along with various re-organizational activities of the Ministry of Education, this study is attempting to plan and formulate the basic principles of a cooperative vocational education program for industrial occupations in Turkey. The guiding purpose of the program will be:

1. To provide an opportunity for the youth who have not been served by the prevailing system,
2. To meet the skilled labor requirements demanded by industry,
3. To reduce the financial burden of the national government,
4. To establish cooperation between industry and vocational education,
5. To break the academic-vocational dualism inherent in the prevailing system,
6. To accelerate the on-going shift from an agricultural to industrial setting, and
7. To bring flexibility to the existing educational system.

The Method

The special nature of the problem requires an analysis of the existing contextual setting of the society as it is related to vocational education in general and trade and industrial education in particular;
examination of the cooperative vocational education programs; studying the ideas, attitudes and the reactions of the individuals and the groups involved in the problem.

Thus, in recognition of this fact, a four-stage approach has been employed in attacking the problem, namely:

1. Diagnostic stage,
2. Study of the related literature and research works,
3. Field study—a survey of a selected population,
4. Program development stage.

At the first stage of the study, the State Development Plans, research projects, existing educational system, the youth under consideration, and industry's manpower requirements have been studied for the purpose of gathering data and making a diagnosis about the character, scope and various other aspects of the problem and the existing conditions of the contextual setting of the society.

At the second stage the related literature concerning the various aspects of cooperative trade and industrial education programs in different settings have been studied.

At the third stage, by the use of the survey method, an attempt has been made to explore the potentiality of the community. The survey has been conducted in six typical industrial communities of Turkey. The population surveyed was randomly selected—educators, employers, the youth under consideration, and parents.

Finally, at the fourth stage, on the basis of the studies made at the previous stages, a proposed model has been designed as a basis for developing cooperative trade and industrial education programs in
Turkey. From the results, composite conclusions have been drawn and projections have been made for further elaboration of the problem.

The Sources of Data

The main sources of data that have been utilized in the study can be classified under four major headings:

1. Documents concerning Turkey in both English and Turkish,
2. Related literature on cooperative vocational education,
3. Literature concerning the cooperative vocational education schemes in selected countries, and
4. A survey of selected Turkish population.

A considerable number of documents about Turkey, specifically related to the study, in both English and Turkish languages, have been obtained from the State Planning and Development Bureau, the Ministry of Education, and other national and international agencies, as well as from libraries.

For the second group of sources an extensive number of publications covering the period starting from 1900 up to the present time were reviewed.

Related UNESCO documents, comparative education studies, and other national and international publications have been the main source of obtaining data for the cooperative vocational education scheme in selected countries.

By the use of the questionnaire method, a selected population in Turkey was surveyed and data concerning the need, applicability, possible obstacles to be encountered and the general nature of the cooperative vocational education program have been secured.
All these publications available to the author and the data secured through the survey have been carefully examined, interpreted, and evaluated. Collectively, they represent the basic sources of data in the development of this study.
CHAPTER II
TURKEY AS A DEVELOPING COUNTRY

Introduction

An attempt is being made in the following pages to develop an insight into the general nature of the major problems of the Turkish society which have relevancy to the development of educational programs.

State Development Programs

In order to base the Turkish reforms on a firm foundation, the Republican Government has initiated a series of programs. An industrialized and planned economy, effective utilization of the resources and their full mobilization have been among the major goals of the government during the total transitional period from traditional Islamic structure to a modern democratic setting. As the various studies, early experiences, and the recent developments indicate, the main strategy of the Kemalist reforms has been to secure a balanced economy by developing both agricultural and industrial sectors.

As first, the new republic tried to secure economic independence in its first ten years by encouraging the development of private capitalism. For this purpose, new national economic policies were set forth by the Economic Congress in Izmir in 1923, which were to be
carried out by private Turkish capital. However, in spite of continuous state support to private enterprises under the law for "The Encouragement of Industry" passed in 1927, and in spite of some expansions, private capital was not able to undertake the desired industrialization of Turkey.

Thus, at the end of this first ten-year experimental period from 1923 to 1933, the government entered the second phase of economic development by adopting the policy of statism. First, a five-year plan (1933-38), and secondly, a four-year plan (1939-43) was launched. The first was directed toward the establishment of industries to produce consumer and capital goods, and toward equipping the country with certain basic industries, while the second was directed to the establishment of heavy industry, expansion of the consumption goods industries, exploitation of the mining resources and improvement of communications. The first plan was completed successfully, but the second was affected profoundly by the Second World War.

In general, the tendency toward the development of the economy through the socialistic enterprise has been developed up to the third period, namely, the period of economic liberalization, between 1950 and 1960. The criticism of the strict state controls by the Grand National Assembly deputies and private entrepreneurs as a result of the war-time restrictions, the post war inflation, and the starting of American Aid Program in 1947—all paved the way for the liberalization of statist policies of the Republic People's Party in 1949. The government appointed a special commission of the Istanbul Merchants Association to develop a means of encouraging private enterprise, and
urged acceptance of the law for the "Encouragement of Foreign Capital Investment."

Thus, during this period (1950-60), which was the Democratic Party administration, private initiative was encouraged systematically. However, in spite of the shift in emphasis, the state enterprises continued to exist. Although some substantial progress was made, in general, poor planning, predominance of political considerations, and continuous inflation, in spite of economic stabilization efforts, ended with the Democratic Party's overthrow by the military in 1960.

Following the May 27 revolution in 1960, the new social and economic policy has been formulated by the Provisional Government of Turkey and the Committee of National Unity. Today the new constitution stresses social reforms and favors a mixed economic system. Thus, since the establishment of the second Turkish Republic in October, 1961, Turkey has entered a new planned development period. The new constitution calls for the establishment of a state planning organization to guide developments in the economic, social and cultural fields.

Presently, the government is in the process of implementing a 15-year development plan including three five-year stages starting from 1963. The plan requires 7 percent of economic growth and 18 percent investment of the GNP (Gross National Product), the greater share being financed from internal resources. The first five-year plan, 1963-67, has been completed with considerable success, and the second five-year plan is in progress.
Development Efforts in Education

The quest for modernity through the Atatürk reforms in the Turkish Republic required the creation of a new and comprehensive educational system compatible with the changing social and economic structure of the country. For the accomplishment of this national task, a number of projects, studies and experiments were initiated from the very beginning of the republic era up to the present time through the utilization of domestic and foreign resources in terms of both material and human skill.

Among those which are noteworthy are: I.E.C. (Izmir Economic Congress); ideas developed by some Turkish educators; studies and recommendations of foreign advisers; village institute experiment; projects carried out through the cooperation of foreign organizations and agencies; a study carried out by the Turkish National Commission on Education in 1959; the Conference on Vocational-Technical Education initiated by TOOBD (the National Association of the Vocational-Technical Teachers), and the activities and the recommendations of the Turkish National Advisory Council on Vocational-Technical Education. All these activities are important in terms of either their influence on shaping the present educational system or their contribution in clarifying the problems in the field of education.

Early in 1923, the I.E.C. indicated the necessity of cooperative planning in education, industry and agriculture and the liberation of education from its traditional bonds.¹

Ziya Gokalp, in the frontier of modernization, was the intellectual formulator of the main trends of the Republic—modernism, democracy, political and economic national independence and secularism. He was the first to articulate a systematic theory of education and to emphasize the interrelation of economy and education. Baltacioglu, a leading educator after Gokalp, who published his ideas in "The Society School," urged systematically the establishment of a functional educational system centered around the real needs of the Turkish youth and the requirements of the country. In this respect he states:

Since a function* personality can only be formed in a realistic atmosphere of work and activity, the first aim of national education must be to create and use real working conditions. Unless the school programs focused on the practical training for careers needed in the Republic, they were doomed to failure...The unreal conditions of artificial classroom situations and theory in books is no substitute for reality.2

On the other hand, Mustafa Kemal Ataturk, the founder of the Republic and the head of the country, continuously emphasized the importance of education and encouraged the coordination between education, industry and agriculture. One of his speeches given in 1924 declares:

It is important that the education of our boys and girls at all levels be practical. The youth of this country must be trained at every educational level to be successful and productive in the economy.3

In one of his other speeches in 1937, regarding the task of education, Ataturk says:

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2Ibid., p. 62
We should educate the technical manpower which our struggle for national development requires; and we must create the educational institutions capable of producing individuals who can grasp the essence of our problems, who can explain them and who can carry it from generation to generation.¹

Besides this domestic effort of educational leadership in the process of building a modern educational system, attempts have been made to secure the opinions of some distinguished educational authorities on an international scale. For this purpose American educator John Dewey, Professor Kuhne (upon the recommendation of Kersensteiner), and Omer Buyse were invited to Turkey for study and recommendation. In addition, a group of American experts who were invited to Turkey for a study concerning the economic development in 1933, emphasized the importance of the interrelation between educational and economic development. Study of the related literature indicates that the main emphasis of all these studies was centered around:

1. Attack on illiteracy,
2. Teacher education, and
3. Expansion and improvement of vocational-technical education.

One of the important points was the agreement among the experts in stressing the relationship between education, agriculture, and industry. Another point was their emphasis on the importance of practical education. Above all, the recommendations concerning the importance of formulating the desired system by Turkish educators was realistic and stimulating.

¹Ibid., p. 204.
While these reports offered many valuable suggestions and were partially applied, they could not provide the basis for any consistent national education system. According to Basgoz and Wilson, the reason for this was that the suggestions appeared at a moment when the energies and resources of the new republic were absorbed in other tasks.

Furthermore, the authors observed that:

The Turkish and foreign experts...had little success. The strength of the reform movement was dissipated, the leaders seeing education only in part rather than as a cultural whole. The educational problems of the emerging society were caught in the cross currents of a period of cultural transition.5

One of the other experiments was the establishment of the "Village Institute," for the development of rural communities, and fostering economic development of the country through the rising living standards and productivity of Turkish peasants. The movement lasted a decade from 1940 to 1950, and the institutes were closed due to social, political, and administrative reasons. It was an attempt to train village teachers, technical leaders and advisers for rural communities. It was a practical and functional educational approach combining theory and practice, and geared to the economic conditions of the country.

Special emphasis has been given to international cooperation in order to further expand the resources available for development. A number of projects have been carried out through the technical assistance programs of AID (Agency for International Development), which began in 1952. AVA-AID (American Vocational Association and AID)

5Tbid., p. 73.
joint project in vocational-technical education field constitutes some of the most recent examples in this respect. M.R.P. (Mediterranean Regional Project) is another typical example of international activity aimed at providing a plan for educational development. The project was initiated through bilateral agreement between OECD (Organization for Economic Cooperation and Development) and the participating countries. The expenditures involved were shared. The results of these studies have considerable influence on government thinking as well as on the attitudes of educators. They have been motivating factors in the establishment of educational strategies of the second five-year plan.

As the M.R.P. studies reveal, the main issues are related to the structure, resource, and administration according to the state plan. It is further recommended that:

It would be futile to increase the magnitude of the educational efforts without radically changing those features in the content and structure of education which are not consistent with the requirements of a modern economy. Changes are necessary in order to provide scientific and technical personnel...particularly middle level technicians and craftsmen. This will require corresponding changes in the curriculum in the early stages of secondary education with a greater emphasis on technical and applied subjects.6

Concerning the type of education suitable to the country's condition, it has been observed that:

...much education of the kind needed...could and should be conducted outside the framework of formal education in the form of apprenticeship courses, or on-the-job training, and short specialized courses for secondary school learners.7

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7Ibid., p. 20.
Moreover, along with these activities the establishment of the Turkish National Commission on Education is another example of the developmental efforts in the field. The commission was composed of ten Turkish educators together with one French and one American consultant. The commission prepared a report based on its study of educational systems in Turkey as well as in various selected countries. The conclusion was that "the schools are not able to prepare youth adequately for life" and education is not functional in terms of the social, economic and cultural requirements of the country. Some of the main recommendations of the commission were (1) revision of the programs and teaching methods, (2) comprehensive school arrangements in small communities, and (3) provision for development of talents in either the fine arts or mechanics and handicrafts.

Finally, the most recent movement has been the Conference on Vocational-Technical Education, initiated by TOOBD in April 8-9, 1967. The main purpose was to clarify and discuss the problems and the issues of the vocational-technical education system of the country and to develop some recommendations for further elaboration and implementation. The conference resulted in the establishment of a National Advisory Council on Vocational-Technical Education. A series of publications, representing the Council's early activities, appeared shortly after it was established.


9Ibid., p. 150.
The present major problems and their possible solutions in the field of vocational education as they were presented in these publications are: (1) need for creating new financial resources, (2) re-organization of general administrative structure, (3) organization of the programs according to industry's needs, (4) inclusion of practical subjects into the primary and secondary school programs, (5) development of cooperation between industry and schools, (6) establishment of compulsory part-time programs for out-of-school youth, (7) development of systematic on-the-job training programs, (8) training coordinators, and (9) development of systematic placement and cooperation policies and procedures.

Social Structure

Turkish society is still in a process of transition from an Islamic heritage to a modern nation. Drastic changes have taken place since the establishment of the Turkish Republic. Through the Kemalist reforms, the social climate has been changed considerably; and adjustment to the changing conditions has become a vital concern of the Turkish people.

Turkey has been essentially an agrarian society with the majority of her people (almost 80 percent) living in rural areas. The social structure is presently composed of two main classes, the educated modern small elite, and the traditionalist peasantry. Although originally there was a great gap between the two groups, it is gradually disappearing with the formation of middle class transitionalists in urban cities.
There is no major class distinction. The society is essentially an open class society, and there is considerable mobility upward in the social stratification. Traditionally, every man who has the ability has been able to reach a high position no matter what his origin was. The social stratification is based mainly on education, occupation, and income rather than other factors.

Paternalistic family structure is paramount. The rural Turk is a Moslem with puritanical attitudes. The modern Turk combines the characteristics of both his rural brother and the modern Westerner. The entrepreneurial classes were growing slowly after 1929 but more rapidly since 1950. Although originally there was no proletariat in Turkey, presently, along with the industrialization process, there is a growing proletariat.

The fundamental tensions of the present society are stemming mainly from the different backgrounds of young and old generations, and from the educational gap between the average rural and urban labor and the modern elite. Since 1950 the power has been shifting increasingly from the small intellectual group to the people, especially to peasantry because of its great numbers.

Although it is generally recognized that the peasant is the basic element of the society in terms of political, cultural, and economic formation, these persons are still too poor, own too little land and are illiterate. Unless the standards of this fundamental root of society are lifted to a level compatible with human dignity, unless the peasants gain social justice and economic independence, a healthy and stable growth of the society cannot be expected.
Economic Structure

According to a recent census, Turkey has a population of 32 million which is growing at an average annual rate of three percent. In 1960, thirteen million persons over fifteen were economically active. The average per capita income is over $250. Agriculture plays a dominant role by constituting 80 percent of the exports and by employing over 75 percent of the labor force, and accounting for 41 percent of the 1961 GNP. In 1965, total imports amounted to $572 million and exports to $459 million. Figures for 1966 indicate improvement in the balance of trade.

Industry is in the development stage and produces primarily for internal consumption behind the protection of high tariff barriers. Industry accounted for 23 percent of the 1965 GNP and employed only 12 percent of the labor force. Service sector accounted for the remaining 36 percent of GNP and employed 13 percent of the labor force. As a result of statist policy, in 1957, more than half of the 28,000 industrial plants were government owned. In addition, some products which have national importance are under government monopoly. Tourism is recently a growing industry. The private sector has been growing rapidly also in recent years. In 1965 there were 20,461 small industrial premises and 192,242 arts and crafts establishments in operation.10

The main agricultural crops are: cotton, tobacco, sugar beets, wheat, nuts, and fruits. The rapidly growing industries have been sugar, textiles, paper and pulp, iron and steel, cement, fertilizer, and

consumer goods. Copper, chrome, boracite, iron, coal and petroleum are among the important mineral resources.

Although there has been steady development in industry, lack of capital, limited resources, and the primitive agricultural setting have created grave difficulties. Many of the industrial plants are very small or are medium-sized family enterprises under the control of "owner-manager."

This traditional pattern inhibits the development of capitalistic enterprise.

Because of the inefficient management, organizational problems, lack of coordination, outmoded production methods, and poor marketing procedures, productivity is relatively low in both industry and agriculture. All these situations create a special challenge for vocational educators in training skilled manpower, require effective application of the state development plan, call for the exploration of new resources, and demand development of efficient administrative and technical personnel. When these requirements have been met systematically, gradual advance and a satisfactory economic growth can be anticipated in the Turkish economy.

Educational System

Education in Turkey has always been considered a subject of great importance. Universal free education is the first educational commitment of the Turkish government. The target is to base the society on a literate, informed, and skilled population.

11 Kazamias, op. cit., p. 251.
Education is considered a process of developing the whole individual, mentally, physically, and emotionally. It is considered a means of developing social consciousness, personal abilities, and economic proficiency. The theoretical foundation of Turkish education aims at developing an idealist personality, and awareness and appreciation of Turkish national culture within the universal cultural context.

The principal objectives for the implementation of the educational policies of the country are formulated by the State Planning Agency. The major objectives to be accomplished immediately are: (1) train the manpower necessary for economic development, and (2) provide basic education for all to overcome illiteracy. Furthermore, the present educational policies of the country require:

1. Provision for educational opportunities for all school-age children within the next fifteen years, 1963-1978,

2. Direct participation in educational expenditures by the people,

3. Development of a functional relationship between school and life,

4. Closing the educational gap between rural and urban areas,

5. Reorganization of school programs with an emphasis on providing a more functional and practical curriculum to integrate general and vocational education in order to prepare the pupil for active participation in social and economic activities at every level of education, and

6. Provision for vertical and horizontal transition within the educational system.\(^\text{13}\)

\(^{12}\text{Kalkinma Planı, op. cit., p. 163.}\)

\(^{13}\text{Tbid., pp. 158-159.}\)
The present educational system of the country generally comprises three levels as primary, secondary, and higher education and is organized and administered by the Ministry of Education. It is based on five years of compulsory primary education. Secondary schools show 3, 3-2, 3-3, and, more recently in the case of technical schools, 3-4 year patterns. The 3-3 year pattern is the most common. Higher educational institutions vary from two to six years in length.

The primary education is for the 7-12 age group; and the objective is the development of basic educational skills and the understanding of the social and physical environment. The four main types of primary schools are (1) village school, (2) city school, (3) regional school, and (4) mobile school.

Secondary schools are divided into two cycles. The first cycle is primarily preparation for the second cycle and involves the 13-15 age group. The second cycle is the starting point of specialization and represents a dualistic structure having primarily two groups of schools, (1) academic high schools, "Lise," and (2) vocational-technical schools. The major aim in the first case is preparation for higher learning while in the second it is preparation for employment.

Institutions of higher learning include universities, advanced schools, and colleges. Almost all universities are public institutions and autonomous bodies. Colleges and advanced schools are mostly operated by the Ministry of Education.

In 1967-68, 4.6 million children were enrolled in primary schools, 630 thousand in junior high schools, 165 thousand in senior high schools, 151 thousand in vocational, and 104 thousand in higher learning.
In the 1963-64 school year, primary school enrollments were 74 percent of the school age population, junior high school 17.6 percent, senior high school 9.4 percent, and university 3.4 percent.\textsuperscript{14}

The present educational system has many problems involving planning, organization, administration, and curriculum development. In general, the school system does not show a uniform pattern, and its variety does not reflect the genuine needs of the country. Although some progress has been made as a result of continuous efforts, literacy is still a problem. Educational expansion has not kept pace with population growth. The underlying theoretical foundation has not been modified along with the political changes and other social developments.

Limitation of student mobility and lack of terminal choices, school shortages, limitation of entry into upper schools at each level, high dropout rate, teacher shortage, inadequate curriculum, poor teaching material and methods, overcrowding of the academic track are the problems of the present educational system. According to the State Planning Agency, the imbalances in the present system mainly are:

1. Lack of relationship between education and the need of the country,

2. Lack of consistent links between various educational institutions,

3. Inadequate supply of teachers,

4. Lack of rapport between educators and prospective employers,

5. Absence of evaluation of educational activities, and

6. Imperfect selection procedures and inequality of opportunity. 15

Education and Socio-Economic Development

Development means a process of achieving both economic and social objectives set forth as a target. Economic demand in this process requires preparation of qualified skilled manpower; and social demand requires cultural refinement and a raise in the standard of living. The immediate objectives of Turkish society require a developed economy and a modernized citizenry in order to achieve a standard of living compatible with human dignity.

Since education is available only to three-fourths of the 7-12 age group, there is a quantitative demand for universal primary education in Turkey in terms of realization of social development. In addition, providing equal opportunity, motivating the people according to the realities of the country, and developing a higher level of national culture are among the main social functions of education.

In terms of educational needs of individuals, there are three main groups of people in Turkey, namely, traditionalists, modernists, and transitionalists. In order to accomplish its social function, education must meet the particular demands of these groups of individuals.

The traditional peasants, because of their sheer numbers and swift transition from farming to industrial labor positions, constitute

an important group in the society. The future of the country is strictly dependent on the accomplishment of the educational needs of these people at both primary and secondary levels. Therefore, education must expand immediately throughout the country.

Modern individuals constitute the elite class of the society. Their demands are mainly at the professional level.

The transitionals, which are recently forming a group within the Turkish society, are the prominent suppliers of small scale commerce and industry. They are additional elements in the demand for professional education as well as for para-professional education. The growing number of these individuals is creating new demands for vocational-technical education at the secondary level. The important point is that secondary education is not arranged to take care of this growing demand.

The need for skilled manpower and the growth targets have been shown in the State Development Plan. The current projections indicate that employment will not expand at the same rate as population of working age, 15-64. It is assumed that more than 6.5 million jobs must be created by 1977 to absorb the expansion in the labor supply and to eliminate unemployment in the industrial sector and under-employment in agriculture.

The Development Plan attempts to meet these targets by expanding the industrial and service sectors. This expansion means a great and rapid transformation in these sectors which will require a major change in occupational characteristics and in educational qualifications of the active population.
In fact, as the most recent studies indicate, important changes are already taking place in the occupational structure; there is considerable occupational and social mobility and movement from rural, agricultural and unskilled occupations to pre-professional and skilled occupations. Occupational categories and patterns of prestige are also changing.16

According to the projections of the State Development Plan, over a 15-year period manufacturing and construction will have the greatest proportionate gain in output. The largest increase of employment will take place in the trades and services.

There are various occupational demands and problems in four broad occupational classifications. Expansion in the professional and higher level managerial and administrative occupations will be the most difficult since there is a crucial need for expansion in the secondary level. The technical and semi-professional personnel will amount to more than four times the present number in 15 years. Requirements for skilled industrial workers and skilled sales and clerical workers will increase by more than three million.

The new requirements for skills are much greater than the present capacity to produce them, and training the required number within the present educational system is physically impossible. Thus, expansion of the vocational education system and extensive development of on-the-job training becomes imperative.

16Kazamias, op. cit., p. 247.
The primary needs of fourth group occupations, which are mainly related to farming and involving all the peasants, are to raise the general level of literacy, improve communication, transfer to technical knowledge, and develop a greater sensitivity to farm management.

Thus, education is not only a primary means to but has a significant role in economic and social modernization of Turkish communities. However, the crucial point is that under the variety of constraints, the alternative uses of educational system becomes imperative. There must be a choice between expanding the system horizontally at the primary level to overcome illiteracy and improving distribution between rural-urban areas or expanding secondary and higher education to ensure a supply of technically and professionally trained personnel. Above all, in the midst of these problems an integrated and balanced school system must be created in order to ensure meaningful educational opportunity to all. Otherwise, as Frederick Frey puts it, "an advancing society may encounter problems of alienated and unemployed intellectuals, of demanding, clerically-trained white-collar classes, of half-educated technicians who waste resources, or of frustrated students denied further education."17 This would appear to be the case in present Turkish society.

**Vocational-Technical Education**

Historically, the Turkish vocational-technical education system may be broken down into four major periods: (1) the pre-republican

period, (2) the period between the War of Independence and World War II, (3) the period following World War II up to 1960, and (4) the present situation after 1960.

During the first initiative period under Ottoman rule, vocational education was a matter of traditional guild associations at the local level. The effort to establish a national school system and organize industry was largely piece-meal and did not produce expected results.

The second period, extending from 1923 to 1940, represents a formative stage for a national vocational and technical education system in the country.

The third period, from World War II up to the 1960's, is marked by rapid expansion and systematic development of vocational education throughout the country. Since the 60's, there has been a steady effort to give this newly emerging educational system a national character, integrate it into the whole educational structure and re-organize according to everchanging economic and social conditions of the country.

Although the desired objectives are yet to be accomplished as the result of these efforts, there is a large vocational-technical education system in the country which is trying to accomplish its mission through the training of needed skilled manpower, and by equipping the individuals with skills, knowledge and attitudes necessary for a successful living.

In general, the system consists of several interlocking educational paths starting after primary—and more recently after junior high school. The secondary vocational-technical schools are mostly of three years duration, and are operated separately from the academic track. In addition, a new arrangement is being initiated through the
abolishment of two-year technical institutes at the post-secondary level and by the expansion of secondary technical schools to four years. At the higher level, there are also various technical schools ranging from two to five years in length.

In general, courses are distributed into general, professional (technical), and practical (workshop) subjects. As the students move into the upper levels, the hours in practical work increase to about 55 percent of the total; and those in general subjects decrease to between 18 and 29 percent; greater specialization takes place at the secondary level.18

Besides the formal schooling, there are also a variety of other programs such as evening classes, correspondence courses, and traveling village courses. On-the-job training courses are also developing recently in spite of the difficulties stemming from the nature of small establishments and from the lack of motivation on the part of employers.

The Youth Under Consideration

In general, there are significant differences in the backgrounds of the students attending different types of secondary schools in Turkey. Generally, schools are located in urban centers, are predominantly academic, and are restricted to the few privileged professional class children. Most of the vocationally oriented school youth come from village stock and low-income city families.

The youth who constitute the majority of the Turkish population too often find themselves rejected by the adult world. Their fathers

18 Kazamias, op. cit., p. 152.
are not able to support them adequately, and their mothers cannot give
the care and affection they need. The school system is failing to plan
curricula to meet their needs; the community cannot provide enough
schools, teachers, and guidance counselors.

Thus, they are under-represented in the secondary schools, and
their upward social mobility is considerably limited. The ratio of the
14-24 age group youth to the general population was 19.1 percent in
1965. Only one-third was living in metropolitan areas, two-thirds
lived in rural areas. Thirty-five percent of this same age group was
illiterate, 54.5 percent was graduated from primary schools. Only one-
third of that one year's graduates continue into junior high schools.
According to the educational level, one-tenth of the 13-22 age group
is attending school. The percentage of school attendance and out-of-
school youth at different age groups is shown in Tables 2 and 3.
Figure 1 also depicts the chances of youth to continue school beyond
the primary level.19

19Kalkinma Flani, op. cit., p. 256.
Table 2
Percent of In-School Youth at Different Age Groups in 1965

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Population</th>
<th>School Attendance</th>
<th>Percent in School</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>13-15</td>
<td>2,151,515</td>
<td>456,120</td>
<td>21.2</td>
<td>Junior High School</td>
</tr>
<tr>
<td>16-18</td>
<td>1,790,895</td>
<td>782,221</td>
<td>10.2</td>
<td>Senior High School</td>
</tr>
<tr>
<td>19-22</td>
<td>2,400,423</td>
<td>79,944</td>
<td>3.3</td>
<td>University</td>
</tr>
</tbody>
</table>


As the data indicate, formal education opportunities of this youth is very limited especially of those who live in small communities and rural areas. Studies reveal that in 1965 only two-thirds of this youth engaged in some kind of economic activity, and a majority of these activities were related to farming and unskilled labor. These youth who migrate from rural areas to industrial centers usually encounter special problems; and in turn this situation creates a high rate of crime and delinquency among these youth. Some of the measures to remedy this situation suggested by the State Planning Organization are:

1. To develop extension and on-the-job programs, and to prepare for employment,
2. To provide guidance and vocational programs in junior high school and senior high school,
3. To provide work experience during summer vacation, and
4. To encourage voluntary youth organizations and job corps.²⁰

²⁰Developed from the State Planning Organization's Publications based on 1963-64 academic year statistics.
Table 3
Percent of In-School and Out-of-School Youth at Different Educational Level Based on Relevant Age Group

<table>
<thead>
<tr>
<th>School</th>
<th>Age Group</th>
<th>Percent In School</th>
<th>Percent Out-of-School</th>
<th>Educational Background of Out-of-School Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary</td>
<td>1-12</td>
<td>74</td>
<td>26</td>
<td>Illiterate</td>
</tr>
<tr>
<td>Junior High School</td>
<td>13-15</td>
<td>18</td>
<td>82</td>
<td>Illiterate, primary school graduate and dropout</td>
</tr>
<tr>
<td>Senior High School</td>
<td>16-18</td>
<td>9</td>
<td>91</td>
<td>Illiterate, primary and junior high school graduate and dropouts</td>
</tr>
<tr>
<td>University</td>
<td>19-24</td>
<td>3</td>
<td>97</td>
<td>Illiterate and primary, junior and senior high school graduate and dropouts</td>
</tr>
</tbody>
</table>

Source: - Developed from the State Planning Organization's Publications based on 1963-64 academic year statistics.

On the other hand, the preparation of a small percentage of youth in the formal school is not successful either, in that there is a high percentage of student failure and dropout (over 50 percent), or low percentage of placement in the case of vocational school graduates. Studies indicate that two-thirds of vocational school pupils plan to continue their education.\(^2\)\(^1\) According to the State Planning Organiza-

\(^2\)\(^1\)Mesleki ve Teknik Öğretim, Ankara: Ministry of Education, State Publication Department, p. 44.
In-School                  Out-of-School

100                       83

primary school          13

junior high school

100                        60

high school

26

senior high school

100                        14

university

14

university dropouts

Figure 1 - Educational Opportunity Beyond the Primary School.
(Note: Dashed line indicates the possibilities of training out-of-school youth under the cooperative program to expand the opportunity for these youth.) Source: - Education and the Quest for Modernity by Andreas M. Kazamias, p. 171.

tion, only 42 percent of vocational school graduates are working in their field of preparation. The main reason for this low rate of placement is attributed to (1) lack of work experience, (2) lack of relations between school and industry, and (3) low wages and unclarified status of graduates. In addition, vocational school programs deal mainly with the skilled trades and emphasize training for highly specialized occupations. Training for semi-skilled occupations has not been considered; and there is a tendency in some fields to over-select and over-train youngsters beyond the entrance requirements of industry.

There is a gap between the theoretical formulation of the programs and their practical applications. The curriculum is generally built

around the academic disciplines in the conventional fashion. There is a lock step curriculum and overcrowding at the academic secondary level. The greater part of the youth at this level aim primarily at continuing higher learning; and the majority aspire to some sort of "white-collar" job which few of them will be able to secure. This situation indicates the unawareness of the youth about the world outside the schools and society's failure to utilize trained youth to best advantage. Frustration, unemployment, and underemployment are the results.

Although studies indicate little cynicism and alienation among the Turkish youth, the present transition from rural to urban setting creates ever-increasing problems and strains for youth in terms of their education, family relations, social adjustments and employment. Thus, the system of bringing up youth via classroom isolated from life must be reorganized. The students themselves agree that "school should concentrate on practical skills rather than on theoretical and intellectual matters." In fact, the present living and working conditions, effects of technology upon occupations at all levels, the changing structure of employment and a general shortage of highly skilled manpower, all are enough justification for many drastic changes in the present outmoded programs.

Studies concerning youth's problems and needs indicate that the majority of problems involve vocational adjustment and social adaptation.

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23 Frey, op. cit., p. 226.
24 Kazamias, op. cit., p. 256.
Youth feel that schools are not meeting their needs. In a recent study, titled "Problems in the Transition from High School to Work as Perceived by Vocational Educators" conducted by Gurbin and others, 85.5 percent of the respondents mentioned job preparation as the most serious adjustment problem of the youth. The conclusion of the same study is that "by integrating the proper attitudes and values as well as skills, into the curriculum, youth's transition from school to work can be less problematic."  

Summary

As this brief analysis of the matter indicates, since the establishment of the Turkish Republic, the government has been striving for a balanced economy through the application of a series of development plans. Presently a 15-year social and economic development plan is in the process of application.

Quest for the development of a new educational system compatible with the changing economic, social, as well as political conditions of the country, has led to a number of studies and experiments. Most of the studies revealed the need for mass education, manpower training, and coordination between various sectors and education. Seeing education as an isolated segment within the whole social setting; limited resources in terms of material, capital, and human skills; and above all, traditional thinking have been the major inhibiting factors of this development process.


Generally speaking, the agrarian-oriented Turkish society is in the process of transition to an industrial setting. It is made up of a small elite and great masses with a newly emerging proletariat in between. Social stratification is based on education, occupation and income with a considerable upward mobility. Development within the social structure is strictly dependent upon its fundamental element of peasantry which is living under very poor conditions.

A mixed organizational structure, a newly developing industry, primitive but predominant agriculture, and an improving balance of trade constitute the hallmarks of Turkish economy. Insufficient capital, unqualified tradition-bound management, limited resources of material and skilled manpower, and outmoded production methods are some of the main problems demanding serious consideration for the improvement of the economy.

Although the theoretical foundation of modern Turkish education is based on the development of ideal personalities through the educating of the elite, the present realities of the country require immediate extension to universal mass education and trained manpower. The present educational system seems to be under the pressures of these two different demands. It is based mainly on a dualistic medieval tradition and its response to the present demands is largely fragmentary in nature. It is far from meeting some of the most basic educational needs of the country.

The basic challenge for social development in Turkey is the quantitative demand for universal primary education. In addition, three main groups of individuals require different kinds of educational
provisions. Aside from the need for professional education by the moderners, there is great demand for rapid expansion of secondary education throughout the country to meet the growing needs of the masses.

Vocational education can be a basic instrument in the accomplishment of this task. However, changing occupational patterns, increasing unemployment, the need for basic education as a foundation for skill training, and the limited resources of the country create a unique challenge to vocational education.

In general, the origin of Turkish vocational-technical education may be traced down to the 13th century's local apprenticeship organization during the Ottoman era. Later it became a part of the Turkish Republic's general development efforts. Although earlier attempts were fragmentary, later developments have been more systematic based on legislative provisions and expert studies. The early Republican period up to World War II was a formative stage for the national system while the post war period was marked by rapid expansion. Presently, the system is in the process of developing a national identity. Vocational-technical education is completely separated from the academic track. In-school formal programs dominate all educational activities. Programs are mainly concentrated at the second cycle of secondary education. They are mostly terminal, rigid, and produce high dropout and low placement rates.

On the other hand, a majority of Turkish youth belong to the villages and to low-income city families. They are under-represented in secondary education and are not served adequately by the existing
system. Thus, their upward social mobility is limited considerably. The majority is living in rural areas; 90 percent of them are out-of-school. Generally, they are under the pressure of the transitional nature of the society which is making their social adjustment, employment and education considerably difficult and frustrating. They need practical, functional and flexible programs geared to their special situations and needs. They need guidance and counseling services, preparation for life and employment—all based on equality of opportunity, social justice and modern educational principles.
CHAPTER III
COOPERATIVE TRADE AND INDUSTRIAL EDUCATION PROGRAMS

Introduction

The following discussion is based on related literature available to the author. The purpose of the discussion is to acquaint the reader with the cooperative vocational education programs. The discussion is limited to the development of a rationale, a general description and historical development of cooperative vocational education programs.

Rationale

In general, the underlying principles and practices of a program become more appropriate when there is a reason for its existence. Therefore, every educational program needs a solid basis on which to stand. Furthermore, a program should be built on certain criteria comprising (1) the underlying premises of modern educational theories, (2) historical evidences, (3) authority judgments, (4) mandates of scientific principles—psychological, social, economic—(5) merit research results, and (6) legal operational aspects.

There are many valid reasons and evidences in the literature indicating that cooperative trade and industrial education programs are an integral part of the total school programs in terms of all these aspects. The conceptual framework is consistent with the modern
Theories of education because it emphasizes the dynamics of human experience, social efficiency, active participation in normal life situations and integration of theory and practice.

The idea is as old as the Renaissance and dates back to one of the major purposes of education, that of preparation of an individual for work, and to this end instruction should combine theory and practice. Its origin was connected with the radical changes taking place in educational theories on the one hand and in production methods in industry on the other. Since then work and education have often been associated together in an organized form of work-experience.

There are a number of programs in the history of education in general, and in vocational education in particular, that call for the use of work in education and cooperation between schools and industry.¹ These programs provide tested models representative of a variety of approaches and patterns. They constitute historical evidence of the need of youth for practical experiences in the world of work as a sound basis for learning.

As a matter of fact, Rousseau proposed industrial education as a means to the development of democratic society. The idea of combining instruction with work has been one of the major pre-occupations of Pestalozzi. And for Froebel, education was a natural process involving

work, study and play. Furthermore, his observation was that mind and body are strengthened when periods of work and study follow each other in regular alternation. Actually, it would be correct to say that to get these three kinds of activity to support each other has been the dream of Plato, Comenius, Locke, Rousseau, Froebel, Dewey and many other educators.

According to Dewey, for instance, "the only adequate training for occupations is training through occupations."

Youth's need for the occupational training was indicated clearly by the National Association of Secondary School Principals in the following statement:

All youth need to develop salable skills and those understandings and attitudes that make the worker an intelligent and productive participant in economic life. To this end, most youth need supervised work experience as well as education in the skills and knowledge of their occupations.

There is no doubt that accomplishment of this task requires cooperation between school and industry, because the climate of work is not the same in a school independent from industry. This cooperation is needed for the motivation of the students, providing a social environment, giving the student a chance for experience in actual production work, and making his transition from school to work easier.

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As Mason and Haines point out, years of experience indicate that no vocation can be mastered by merely studying it in school. They maintain that "...a sequential relationship is needed between the learning of concepts, the acquisition of habits of thought and attitudes, and the mastery of skills." This relationship is best provided when school cooperates with industry to secure genuine applicational opportunities for the concepts it teaches. Pointing out this serious limitation of conventional schools, Gold states that:

...the problem of replacing simulated conditions with real ones is met in the work experience programs...where specific training is desired, the cooperative program facilitates the interaction of teaching and practice; it makes possible a variety of training that the best equipped school could not dream of; it provides experience in the work world under a very necessary school guidance. Because of generally close relations between school and employment a highly correlated program is possible.5

This is a clear indication of the function of cooperative education in total school program, its capacity to overcome some of the limitations of in-school studies, and its contribution to education in meeting the training needs of youth for employment. In respect to the broad responsibilities of modern school and the role of a cooperative scheme in meeting these responsibilities, Venn states that, "No better insurance policy exists for schools and colleges in meeting these responsibilities than the cooperative work experience program."6

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5Gold, op. cit., pp. 142-43.

In fact, today many educators recognize cooperative education as an effective way to train youth for a particular occupation by supplementing classroom and laboratory instruction with the learning opportunities of an actual job. If one of the purposes of education is to assist the youth in adjusting themselves to their economic and social environment, then school should utilize cooperative education as an alternative to bridge the gap between school and employment. Today's highly sophisticated scientific and technological requirements cannot be met through incidental entry into the world of work. Emerging conditions of modern life make the organized and supervised work experiences an integral part of youth's education for a smooth transition from school to employment.

The cooperative scheme has also unique educational values contributing to the whole development of the individual. For a considerable number of pupils, practical constructive work is a better means of stimulating interest and initiating mental development than is any other kind of exercise. Work can no longer be considered as merely the contribution of labor to the development of production; it also constitutes a psychological basis for the individual's social adjustment. Modern psychology states that behavior patterns condition the development of experience far more than do impressions. Through experience, an individual gains insight into the nature of things as well as insights into his environment that he cannot gain in any other way.

Employment is necessary for most youth for the completion of the psychological process known as maturation; and it is also one of the
pre-requisites of adult life. Modern learning theories emphasise experience, performance and actual life conditions. Cooperative education, through work experience, provides a strong motivation for the learner; it puts special emphasis on relationship between the individual, his work, and the community. As Dewey asserts, "An occupation is the only thing which balances the distinctive capacity of an individual with his social service," and "Education through occupations consequently combines within itself more of the factors conducive to learning than any other method."7 This means that the cooperative scheme is also a valuable educational resource besides being specific training for employment.

On the other hand, cooperative vocational education is also an economically sound program. It generally costs only about one-fourth of regular vocational programs.8 According to Evans,9 studies of the economics of vocational education show higher rates of return on investment in cooperative programs than in other types of vocational education. In addition, the payment of wages, convinces the students of the value of their efforts and contributes to their economic adjustment.

Cooperative education is operationally sound. It recognizes the importance of the leadership of educational institutions and of the


cooperative support of the groups involved. It has a high rate of graduate placement, between 70 and 90 percent; it provides an excellent preparatory foundation for further advanced training and has high potential in serving undermotivated and disadvantaged youth. According to Keller, at least fifty percent of the secondary schools operate cooperative courses in the United States. Experts predict that there will be a tenfold increase in the number of youth in cooperative education in the next five years.

Finally, cooperative education is also a legally recognized program. In the United States, from the Smith-Hughes Act of 1917 to the 1968 Amendments to the Vocational Education Act of 1963, there have been special provisions for and increasingly emphasis on this type of education in various fields. In England, the "block release" scheme, "sandwich courses" and compulsory part-time education, under the provisions of the Industrial Training Act, are organized and operated cooperatively by all groups concerned. In France, the "system of mixed education" was developed in 1961. In Germany, cooperation between industry and Berufschulen is an old tradition. In Russia the law on strengthening the ties of the school with life and further development


of public education puts special emphasis on educating youth in productive environment. All these constitute typical examples for legal recognition of cooperative education programs throughout the world.

All these evidences indicate that cooperative vocational education is accepted by many to be educationally, economically, and socially sound. It has already been proven that through cooperative education there is great possibility for reaching and thereby teaching the large part of the school population who are not academically oriented. But, as Montag puts it,\textsuperscript{13} this depends on whether or not educators, both vocational and general, can "kill the sacred cow." If they can, then they will be able to (1) motivate more students to remain in school until they graduate, (2) relate the classroom theory to real situations, (3) develop self discipline and responsibility in the student, (4) educate productive citizens, (5) develop common understanding of the educational system in the community, and (6) promote communication between (a) general and vocational education, (b) the formal educational system and the community, and (c) between vocational education and the marketplace. This means, of course, more functional and meaningful education for the majority of the students and therefore make a major contribution to society.

\textsuperscript{13}Betty Joe Montag, "Can We Kill the Sacred Cow?" \textit{Journal of Secondary Education}, November, 1966, pp. 321-5.
A General Description

The cooperative scheme in education is a practical learning approach based on a constructive and functional educational philosophy. It is an attempt to integrate the theory and practice through the combination of utilitarian aspects of general education on one hand and the educational values of organized work experience on the other.

Through the years, a variety of programs have been developed under this concept bearing either the name "cooperative" or "work experience" which have served different educational purposes expanding from general to strictly vocational.

Although there is not any well developed set of criteria for the categorization of these programs, study of the literature indicates that most classifications are being made according to one of the following characteristics of the program:

1. Underlying objectives—general or vocational.
2. Field of study—trade and industry, business, distribution.
3. Nature of the program—exploratory, pre-employment, short term, etc.
4. Types of youth to be served—normal, disadvantaged, dropout, etc.

In the final analysis, however, it seems logical to classify all programs under two major categories as vocational or general, according to the underlying objectives of the program.

In the general work experience category, provision is made for educational experiences outside the classroom through supervised employment which is not related to the occupational goals of the students.
Although students receive school credit for this experience, they may or may not receive pay for this service. Main purposes of the programs in this category are: (1) career orientation, (2) economic provision, (3) motivation, and (4) personal development.

On the other hand, in the vocational cooperative category, employment of the student is specifically within his chosen occupation; the student receives both pay and credit for his experience. Work experiences of the student are highly organized and closely supervised. Thus, the employment serves the function of a practical laboratory for reinforcing and supplementing in-school vocational education. The main purpose of this category of programs is the development of occupational competence in specific areas. Since the vocational cooperative program in general, and cooperative trade and industrial programs in particular, are the main concern of this study, only the programs in the vocational category will be the subject for further discussion.\footnote{For detailed information on general work experience programs refer to; Gold, op. cit., Chapters VI and VII; Mason and Haines, op. cit., Section Two, Chapters 3, 4 and 5; and Work Experience Education Programs in American Secondary Schools, Bulletin No. 5, U. S. Office of Education, 1957, pp. 16-37.}

The cooperative vocational education scheme is one of the many types of instructional plans that are being used in vocational education. It is usually considered as the result of the compulsory attendance laws, as the outgrowth of part-time classes, and as the modification of old apprenticeship courses. Although the cooperative plan has its unique features distinguishing it from other programs, all three of these factors contributed largely to its development.
Since the student-learner's time is divided between school and work, the program is considered part-time. On the other hand, since the pupil is considered as a learner at work, since he receives training on-the-job, and since the training station is considered as a substitute for the school shop, sometimes it is classified as full-time school.

The plan is based on the assumption that some aspects of an occupation can be learned best through real work experience. Other aspects can be learned faster and more economically through organized classroom and laboratory instruction. However, a combination of the two, properly organized, administered, and supervised, produces an excellent learning situation. Therefore, the practical instruction should be given in the occupation for which the student is being trained and it should be supplemented through classroom instruction related to the occupation under consideration. In addition, all the interested groups should cooperate to integrate the two phases of the program and to utilize all the resources available in the community.

The cooperative vocational education program is designed for those students who expect to enter full-time employment upon completion of the program. Students rotate between the school and the job. This may be arranged on either a half day or alternate week schedule. Provision is made for general and related studies in addition to on-the-job training. The school arranges the placement of each learner and maintains close cooperation with all interested groups, especially with employers, to integrate all aspects of the program. It is the school's responsibility to administer and regulate each student's program. The supervision and evaluation of on-the-job training are a cooperative
responsibility of the employer and school. Related instruction is
the responsibility of the school, provided that on-the-job supervisor's
assistance is secured on the specific technical details of the
occupation.

On the other hand, those vocational cooperative programs which
are designed to prepare youth for specific trade and industrial
occupations are called "industrial cooperative training programs."
However, these programs, too, carry different names, such as "diversified
occupations," "diversified occupational training," "cooperative
occupational education," and "diversified cooperative training." As
a matter of fact, "industrial cooperative training" was suggested by
the American Vocational Association in 1961 to provide a unified title
and prevent the program from further confusion.\textsuperscript{15} Among the other
suggested titles, "cooperative industrial education" for single
occupational programs, and "cooperative diversified education" for
multiple occupational programs seem most appropriate.\textsuperscript{16}

The present "industrial cooperative training" programs have come
about as a consequence of three main movements, namely, (1) adaptation
of early work-study programs to the cooperative plan by Herman
Schneider in 1906, (2) special provisions of the Smith-Hughes Act of
1917 for part-time classes, and (3) the development of cooperative
diversified occupation courses in a number of the southern states.

\textsuperscript{15}Former S. Smith and Julius D. Corbett, "Industrial Cooperative

\textsuperscript{16}Mason and Haines, \textit{op. cit.}, p. 432 ff.
The industrial cooperative training program is one of the original forms of cooperative education in the vocational education system. The program was originally developed for high school students to prepare them for entry jobs in the various industrial occupations and skilled trades. It provided early practical application of vocational skills learned in school, or provided opportunity for the initial development of skills and abilities, and knowledge necessary for a particular industrial occupation. It made possible vocational training for many specialized occupations for which school laboratory instruction could be provided. It brought together the resources of the community, facilities and skills of industry, and knowledge, methodology and the leadership of trade and industrial educators in preparing the students to acquire salable skills and develop desirable attitudes in particular occupations.

Students enrolled in the program received their practical training in industrial establishments under the direction of the employer through part-time paid employment. In school, they received instruction related to their selected occupation and took other courses which were required for high school graduation. All phases of the program were systematically correlated and closely supervised by the school coordinator.

Scope of the Program

The time when cooperative education was thought of as a substitute for other types of programs has already passed. Today as a "school and work" program, its unique features, objectives and its place in the
whole vocational education complex are becoming more clear and widely known.17

Depicting the vocational education continuum in Figure 2, according to the present concept and the application of the program, cooperative education would fall in Phase I, the end of the continuum which is mainly preparatory in nature. Within this category it would be placed between Stage two and the Stage three, which are basic and specialized vocational education.

Figure 2 - Vocational Education Continuum

Although the program is usually confused with some of the other types of programs, it is not a substitute for or replica of any programs. It is generally accepted as a method of education which employs learning experience in the school, and work experience in some cooperating agency outside the school.

The cooperative vocational education program is different from general work experience programs in that the emphasis is on the acquisition of specialized skills and knowledge needed for occupations which demand indepth instruction, whereas work experience programs mainly have general educational objectives.

It is also different from both regular vocational school programs and apprenticeship programs. The cooperative program is generally of much shorter duration, from one to two years; student-learner's work experience is on a part-time basis, not full-time as apprenticeship is. The related instruction involves more hours than apprenticeship programs. Occupations included are somewhat less standardized and less widely recognized than traditional apprenticeable occupations. Training agreement, corresponding to the apprenticeship indenture, is merely a memorandum of understanding prescribed by the school. In addition, the student-learner continues his general education to complete the high school program.

The cooperative program can be offered by both academic and vocational schools of almost any size. It is extremely flexible and does not require expensive facilities. It is superior to ordinary all-day vocational programs as a pedagogical device only in the sense that it provides actual learning environment and economic motivation.

The program is primarily designed for junior and senior high school students who are committed for full employment upon graduation from high school and frequently serves disadvantaged youth and potential dropouts. Most of these youth are between 16 and 21 years of age,
poorly motivated, and are neither interested in or satisfied with regular school programs.

Objectives

In a broad sense, vocational education is a process of cultivating intellectual, emotional, social, and personal human abilities in terms of knowledge, skills and practical experiences in a selected occupational field which is necessary for better living.

Since the ultimate objective of education is the development of the whole individual to his highest possible level of excellence, any type of educational program must seek to accomplish this goal.

From this it follows that the main objective of vocational education ought to be the education of the total human being through the utilization of vocational interest as the motivating factor. As a matter of fact, since vocational education is preparation for active life, it contributes to cultural, economic, and individual development through conserving and developing human resources for socially useful ends.

More specifically, any program is designed to accomplish certain missions within the general educational context. Thus, a program should have its own objectives to guide the various activities toward a unified and desired end. In this sense, the fundamental objective of industrial cooperative education is to prepare the student-learner for entry jobs in trade and industrial occupations. However, underlying premises and concepts of the program such as a cooperative approach, utilization of available resources, service to the youth and community,
enrichment of educational opportunities and relevancy in learning, require realization of a number of specific objectives to accomplish this goal. Thus, to this end industrial cooperative education strives eagerly to:

1. Bring the classroom studies into close relation with actual work conditions; thus, to space the gap between theory and application, and make learning more meaningful and relevant;

2. Provide opportunity for developing general and specific occupational skills, work habits, knowledge, desirable attitudes and behavior;

3. Provide cooperation between school and industry to give desired training through participation in modern enterprises;

4. Supplement trade and industrial education to offer vocational education in specialized areas;

5. Provide an economic opportunity to the learner who otherwise would not continue his education;

6. Provide a smooth adjustment and transition from school to job;

7. Maintain a balance between supply and demand in trade and industrial occupations;

8. Make use of available facilities in industry and the resources of the community;

9. Broaden the educational services offered in vocational and/or academic schools in a particular community;

10. Provide a vocational training opportunity for youth who are not satisfied with regular academic studies, or who have a desire and need for vocational education while pursuing their general education.

Thus an industrial cooperative training program is a sound program because it accomplishes these objectives while in the process of preparing the youth for entry jobs in trade and industrial occupations.
Place in Total Trade and Industrial Education

It is impossible to prescribe a single type of program for any field of vocational education because the inherent character of vocational education requires the application of various kinds of programs. A good program must recognize varying interests and aptitudes and special needs of students, common needs of various fields, and specific training requirements in each field. In recognition of these facts, different types of schools and classes have been developed in the field of vocational education. Each of these schools and classes has its own place and function in the whole vocational education complex.

In the same manner, trade and industrial education, which constitutes one of the major segments of vocational education, can only achieve its objectives through a variety of programs designed to meet the different needs of complex industrial enterprise, demands of community and the desires and interests of different individuals.

Indeed, various kinds of programs have been used for years in the field of trade and industrial education. However, there is not a unified, standardized way of categorizing these various classes. For instance, Prosser, in his "Vocational Education in a Democracy," identifies ten different types of classes while Roberts in "Vocational and Practical Arts Education" gives eight different types. In addition, every state has its own programs designed to meet the particular needs of various communities and youth within the state.

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19 Ibid.
The most generally used classification in the literature is the one which has been prescribed by the Vocational Acts. This classification is given in Table 4. Although it does not include every type of specialized course that has been developed in the field, nevertheless, it does give a general idea about major groups of classes and some typical variations within each group. More importantly, it serves the purpose of determining the place of industrial cooperative education within the whole trade and industrial education spectrum.

According to the objectives, the organizational structure and the scope of the industrial cooperative program, it is easy to locate its place in the table. First, it may be placed under the second group together with "preparatory part-time classes." The cooperative program is classified in this group because it is a program of preparation for employment; it is offered during regular school hours; the student-learner has part-time employment; hence, it serves out-of-school youth who return to school as regular high school students to study under the cooperative plan.

Furthermore, it is a part-time study plan since the student divides his time between school studies and employment. However, it is important to note that this does not mean that the cooperative program is simply a part-time preparatory class. There are some unique features of the program which distinguish it from part-time preparatory classes as well as from any other program. There is (1) provision for systematically organized and supervised on-the-job training, (2) correlation between related instruction and on-the-job training, (3) cooperation and systematic supervision in operating the program, and
<table>
<thead>
<tr>
<th>Group</th>
<th>Types of Classes</th>
<th>Common Names</th>
<th>Student Characteristics</th>
<th>Instruction Nature</th>
<th>Time</th>
<th>Student Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Evening classes</td>
<td>App. or adult classes</td>
<td>Employed worker</td>
<td>Supplementary to emp.</td>
<td>Non-working</td>
<td>16 &amp; over</td>
</tr>
<tr>
<td>II</td>
<td>Part-time classes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Preparatory</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Extension</td>
<td>coop. ed. cl., for out-of-school youth</td>
<td>now employed and on part-time basis</td>
<td>prep. for full emp.</td>
<td>working hours</td>
<td>14 to 16 and over</td>
</tr>
<tr>
<td>II</td>
<td>General Cont.</td>
<td>special hrs. for out-of-sch. youth</td>
<td>employed worker</td>
<td>remedial</td>
<td>working hours</td>
<td>14 to 18</td>
</tr>
<tr>
<td>II</td>
<td>Regular day classes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Type A</td>
<td>prep. all day and full-time day classes</td>
<td>full-time student</td>
<td>rel. inst. &amp; shop separate</td>
<td>regular school hrs.</td>
<td>normal sch. age</td>
<td></td>
</tr>
<tr>
<td>II</td>
<td>Type B</td>
<td>prep. all day and full-time day classes</td>
<td>full-time student</td>
<td>rel. inst. &amp; shop integrated</td>
<td>regular school hrs.</td>
<td>normal sch. age</td>
</tr>
<tr>
<td>III</td>
<td>Type C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. special cl. for out-of-sch. youth and adults</td>
<td>pre-empl., modified, &amp; out-of-school youth</td>
<td>full-time stud. or part-time</td>
<td>prep. for employment</td>
<td>regular school hrs.</td>
<td>14 &amp; over</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>b. sp. classes for single skilled &amp; semi-skilled occup.</td>
<td>cooperative classes</td>
<td>part-time emp. as student-learner</td>
<td>prep. for employment</td>
<td>regular school hrs.</td>
<td>14 &amp; over</td>
</tr>
</tbody>
</table>

(4) continuation of general high school studies along with the program. Because of these special features which are superior to the regular part-time preparatory program, the cooperative program deserves recognition within this group as a separate educational program.

Secondly, the cooperative program may be placed into the third group under "type C" programs, namely, "Modified Day Classes." It is classified within this group because it is a special day program requiring full-time students' participation partly in school, partly in on-the-job training. It is designed mainly for those occupations which do not require long preparation. However, again it is not simply a special day class for out-of-school youth and adults, and not a program designed only for single-skilled and semi-skilled occupations. Its scope is broader than these programs, and its structure is highly organized. The unique features of the program, mentioned above, distinguish it from the rest of the day-school programs.

In summary, then, the industrial cooperative program is a special type of trade and industrial program which has some common characteristics with part-time preparatory classes on one hand and with modified day programs on the other. However, because of its inherent characteristics and the unique features, it is neither a replica of these programs nor a substitute for them. It has its special place and function in the whole trade and industrial education complex.

Types and Designs of the Program

The concept of combining work and classroom studies through the cooperative approach has been developed in three main lines, as:
1. Work + Related Course + ----------------------
2. Work + Related Course + Regular High School Course
3. Work + ----------- + Regular High School Course

As Ivins and Runge report, cooperative education experts are favoring the first and the second combinations. Actually, this approval is consistent with the principle that any sound vocational education program should be made up of three components, general education, related technology and practical skill training. Thus, any complete cooperative vocational program, under normal conditions, should include these three elements. However, since cooperative programs usually start after the student gets a reasonably broad general education, and since it has to consider the student's individual needs and interests in special cases, it may be designed as the combination of practical training and related courses. However, this "two-component" design would be a deviation from the main pattern of the cooperative plan for the sake of student adjustment. Provisions for high school graduation as one of the major objectives of the cooperative plan should never be ignored completely.

Besides these three designs, cooperative vocational education programs may be classified either on the basis of the type of occupations involved or of the typical study fields of vocational education.

According to this classification, a cooperative program may be:

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1. A single trade class as, drafting, auto mechanics, etc.

2. A class consisting of a variety of occupations in one field of vocational education as in trade and industry, distributive education, business education, etc.

3. A class containing diverse occupations from more than one study field in vocational education as, drafting in Trade and Industrial Education, stenography in Business Education, sales in Distributive Education, etc.

Rakestraw, in his well known and widely read book, "Training High School Youth for Employment," points out the same classification under "Cooperative Part-Time Classes" headline and devotes his entire book to the discussion of a third type, which he calls, "Diversified Occupations Program." 21

Sometimes cooperative programs offered in each field of study, such as Business Education, Distributive Education, Home Economics Education, and Trade and Industrial Education, are considered of different types and are classified accordingly. 22

Although it is almost impossible to prescribe certain types of programs that will meet the specific needs of every individual and community, there are two typical industrial cooperative programs that have been developed so far in the field of trade and industrial education. However, these programs exclude the "work-experience" program used in this field which is primarily designed for academically underachieving youth.


These two main patterns are usually operated under three different designs. Table 5 presents examples of these types and the minimum requirements of each design.

The two basic types of programs are classified according to occupations involved in the program. The first is called "single trade program" and the second, "diversified cooperative program." The first type is designed to provide instruction for the student-learners who are interested in the same trade and where the work experiences and job opportunities are available in the community. Such circumstances often exist in vocational high schools and sometimes in comprehensive high schools serving large population areas.

The program normally provides instruction through supervised part-time employment, technical occupational information classes, and provides an opportunity to continue regular high school courses. Students are required to have completed certain pre-requisite courses. The related class is either a single period, in which case the student-learner is likely to be required to enroll in at least one other related specialized course, or it is two consecutive class periods. The program may be either one or two years in length, but most commonly one year.

The second type of program has been developed to provide instruction in such communities where students' interests are in a variety of occupations and where insufficient enrollment and employment opportunities exist to justify utilization of instruction in any single occupational area. This type of program is widely used in small communities and in comprehensive high school systems.
<table>
<thead>
<tr>
<th>Design</th>
<th>Types</th>
<th>Length</th>
<th>Grade Level</th>
<th>Weekly on-the-job training</th>
<th>Weekly related instruction</th>
<th>Balance for General Education</th>
<th>Weekly total hours</th>
<th>Special Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ST-DT</td>
<td>2 year</td>
<td>11-12</td>
<td>15 hours</td>
<td>5-7½</td>
<td>7½-10</td>
<td>30</td>
<td>recommended preparatory program</td>
</tr>
<tr>
<td>2</td>
<td>DT</td>
<td>1 year</td>
<td>12</td>
<td>15 hours</td>
<td>7½-10</td>
<td>5-7½</td>
<td>30</td>
<td>---</td>
</tr>
<tr>
<td>3</td>
<td>ST</td>
<td>1 year</td>
<td>12</td>
<td>15 hours</td>
<td>7½-10</td>
<td>5-7½</td>
<td>30</td>
<td>required preparatory course</td>
</tr>
</tbody>
</table>

ST = single trade program.

DT = diversified occupations program.
In the diversified type program, the first scheme in Table 5, which is for two years with one daily hour of related instruction, is most common. Some of the diversified programs, the second design in Table 5, operate for one year only and have two hours of related instruction.

Another way to design cooperative programs is to use the different learning rates of the students as basic criteria in establishing different tracks for different groups of students. Mason and Haines in "Cooperative Occupational Education," give a typical example for this approach which might be used in trade and industrial occupations. Another similar example is presented in Table 6. As the Table indicates, a regular cooperative program which is designed for average learners becomes shorter and more intensive when it is designed for the fast learners. It is extended for a longer period of time in both lower and upper grade levels with supplementary courses in the case of the slow learner.

In spite of all these different types and designs of programs, and of variations from one community to another, there are some commonly accepted minimum standards which every cooperative program seeks to follow. Briefly, these are:

1. A minimum of thirty clock hours per week for total instructional activities,

2. A minimum of fifteen clock hours average per week, or three consecutive hours daily, for occupational experience through employment under written agreement and supervision,

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### Table 6
Different Designs of Industrial Cooperative Education Programs Based on Learning Rates

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Slow Learner</th>
<th>Average Learner</th>
<th>Fast Learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>regular cooperative program</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>may be extended up to these levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>work experience or transfer to regular cooperative program</td>
<td>regular cooperative program</td>
<td>regular cooperative program</td>
</tr>
<tr>
<td>11</td>
<td>remedial study and orientation</td>
<td>regular cooperative program</td>
<td>orientation and general study</td>
</tr>
<tr>
<td>10</td>
<td>remedial study</td>
<td>orientation and general study</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>remedial studies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>may start one of these grades</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. A minimum of seven and one-half hours per week, or
two consecutive school periods daily, for related
instruction, and

4. The balance of the week for the study of high school
subjects.

A Historical Perspective

The present form of vocational education is the outcome of
thousands of years of evolution. Although work and education associated
together from the earliest human era up to the present time, it evolved
in different forms. Through the continuous and accumulative processes,

Figure 3 - Developmental Stages of Cooperative
Vocational Education.
underlying concepts have been extended over a wider area. This
developmental era is depicted briefly in Figure 3.

Throughout the early history of civilization, education was handed
down from parents to children and considered a family affair. For a
long time parents supervised the training of children in work, however,
in later years with the changing of social life, family training in
manual arts was largely eliminated. This situation paved the way to the
eyearly apprentice system, the oldest of all forms of education and the
basis of many later forms. Thus, with the rise of apprentice systems,
work and education were joined in an agency outside the family.

However, this medieval apprentice system of education soon became
inadequate as the only educational process to meet the new requirements
of social developments, industry, science and technology. The Industrial
Revolution resulted in the diversification in occupations, requiring many
less skilled, operative laborers in addition to highly skilled technicians.
This situation resulted in the emergence of other forms of occupational
preparation. Thus, vocational education had its start as a formal school
program and consequently, through several evolutions, developed its
present forms.

The fundamental influential factors which shaped the present
vocational education system and its theoretical foundations were the
new developments in educational theories during the 16th and 18th
centuries on one hand and the Industrial Revolution on the other. The
scientific education movement generated new concepts, methods and
understandings in the field of education. The Industrial Revolution
resulted in drastic changes in industry, business, labor market and the society as a whole.

Educational reform has been one of the main concerns of many of the great thinkers of the 17th and 18th centuries. From Descartes and Comenius to Locke, an increasing emphasis was placed on the ideas that sensory impressions form the basis of education and that one learns best by doing. From these theories came the object method of teaching, the laboratory method of instruction, and the concept of work as a means of learning and enriching human experience. Thus, the ideas of combining science with life had been developed; and the participation of everyone in productive work was regarded as a typical feature of the ideal society.

Rousseau's ideas led to later reforms in education. He was the intellectual pre-generator of Pestalozzi and Froebel, pioneers of the systematic application of work into school education. Rousseau urged systematic instruction and training in some form of manual industry as a deliberate challenge to social reforms. Learning by action and by direct concrete observation, "Anschoung," was the fundamental principle of Pestalozzi's educational objectives.

According to Froebel, every child, regardless of his condition or position in life, should devote a portion of his time every day to a serious activity in the productive work experience.

However, in spite of important developments in theory, the practical attempts of the 16th and 17th centuries to plan and then set up various types of vocational-technical instruction proved both tentative and haphazard. Because of the general concept of work and
traditional school practice, the idea that work can be a second means of education had to overcome great resistance and ignorance. Thus, vocational education was not able to assume anything like its contemporary forms before the first half of the 19th century.

However, in the second half of the 19th century, the idea gained currency once more on a more systematic and broader basis. The most typical views on the role and aims of manual instruction were expressed in Germany by Georg Kerschensteiner and in the United States by John Dewey. While Kerschensteiner was developing a school system for the laboring masses in Germany, the theory of the activity school was originated in the United States by Dewey at the end of the 19th century.

In fact, Froebel's ideas that the school should be a community and that learning should be an active and cooperative process was applied to the Chicago Experimental School by Dewey. Industrial occupations became the center of the curriculum. Thus, the concept originated by Rousseau and further developed by Pestalozzi, Froebel and Dewey, constitutes the fundamental theoretical ground for modern vocational education. These educators' efforts advanced the idea of work-education and clarified the values and demands of work and of education upon each other, and their effect upon the individual growth and development on society as a whole. Furthermore, they challenged the dualistic and incidental form of education. Subsequently, various types of programs and schools representing various combinations of work and education have been developed, while vocational education as an educational system has gained its identity and a place within the whole educational complex.
On the other hand, along with these theoretical changes in education, the Industrial Revolution created many changes in society which affected the development of vocational education considerably. One of the first major consequences of this revolution was the increasing interdependence of government, industry and other social and economic institutions; the second was the change in nature and the function of social institutions, government, school and family. The family lost its educative and productive functions; government had to assume a more active function in general welfare and education; and schools had to assume some of the responsibilities that once had been carried by the family and the master craftsman. With the rise of educational and social expectations of the middle class people, vocational education had to transform itself from the concept of "education for the poor" to "education for all."

During this transitional period, there were a number of drastic changes taking place which affected the conventional contour of vocational education. Some of these changes and new developments were:

1. The rise of the factory system—automation,
2. Division of labor,
3. Social mobility,
4. Increased fluctuation in industry,
5. The destruction of the skill hierarchy,
6. The concept of "systems approach,"
7. Increased interdependency,
8. Loss of earlier integration of "work-living,"
9. Reduced working hours,
10. Change in pupil population,
11. Extension of compulsory school attendance, and
12. Steadily increasing unemployment of young people.

All these and similar changes and developments that were taking place as a result of the Industrial Revolution paved the way to the social evolution of modern man's living and working conditions; raised the life expectations of people; influenced occupational life at all levels and of all kinds; and changed the structure of employment and educational requirements for preparation for employment. As a consequence, this situation set the stage for a broader and more comprehensive approach to the field of vocational education. The impact of all these changing situations upon education in general, and vocational education in particular, was deep and long lasting. The resulting scene may be described as follows:

1. In general, as a result of increased population in secondary schools, the system of educating youth via conventional academic classrooms proved to be inadequate because it did not provide training for knowledge and experience in the world outside.

2. The need for greater responsibility and more creative opportunities than apprenticeship usually provided became imperative to meet the challenge of industry.

3. Although vocational education was recognized as an integral part of the public school system, it failed to meet the new challenges because of its lack of status in the educational system and the failure of general educators to recognize the importance of vocational education as a means of individual development and social adjustment, and their
failure to recognize genuine work experience as having value to both practical skill training and general education.

4. Change in occupational structures and obsolescence of many skills in industry created serious competition among adult workers, and opportunities for apprenticeship and employment for youth without training became limited.

5. While the changing social structure was loosening the early integration of work and life on one hand, it increased the dependency on work on the other in terms of social, economic and psychological adjustment of the individual. Thus, work became more a necessary and desired phase of education for all classes of young people than ever before. And the problem of "how to make work more educative and functional, how to integrate work and life" became a serious challenge of the time.

6. Opportunity for productive work as an economic basis of life provided by the family became hardly possible as the result of the changing productive nature of the family. Thus, transition from dependent childhood into independent self-supporting adulthood became a serious problem, and a matter of shared responsibility among the various social institutions, especially of the government and the school as well as of the family. Consequently, this situation resulted in the development of various cooperative approaches by organized groups.

In short, while new educational movements in the frontier were developing a theoretical foundation for modern vocational education in the form of work and education combined thereby proving the educational values of work, the Industrial Revolution was creating many drastic
changes in society requiring new approaches and strategies, new concepts, attitudes, and patterns of operation in the field of education to prepare youth for social, economic, and cultural problems which they would face during their life.

Emergency situations in the lives of nations created by world wars, economic depression and changing political affairs all set the stage for the development of new schools, programs, processes, and organizational patterns in the field of vocational education.

Although it is neither possible nor necessary to give a complete list of all these new developmental forms, some of the typical names such as the Comprehensive High School, Modern High School, Area Vocational School, Vocational Education Center, Factory School, Part-Time Program, Cooperative Program, Work Camp, Community School Service Project, and "School-Attached Production Unit" combinations are among the most familiar names that represent various approaches in this respect.

As this brief overview indicates, the central focus of all these efforts was the search for an effective method for the combination of work and education as an integrated whole, functional in the individual's development, economic and social adjustment, and in the development of an operational method for this combination under the shared responsibilities of the interested institutions of the society.

In the midst of the various movements, and as a consequence of a series of experiments, a merged "school-industry" design has been developed. The design provides the student a chance to spend part of his time working in industry while he is getting his general education.
This design has been deliberately planned to use the resources of the local industry, school, and community. The primary emphasis has been to establish a sound partnership between school and industry and to provide an opportunity for the student to make a smooth transition from school to work through a sound and economic vocational preparation. Systematic supervision of the program and close cooperation between the partners are the main characteristics of the design.

The plan has gained universal acceptance, and many work-education combinations have been developed by various nations. "Day-Release" and "Sandwich Courses" in England, "Factory-School" in Russia; and "Cooperative Occupational Education" in the United States constitute a few typical examples among the many other forms of the plan.

Although the plan is considered an outgrowth of the expansion of compulsory education and the modification of part-time courses, apprenticeship programs, or sometimes, regular day programs, it is really a result of the efforts to overcome some of the limitations inherent in each of these programs. Hence, in spite of many superior aspects, it also has its own limitations as do many other programs.

The main motivating factors for the emergence of the plan have been (1) the emerging of many new jobs in the labor market and the few trained people to fill them, (2) the increased financial burden on vocational schools, (3) the need to train workers in occupations which are rapidly becoming obsolescent due to the increased diversity and speed of machines, (4) the limited capacities of the small schools to provide the special training demanded by modern industry, and (5) the recognition of the importance of genuine work experience in the
preparation of special occupations as well as in the world of work.

Cooperative Programs in Selected Countries

In general, many vocational education patterns have been developed by various countries throughout the years as an answer to their special needs and requirements.

In some countries, early specialization is undertaken. In some countries, nearly all vocational training is done in school, while in others, this process takes place after leaving school or after the age of fifteen.

Thus, a complete study of any vocational education program should take into account the fundamental characteristics of similar programs in other countries. Consequently, some typical work-study combinations in a few selected countries are discussed in the following pages.

England

In England, until the recent reforms, industrial training was carried out by and within industry; and, in spite of some joint efforts, was inadequate. Related literature reveals that during the last two decades, major steps have been taken to improve long existing deficiencies in training skilled labor.

Although traditionally there was no formal link between practical and theoretical training in England, these recent attempts have broken this barrier considerably. Today, industry is cooperating with schools to combine work and education. The variety of joint bodies created recently includes representatives from all interested groups, including management, labor, and educational authorities. This strong tendency
of cooperation is emphasised by the Central Training Council in its Memorandum No. 1 as follows:

The more effective integration of the elements of technical education, systematic instruction in the basic skills, and practical experience, under supervision, on the job, must be one of the main objectives for industry and the education service alike under the Industrial Training Act.\(^{24}\)

The Council's statement sounds exactly like one of the fundamental principles of cooperative vocational education. It further indicates that England recently is in the process of developing this system. In fact, the most recent movement in England is the development of the "Sandwich Course" principle in which periods of on-the-job training are sandwiched between periods of study in school. It is based on the concept that slower assimilation of theoretical knowledge between longer intervals of working experience on-the-job is more effective than the conventional training system.

As a result of all these continuing efforts in recent years, there are at present a variety of classes ranging from simple plant operative training courses to the programs for training in the highly skilled occupations. Many young men between the ages of 15-18 who do not continue full-time education attend compulsory part-time day classes. They normally attend one day, two half days per week or several weeks at a time (block release) for an average of 145 hours a year. They are released from work by their employers with full wages paid for this school attendance.

The block release scheme, supplemented by evening school attendance in addition to day-block release, usually provides 50 percent more time per year than one day per week or three evenings per week systems.

On the other hand, modern secondary schools offer semi-vocational courses supplementary to apprenticeship and general education as well as offering other forms of skill training. After leaving a modern secondary school at about the age of 15, the student enrolls on a part-time basis at a technical college either in a craft course or in a general course. The first is preparation for a skilled occupation and the second is a more technical and scientific program. The craft course includes practical instruction and related technology. The practical instruction is supplemental to the four-day per week training in industry.

In addition, the government also provides six-month courses in various trades in the training centers to increase short-supply skilled manpower, and to provide training and re-training for needed persons. Furthermore, workers' associations and other voluntary organizations also offer courses. The majority of firms give training as part of the normal productive work under the supervision of a more skilled worker. The voluntary youth-serving agencies and the youth corps are financially government supported as a part of the total program of education.
Traditionally the emphasis in French education has been on the liberal arts rather than vocational education. Persistence of this classical tradition resulted in a general neglect of vocational education in France. However, the reform of Education Act of 1959 and the subsequent amendments changed the older structure considerably. Because of the extensive plans for economic development the whole vocational and technical education system is being recast. Today, in respect to vocational education, there are three main schemes of preparation in France. These are:

1. In-school, full-time education,
2. In-industry, part-time education combined with employment, and
3. In small-scale crafts.

The first type of training is offered by Collèges d'enseignement technique. It is a three-year full-time course plus one-year preliminary course incorporated into the general education system. The practical training is carried out as far as possible on productive work of a realistic nature including public services. Although some schools are run by industry most of them are maintained by the public. They were originally established during World War II as vocational training centers which subsequently became apprenticeship centers, and more recently technical colleges. The main purpose was to bring together, and to find occupations for young people who were unemployed.

In the second scheme, attendance at part-time classes by all youth under 18 employed in industry is compulsory. Since the Astier Act of
1919, a minimum of four hours a week and a total of 150 hours annually attendance is required whenever applicable during the statutory working hours.

The Ministry of Labor is responsible for the placement and training conditions of apprentices in industry while the Ministry of Education sets the standards and the content of the programs in assistance with the industrial representatives.

The third type of program is designed for persons who are working in the small scale trade and crafts, and employed by small enterprises usually no more than five persons, including apprentices. Since this type of enterprise usually is established in small communities, where part-time attendance for in-school studies is impractical, other methods such as correspondence courses and mobile workshops are used as an alternative for schools.25

Finally as Gregoire reports,26 for those who fail to reach the required standards for training to receive a trade proficiency certificate, the Ministry of Education is planning to arrange a kind of program in cooperation with industry to combine practical education with further general education.

Germany

Germany is a country which has a long tradition in education based on a unified philosophy with diversified programs. The vocational

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26Gregoire, op. cit., p. 99.
education system has already proven its capacity and quality with a successful adjustment throughout the recovery period of industry following World War II.

The basic principles that guide vocational preparation, in general, are that every vocational program should be open to anybody who can profit from it and who have need for it; each occupation should have its own specific training program; and vocational training should be supplemented by further general education. The typical applicational forms of these principles are: (1) apprenticeship on-the-job plus attendance to school, (2) combined work and education in "work-school" run by the firms, and (3) independent vocational schools. The first two forms are the most common ones.27

In the present system through the second educational route developed during the post war period primary school (Volkschule) graduates are able to gain entry to employment or higher education by studying on part-time or full-time basis. The "Mittel Schule" is also a practical secondary school to prepare students for immediate employment after graduation. At 16 they may become employed as trainees or continue full-time advanced vocational education.

One of the traditional patterns of the German vocational education is the "Berufschule," a part-time school. It has been developed from continuation schools which started as early as 1870 in Munich under Georg Kerschensteiner. After World War I, part-time school attendance

27Gregoire, op. cit., p. 18.
was made compulsory for all young people under 18 who were not attending other classes. Under this system, students receive vocational and general education one day per week for a period of three years. As Cramer and Browne report, about 80 percent of German youth, after having met the requirements of full-time compulsory education (8 or 9 years) take up apprenticeship or go into full-time employment. About five percent of these people continue their vocational education at full-time vocational schools and the remainder have to attend their part-time schools until the age of 18.

Berufschulen, part-time schools, provide general education, related technology and some practical work in skills required in occupations. In addition, there are also full-time vocational schools (the Brufsfachschulen), which prepare students for practical professions, and evening courses (Berufsaufbachschulen). However, most of the work-school graduates at the age of 14-15 continue their education on a part-time basis at the "Berufschulen." These schools constitute a network of local and regional centers. They are an integral part of apprentice systems and are controlled by leaders of industry, commerce and crafts working in cooperation with trade unions.

On the other hand, nearly 90 percent of training for employment is done by and within industry in a well organized and planned way. The large industries maintain apprentice programs, or work-schools. The

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recent tendency is toward a more comprehensive field of study rather than for training in narrow occupations. The Brunswick curriculum as a three tier plan is a typical example of this concept. The plan provides basic fundamentals of a particular major field in industry during the first stage, provides training in a group of trades in this field at the second stage, and trains for employment in a specific occupation in the same field in the third stage.\(^9\)

Another typical tendency is to replace the strenuous evening classes with day schools either on a full or part-time basis.

Russia

The idea of combining instruction with productive labor and socially useful work is the central focus in Soviet education. It is formulated by Marx as "...the absolute adaptability of the human being to changing requirements in labor." According to Marx, "the combination of paid productive work, mental training, physical exercise and polytechnical instruction raises the working class far above the level of the upper and middle classes."\(^{30}\) The Leninist principles of linking the school and life, together with the theory worked out by Marx, have been the main motivating factors in the development of the Soviet educational system.

\(^{29}\)Gregoire, \textit{op. cit.}, p. 19

The idea enjoyed wide popularity until 1937, when school workshops were liquidated. One of the first decrees of the government in the early revolution was to require working youth, at the age of 15-18, to attend school two hours each day for twelve hours each week. The second approach to vocational education was the "School-Factory" training, F.Z.U., including general education, technical training, and preparation for specific needs of particular enterprises. To overcome the weaknesses inherited in the "School-Factory" scheme—overemphasis on the specific needs of enterprises—the state system of vocational schools was established in 1940 to prepare youth for all enterprises.

A more recent development was outlined by the law "on strengthening the ties of the school with life and further developing the system of national education" adopted by the 20th Congress of the CPSU, the Supreme Soviet Congress, in December, 1958. The law requires the organic combination of instruction with labor.

As a result, a new and unified type of vocational school, the P.T.U., was established to replace all other types of vocational and technical schools. These are similar to the recent area vocational school development in the United States.

In addition, there are also four-year vocational schools which combine vocational education with general education. Similar to the vocational education concept in the United States, they provide an opportunity for the students to complete academic high school programs along with their vocational education. Trades, requiring less than 1,000 hours of training, are learned in industry.\textsuperscript{31}

\textsuperscript{31} Warren, \textit{op. cit.}, pp. 88-90.
Besides these various full-time combinations, the latest government decree on part-time education, in 1964, calls for extension and improvement in these programs. It emphasizes the need for cooperation and coordination of government, industry, and educational establishments, and encourages the continuous expansion of the system of study without interruption to national production. The "plant-technical" or "farm-technical" schools, "speed-up" courses, and schools for foremen are recently established part-time institutions. According to Rosen, there is no clear distinction between part-time and full-time education in Soviet education:

A part-time student...is an individual receiving a general education and specialized training while working. A full-time student...(is) an individual receiving practical work skills and experience while getting a general education and specialized training.

Ultimately...the distinction between full-time and part-time education...may be largely eradicated.32

As a matter of fact, part-time education is increasingly favored over full-time education as a means of providing specialized secondary education, as less expensive, as an avenue for continuing higher studies, and as a means of increasing effective use of educational facilities. Enrollment in part-time schools is increasing considerably compared with corresponding full-time schools.

There are special provisions in Soviet legislation to link the schools with productive labor, such as requiring (1) a shortened day

or week, (2) training facilities in the enterprises, (3) payment for student work, (4) cooperative planning and operation of the programs by educators and employers, and (5) supervision of student work by the schools.33

Organization and operation of the work-study combination vary, depending upon the training specialty and the resources available. The planning of the program is worked out by close cooperation with management and trade unions for securing valuable work experience. Enterprises for which pupils are being trained participate continuously and directly in planning the curriculum, and in equipping and staffing the shops.

Generally, work experience is provided in the plants. However, in situations where schools cannot organize work training in an enterprise because of inavailability of suitable conditions, the interschool shop approach is utilized. Typical arrangements for practical instruction are:

1. Training production workshops,
2. Training work and training sectors of enterprises, and
3. Training in ordinary workshops of plants and factories.

It is generally agreed that special shops for teaching established in enterprises is the best method. The individual and team training methods are employed in all of these arrangements. In training workshops and work sectors a group of pupils performing a productive work

33Shapovelenko, op. cit., pp. 402-03.
program under the supervision of a well-qualified instructor—a teaching-skilled worker—constitutes an instructional team.

Where theoretical instruction for a group of ten or more pupils cannot be formed, and where instruction takes place in ordinary workshops, the individual method is used. Each student-learner has an experienced worker-instructor appointed for guiding and supervising the student's activities. Following the completion of the first stage of training, the student-learner is expected to carry out plant routines and jobs independently, provided that the instructor's help will be secured when needed.

As Shapovelenko reports, presently, the individual instruction method is common; however, he maintains that "as the school reforms are carried through and training works and workshops are built, the group type of instruction will be used more and more." In general, the programs are determined by the State Committee for Vocational Education, and supervised by local educational committees.

In short, according to Russian educators, work is a necessity for the harmonious development of the human being. Polytechnical education combined with labor training lays the foundation for vocational education.

Side by side and in close contact with the schools, various out-of-school institutions carry out different kinds of educational and training work with children in Soviet education. Work is presented to pupils as the desirable and necessary way of life. Practically

\[^{34}Tbid., p. 362.\]
every child learns some marketable skill during the ten or eleven years of school.

The basic idea of combining practical work experience with study is generally accepted. Work-study programs in Soviet schools have been proved successful, especially since the 1955 reforms. Some schools represent good examples of well integrated combinations of work-training, practical work and academic study.

The U.S.A.

There are rich examples of work-education combinations in the history of American education. Milton J. Gold, in "Working to Learn," describes eight different variations as "American Occupational Patterns," extending from factory schools to work camps for youth. Among others, he gives special recognition to the cooperative work experience program as a well established pattern in American schools. There is also a comprehensive discussion in "Work Experience Programs in American Secondary Schools" concerning various work experience schemes that have been used by secondary schools. In addition, joint authors, Mason and Haines, report five basic types of programs, two under the general education category and three under occupational education classification.

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35 Gold, op. cit., Chapter VII, pp. 100-45.


37 Mason and Haines, op. cit., p. 48.
Study of the related literature indicates that the main motivating factors in the development of cooperative education programs in American education have been (1) early experiences in engineering education, (2) provisions by federal legislation, (3) extensive unemployment among the youth during the Depression years, (4) experiences initiated by some of the southern states, and (5) the need for training a large number of skilled labor for war production industries during World War II.

The need for practical experience in the field of engineering led to the development of a plan at Massachusetts Institute of Technology which required that students work in shops and industrial plants before graduation. However, for the adaptation of earlier work-study programs to the systematic cooperative plan, the literature gives credit to Herman Schneider at the University of Cincinnati, in 1906. His concept was that some aspects of technical knowledge and individual development can be obtained most economically through actual work experiences. Following the introduction of Herman Schneider's plan, various cooperative programs were developed in some colleges and in many high schools throughout the United States.

Shortly after this movement, special provisions were made for the establishment of this type of program in the secondary schools by the Smith-Hughes Act of 1917, which set the stage for the American vocational education system at the national level.

During the Depression, millions of youth were out of school and unemployed. To remedy this situation, some special programs had to be developed such as the C.C.C. (Civilian Conservation Corps), student aid programs, and the National Youth Administration. The main purpose of
these programs was to relieve unemployment, to provide work experience
and funds to pay students for their work.

In 1933, a plan was developed by vocational educators in some of
the southern states to provide a form of occupational training in
communities too small to support a trade and industrial school or a
regular preparatory program.

World War II created a demand for the services of millions of
youth in agriculture, and industry. Emerging manpower shortages,
attractive wages, and the need to assist in the war effort provided
a strong stimulus for the organization of cooperative vocational
programs. Under the provisions of the Vocational Training for War
Production Worker's Acts, programs were initiated in almost every local
community.

As a result of these experiences, the value of organized work
experience as an integral part of education was tested and generally
accepted. It has been found that through cooperative vocational
programs youth gain increased insight, motivation, knowledge, skill,
good habits, and attitudes.

There has been a substantial growth of cooperative programs in
schools. Many educators seem to favor some form of organized work
experience education as a regular part of the secondary school
programs.

Many studies have been made, and new publications have appeared
in the literature concerning the work and education combinations. As
George W. Burchill reports, in 1928 there were 70 cities with 5,682
pupils enrolled in cooperative programs under the Smith-Hughes Act. On the other hand, according to Rupert N. Evans, in spite of a number of inhibiting factors preventing a systematic development of the programs, more than 160,000 students are now involved in some 4,800 different programs in more than 3,000 high schools and junior colleges.

Following the provisions of the Smith-Hughes Act, government-aided diversified occupation work-study programs were started in 1933. Since 1946, many states have extended these programs in the 11th and 12th school years. Throughout the years various programs with different purposes and names have been developed in the United States.

Research in Cooperative Occupational Education

A search for new knowledge and new techniques has been one of the fundamental objectives of any type of vocational education program.

A review of the related literature indicates that most of the research performed was reported in government publications, professional journals, year books, theses, special bulletins and in research reports. Early studies were concerned mainly with community surveys, occupational analyses and program descriptions. Later reports emphasize organizational and operational principles, student achievement, selection procedures and placement, instructional methods and materials.

As the research findings indicate, cooperative education has received increasing emphasis throughout its history, in terms of

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39 Evans, op. cit., p. 19.
legislative provisions. Presently its boundaries are expanding over
the large occupational arena. Preparation for employment through
cooperative programs is becoming a major means of reducing poverty and
other social disorders.

Typical follow-up studies indicate that the rate of placement in
cooperative programs is higher than in conventional vocational education
programs. Eighty percent of the graduates are placed in jobs for which
they were prepared. In addition, research indicates that there is a
higher rate of return on investment in cooperative education than in
regular programs.

In spite of the lack of evidence in any specific area concerning
particular problems, there are some trends in the field which might be
summarized as follows:

1. A shift from a focus on meeting labor market needs to meeting
individual needs;

2. Emerging questioning attitudes about the validity of the
supply and demand theory and efforts to develop more effective tools
for the accurate production of manpower demands;

3. Increased emphasis on breadth of, as opposed to indepth,
study of a particular occupation;

4. More emphasis on individual and special group study under
clinical conditions with the utilization of more flexible schedules;

5. Part-time education being used more as a means of opening
a complete "second way" of education from minimum school-leaving age
upward; and
6. There is widespread and increasing cooperation between industry and education.

Of course, all these new trends in the field of vocational education have special implications in cooperative programs requiring new strategies, new policies, and organizational approaches.

Finally, there are a number of problems requiring immediate attention. According to Chester Swanson, the problems are mainly related to the public's image of vocational education, counseling, motivation, job availability, and curriculum organization. They include (1) breadth versus depth in curriculum content, (2) participation of business, industry and unions more effectively, and (3) obtaining realistic labor market information. Above all, the most important and fundamental problems in vocational education seem to be combining compulsory education with vocational education effectively, and establishing a systematic and well organized continuous education for active life.

As the research indicates, the solutions to these problems require more deliberate attention, immediate action, a systematic approach and organization. Some of the typical recommendations in this respect may be enumerated as follows:

1. Identification of the major problems clearly and systematically,

2. Securing adequate support from various sources other than the legislative provisions,

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40 Chester Swanson, "Can We Carry Out the 1963 Mandate for a Total Program?" American Vocational Journal, Vol. 43, No. 6, September, 1968, pp. 29-30.
3. Establishing research advisory committees,

4. Integration of all occupational study fields under one vocational education research umbrella,

5. Systematic application of interdisciplinary approach and team effort,

6. Replacing old logical procedures with new techniques based on scientific grounds,

7. Identification of occupational competencies and relating them to an organized learning experience,

8. Developing new techniques and processes to integrate the technical content with related disciplines on one hand and to develop a social and occupational adaptability in youth on the other, and

9. Systematic evaluation of on-going and completed research studies and effective utilization of the findings.

In addition, research studies should be undertaken to provide understanding of the attitudes of disadvantaged and undermotivated youth toward their schools and environments. Pilot programs should be developed to discourage dropouts, to motivate the socio-economically handicapped youth to pursue training for gainful employment. As these and similar problems systematically and gradually are eliminated, more productive research results can be anticipated for the further development of effective functional cooperative occupational programs.

Summary

As the preceding overview concerning the various aspects of the cooperative plan indicates, cooperative vocational education programs have reason to exist on the basis of scientific principles and educational theories, historical evidences, expert opinions and research results. It is an educationally, economically, and socially sound program.
The cooperative education scheme is an attempt to unify such traditional dichotomies in education as general and vocational schools, school and life situations, and theory and practice. It is based on a functional and constructive philosophy, and can be designed for both vocational and general education purposes. The program is one of the many instructional plans used in education. The industrial cooperative education version is one of the original forms of the cooperative plan.

It is a preparatory program, providing basic and specialized training. It has unique features different from all other programs; and is designed mainly for junior and senior high school students who are not satisfied with conventional school studies.

In general, the ultimate objective of cooperative vocational education is the education of the individual as a whole through the utilization of vocational interest as a motivating force. The immediate goal to be accomplished, however, is preparation for employment, which is one of the fundamental steps for further development of an individual.

Cooperative education is a special program having its own unique characteristics, function, and place in the field of education. According to the underlying objectives, concepts, and prevailing practices of the cooperative industrial program, it can be placed between part-time preparatory and modified day preparatory programs within the total trade and industrial education complex.

A complete cooperative vocational education program includes three main elements in its organizational structure; namely, work, related study, and regular high school courses. Either the types of occupations included in the program or the student learning rate might
be used as criteria in designing the various programs. In addition, there are some common standards to be used in any kind of cooperative program. The typical types of cooperative industrial training programs are single occupation and diversified occupations programs.

Although the idea of combining work and education is as old as human beings, its systematic development starts with the scientific educational movements on one hand and the Industrial Revolution on the other. The first movement developed a theoretical foundation while the second paved the way for the development of a variety of forms.

The main purpose of developing this new design was the search for an effective method for combining work and education as an integrated part interwoven into a unified texture. The result was the development of the conceptual framework of modern cooperative education. Compulsory education policies, part-time and continuation courses, and changes in the social, economic, as well as occupational structure—all have been contributing factors in this development.

A brief study of the vocational education systems, in several countries, indicates that generally, work and education schemes have developed in a variety of patterns in different contextual settings. In some cases, in-school studies have been given greater priority than practical work experience outside the school, while full-time employment supplemented with part-time schooling has gained popularity in other cases. Operational policies and coordination techniques of the program show differences from country to country depending upon the general educational structure and the nature of the society.
It is a striking fact that there appears to be a genuine realization of the importance of the cooperative education plan. Increasingly, provisions for the development of this type of method are being made in every country studied. England and France, with their recent educational reforms, represent typical examples in breaking a long educational tradition. On the other hand, Russia and the United States constitute good examples of utilizing a variety of approaches and techniques in developing different cooperative plans. The most typical and traditional beneficiary of this approach has been Germany with its "Berufschulen" system.

Throughout its history, government has been the most influential source in supporting and stimulating research studies in the field. The majority of the studies have concerned community surveys, program planning, and descriptions of programs. The questionnaire is the most predominant technique that has been used throughout the years. Although most of the studies suggest expansion of the program, development has been considerably slow because of various obstacles, stemming mostly from long tradition.

In spite of recently increased developmental efforts, research in the field is still in its infancy. There is a need for systematic organization and development of fundamental principles and techniques. The main trends seem to be expansion toward both lower and upper grades, broadening the content, utilization of programmed instruction, and development of new strategies, policies, and organizational approaches. The fundamental problems that need solution are the development of more
accurate employment forecasting methods, improvement of cooperation among interested groups, more realistic content design, and above all, effective integration of vocational and general studies. Finally, better identification of problems, utilization of an interdisciplinary approach, obtaining adequate financial support, and developing a better organizational structure seem to be some of the proposals needing further development.
CHAPTER IV

FIELD STUDY
A Survey of Selected Population

Introduction

In the first part of this study the proposition under consideration is introduced and an attempt is made to identify the problem. The second part is devoted to an analysis of the existing contextual setting as it relates to vocational education in general, and to trade and industrial education in particular. In the third part of the study, a review of the cooperative vocational education program is presented in order to provide a general perspective concerning the various aspects of the work and education combination.

The purpose of this section is to introduce the main indications of the study concerning the ideas, attitudes and reactions of individuals and groups potentially involved in the problem.

The following discussion is primarily centered around the research procedure followed in the field study, a systematic analysis of the data obtained from the study, and the interpretation and generalization of the basic data in relation to their bearings on cooperative vocational education programs.
Research Procedure

The research process employed in conducting the field study comprises primarily three main stages, namely, development of the required instruments and forms for the study, securing the data needed for elaboration of the proposition, and the treatment of the data obtained through the questionnaire method. A brief description of these three aspects will clarify the nature of the process applied in the study.

Development of the instruments. In developing the original draft of the appropriate instrument, related literature was first reviewed to develop a fresh outlook concerning the principles and techniques of the research process and the general nature of similar studies recently conducted in the field.

This first draft was further improved and revised according to suggestions made by the adviser. Finally, the instruments were re-designed and the final forms were translated from English to the Turkish language.

The process of securing data. In order to obtain the necessary data for the study, official cooperation was secured from the Bureau of Research and Planning of the Undersecretariat for Vocational-Technical Education of the Ministry of Education of Turkey. Secondly, standards for selection of the population and a procedure for conducting the survey in Turkey were developed. Characteristics of the communities, institutions and individuals to be involved in the survey were clarified briefly.
Being a typical industrial center with various premises and having a population predominantly middle and labor class were the basic criteria for the community to be surveyed. Some various representative industrial establishments and secondary schools in the community were the main institutions to be involved in the survey. A selected group of educators, employers, parents and students within the selected communities and institutions were the main groups to be involved in the study.

All the instruments and forms were sent to the cooperating Bureau in Turkey on June 23, 1969. The Bureau made the necessary arrangements, reproduced the questionnaire and selected the communities on the basis of the criteria developed by the author and on the information secured from publications of the Ministry of Education.

In each of the communities selected, secondary schools meeting the criteria were responsible for conducting the survey in their respective local communities under the supervision of the Bureau. In addition, participants in two secondary school administrator's seminars, a number of central office personnel holding key positions in the Ministry of Education, and several industries in Ankara were surveyed directly by the Bureau.

A specialist from the Bureau undertook the orientation program and maintained communications with the author during the survey. The Bureau, provided follow-up on the survey instruments continuously through personal contacts, telephone calls, and mail from July to September in an effort to obtain a maximum rate of return. At the end of the
period, all responses received by the Bureau were sent to the author in the United States.

A general distribution of the population investigated is shown in Table 7. As the table indicates, the survey was carried out in six typical industrial communities and included various industrial establishments, four junior high schools, two senior high schools, and six secondary technical schools. In addition, persons in key positions in the central office of the Ministry of Education and two groups of secondary school administrators from various provinces completed the educator's questionnaire.

A total of 1,157 questionnaires were distributed and 714 responses, or 62 percent, were returned. The highest response came from the student group with an 80 percent of return. The educator's group followed second with a return of 69 percent. The response rate in the parent and employer groups was somewhat lower than expected which might be attributable to the inadequate educational background of parents and to the lack of school-industry relationships.

As reported by the cooperating Bureau, the contributing factors to the low rate of response generally were:

1. Unfamiliarity of the population with the cooperative vocational education programs,

2. Inappropriateness of the time for a productive survey because of the summer vacation,

3. Various administrative difficulties inherent in the existing educational system,

4. Prevailing negative attitude due to lack of action from previous research studies,
<table>
<thead>
<tr>
<th>Community</th>
<th>Educational</th>
<th>Industrial</th>
<th>Educator</th>
<th>Employer</th>
<th>Parent</th>
<th>Student</th>
<th>Total</th>
<th>%</th>
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<tbody>
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<td>Y.B. Junior H.S.</td>
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<td></td>
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<td></td>
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</tr>
<tr>
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<td></td>
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</tr>
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<td>Technical Sch., Adm., Seminar</td>
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<td></td>
<td></td>
<td></td>
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<td>Central Office of Ministry of Educ.</td>
<td>Cabinet making</td>
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<td></td>
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<td>Chemical industry</td>
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<td>45</td>
<td>22</td>
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<td>M.P. Technical H.S.</td>
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<td></td>
<td>Technical Sch., Adm., Seminar</td>
<td>Electrical industry</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Auto industry</td>
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<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Izmit</td>
<td>Technical H.S.</td>
<td>Machine industry</td>
<td>20</td>
<td>17</td>
<td>40</td>
<td>14</td>
<td>30</td>
<td>27</td>
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<td></td>
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<td>Electrical industry</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td>Karabuk</td>
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<td>13</td>
<td>20</td>
<td>7</td>
<td>60</td>
<td>30</td>
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<td>Y. Sehir Junior H.S.</td>
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<tr>
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<td>Technical H.S.</td>
<td>Steel industry</td>
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<td>13</td>
<td>20</td>
<td>6</td>
<td>30</td>
<td>16</td>
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<tr>
<td>Kirikkale</td>
<td>Work-School</td>
<td>Machine &amp; mechanics</td>
<td>30</td>
<td>30</td>
<td>20</td>
<td>12</td>
<td>70</td>
<td>12</td>
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<tr>
<td>TOTAL</td>
<td>Kirikkale Senior H.S.</td>
<td>Electrical industry</td>
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<td></td>
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<td></td>
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<td>Total</td>
<td>267</td>
<td>183</td>
<td>180</td>
<td>71</td>
<td>355</td>
<td>172</td>
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</table>

$S = $Sent $R = $Received $H.S. = $High School
5. Lack of interest on the part of cooperating school administrators, and

6. Lack of interest on the part of responsible personnel in key positions at the Ministry of Education.¹

Treatment of the data. After the responses received by the author were compiled and counted, they were categorized according to the areas of information sought.

Table 8 presents a categorization of the information requested, including the purpose of the information sought from the population group included, the nature of information sought in each group and the questions asked within each category. The data under each category were further classified, computed, tabulated, analyzed and interpreted. Finally, general conclusions have been drawn from the resulting composite.

Analysis of the Data

General Nature of Existing Secondary School Programs

The main purposes of this category were to discover certain fundamental features of the existing secondary school programs in relation to preparation of students for the world of work, and to obtain the reactions of groups involved in the programs. Basic aspects of the existing curriculum to be clarified were the provisions for developing employment skills in the students, failures to develop these skills, student need for vocational preparation in addition to college preparation,

¹Translated from the report of the cooperating Bureau, September 29, 1969, p. 2.
<table>
<thead>
<tr>
<th>Question:</th>
<th>Order No.</th>
<th>Asked in Part</th>
<th>Directed to Group</th>
<th>Information Sought</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. For General Reaction to Existing Sec. School Programs</td>
<td>1, 2</td>
<td>All</td>
<td>All</td>
<td>Sec. school’s provisions for employment skill development &lt;br&gt; Sec. school’s failure in employment preparation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Suggestions for improving present programs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Need for vocational prep. in addition to college prep. in high school</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Need for work experience for vocational school students</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The most and the least beneficial subjects for employment</td>
</tr>
<tr>
<td>II. For Securing the Need and Applicability of the Coop. Program</td>
<td>7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19</td>
<td>All, Teacher &amp; Empl., Parents, Student, Employers, Teacher-Parents, Student, Teacher-Parents, Teacher-Employer, Employer, Student, Student</td>
<td>All, Teacher &amp; Empl., Parents, Student, Employers, Teacher-Parents, Student, Teacher-Parents, Teacher-Employer, Employer, Student, Student</td>
<td>Coop. vocational program as an alternative to in-school vocational preparation &lt;br&gt; On-the-job training as an alternative to in-school shop training &lt;br&gt; Parents’ attitude toward coop. vocational program &lt;br&gt; Student’s need for part-time employment &lt;br&gt; Employment opportunities for student-learner &lt;br&gt; Need for cooperative program &lt;br&gt; Academic H.S. student’s interest in preparation for employment &lt;br&gt; Vocational H.S. student’s interest in academic H.S. graduation &lt;br&gt; Opinion on employer’s attitude toward cooperative program &lt;br&gt; Need for a designated coordinator &lt;br&gt; Willingness to serve in advisory committee &lt;br&gt; Plans after school &lt;br&gt; Attitude toward cooperative program</td>
</tr>
<tr>
<td>Order No.</td>
<td>Asked in Part</td>
<td>Directed to Group</td>
<td>Information Sought</td>
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<tr>
<td>20</td>
<td>III, For</td>
<td>All</td>
<td>On program schedule</td>
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<tr>
<td>21</td>
<td>General</td>
<td>All, but Parents</td>
<td>On the length of program</td>
<td></td>
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<tr>
<td>22</td>
<td>Nature of the Program</td>
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<td>Wage for student-learner</td>
<td></td>
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<tr>
<td>23</td>
<td></td>
<td>All</td>
<td>Credit for work experience</td>
<td></td>
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<tr>
<td>24</td>
<td></td>
<td>All, but Employer</td>
<td>Grade level</td>
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<tr>
<td>25</td>
<td>IV, For Problems and</td>
<td>All</td>
<td>Obstacles to be encountered</td>
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<td>26</td>
<td>Suggestions</td>
<td>All</td>
<td>Problems to be created</td>
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<tr>
<td>27</td>
<td></td>
<td>All, but Student</td>
<td>Suggestions for overcoming probable problems</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>V, For Original Ideas</td>
<td>All</td>
<td>General comments</td>
<td></td>
</tr>
</tbody>
</table>
the needs of vocational school students for work experience, and the
most and least beneficial subjects for vocational preparation.

Ninety-nine percent of the respondents reacted to the first
question in this category concerning the provision for the development
of employment skills. Table 9 indicates that three hundred forty-one
respondents out of 535 or 64 percent, believe that there are no
provisions for the development of employment skills in the academic
high schools. Concurrently, 363 respondents out of 581, or 62 percent,
believe there are such provisions in vocational school programs. In
addition, there appears to be consistency in this reaction among the
four individual groups responding.

Inadequate curriculum, irrelevant instructional methods, outmoded
educational systems, unqualified staff, teacher shortage, and lack of
interest on the part of students and parents are seen as the main
factors resulting in the failure of academic high schools to properly
prepare students for employment.

On the other hand, as Table 10 indicates, in response to the
second question concerning the deficiencies in employability of
students for employment, a total of 2060 responses were recorded.
Of these, 1069 refer to academic school graduates, 991 to vocational
school graduates.

As seen in Table 10, lack of work experience seems to be the most
important deficiency. A combination of ranking shows that inadequate
general education, lack of adjustment to working conditions, inadequate
vocational preparation, and lack of well developed personal habits
Table 9
Provision for Employment Skills in Secondary School Programs
(Reaction to Question 1)

<table>
<thead>
<tr>
<th>YES</th>
<th>Educator</th>
<th>Employer</th>
<th>Parents</th>
<th>Students</th>
<th>Total</th>
<th>Percentage</th>
<th>Combined Total</th>
<th>Combined Percentage</th>
<th>Total</th>
<th>Student</th>
<th>Parents</th>
<th>Employer</th>
<th>Educator</th>
<th>Reason:</th>
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</thead>
<tbody>
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<td></td>
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<td></td>
<td>Academic H.S.</td>
</tr>
<tr>
<td>Academic H.S.</td>
<td>19</td>
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<td>95</td>
<td>194</td>
<td>36.3</td>
<td>535</td>
<td>53.7</td>
<td>218</td>
<td>52</td>
<td>32</td>
<td>36</td>
<td>98</td>
<td>Inadequate Provision for Emp. Skills</td>
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<td>Academic H.S.</td>
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<td>Inadequate Prog., Prep. for Emp.</td>
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<td>and Life</td>
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<td></td>
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<td>Provision for Emp.</td>
</tr>
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</tr>
</tbody>
</table>

1/2 --- 1. Responses given for academic high school.
  2. Responses given for vocational high school.
Table 10

Deficiencies of Student for Employment
(Reaction to Question 2)

<table>
<thead>
<tr>
<th>Areas</th>
<th>Educator</th>
<th>Employer</th>
<th>Parent</th>
<th>Student</th>
<th>Total</th>
<th>Rank</th>
<th>Combined</th>
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<tr>
<td></td>
<td>A</td>
<td>V</td>
<td>A</td>
<td>V</td>
<td>A</td>
<td>V</td>
<td>A</td>
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<td>General Educ.</td>
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<td>75</td>
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<td>31</td>
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<tr>
<td>Vocational Educ.</td>
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<td>46</td>
<td>39</td>
<td>20</td>
<td>64</td>
<td>26</td>
<td>77</td>
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<tr>
<td>Work Experience</td>
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<td>48</td>
<td>44</td>
<td>86</td>
<td>45</td>
<td>127</td>
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<tr>
<td>Adj. to Work Cond.</td>
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<td>23</td>
<td>26</td>
<td>64</td>
<td>30</td>
<td>104</td>
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<tr>
<td>Personal Traits</td>
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<td>14</td>
<td>18</td>
<td>42</td>
<td>40</td>
<td>44</td>
</tr>
</tbody>
</table>

TOTAL

1069 991 2060

A = Academic high school
V = Vocational high school
followed consecutively as the deficiencies of secondary school graduates for employment.

Student and parent groups both ranked general education as the most important deficiency in vocational students, which is consistent with the prevailing public attitude toward vocational school graduates.

In general, work experience, adjustment to working conditions, and vocational preparation appear to be the most important deficiencies in academic school graduates. Among vocational school graduates, general education and work experience are the greatest deficiencies.

In the third question concerning "suggestions for making the existing program more functional," a total of 1759 responses were recorded. Nine hundred thirteen of these related to vocational school programs and 846 to academic school programs. Table 11 indicates in the combined ranking that the respondents ranked first the preparation of more flexible programs related to the individual student’s needs and abilities, and provision for work experience second.

For vocational schools, work experience was ranked first in importance, while development of more flexible programs was ranked first for academic schools. Students, on the other hand, emphasized the need for a flexible program for both schools and employers preferred work experience. Both educators and parents rated high flexible programs for academic schools and work experience for vocational schools. Providing vocational subjects was considered less important in relation to the other factors by both school groups.
### Table 11

Suggestions for Improvement  
(Reaction to Question 3)

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>Educator</th>
<th>Employer</th>
<th>Parents</th>
<th>Student</th>
<th>Total</th>
<th>Rank</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>V</td>
<td>A</td>
<td>V</td>
<td>A</td>
<td>V</td>
<td>A</td>
</tr>
<tr>
<td>Provide Voc. Subj.</td>
<td>45</td>
<td>46</td>
<td>27</td>
<td>19</td>
<td>43</td>
<td>34</td>
<td>61</td>
</tr>
<tr>
<td>Flexible Program</td>
<td>72</td>
<td>68</td>
<td>29</td>
<td>28</td>
<td>72</td>
<td>56</td>
<td>115</td>
</tr>
<tr>
<td>Provide Work Exp.</td>
<td>38</td>
<td>74</td>
<td>33</td>
<td>47</td>
<td>53</td>
<td>63</td>
<td>64</td>
</tr>
<tr>
<td>Program for Local Need</td>
<td>46</td>
<td>74</td>
<td>26</td>
<td>30</td>
<td>53</td>
<td>45</td>
<td>69</td>
</tr>
<tr>
<td>TOTAL</td>
<td>846</td>
<td>913</td>
<td></td>
<td></td>
<td>1759</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A = Academic high school  
V = Vocational high school
Ninety-five percent of the respondents reacted to the fourth question, concerning the "need for vocational preparation of academic high school students in addition to college preparation." As shown in Table 12, a great majority of respondents, 86.5 percent, indicated the need for such preparation.

Table 12

<table>
<thead>
<tr>
<th>Vocational Preparation in Academic High School in Addition to College Preparation (Reaction to Question 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

The vocational school students' need for work experience in industry was responded to by 94 percent of those responding. Of these an overwhelming majority, 90 percent, indicated the need for work experience. As the data in Table 13 reveal, there is considerable consistency among the groups in this respect.
Table 13
Provision for Work Experience in Industry by Vocational Schools in Addition to In-School Shop Practice
(Response to Question 5)

<table>
<thead>
<tr>
<th>Response</th>
<th>Educator</th>
<th>Employer</th>
<th>Parents</th>
<th>Students</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>157</td>
<td>67</td>
<td>151</td>
<td>249</td>
<td>624</td>
<td>90.0</td>
</tr>
<tr>
<td>No</td>
<td>16</td>
<td>2</td>
<td>13</td>
<td>16</td>
<td>47</td>
<td>10.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>173</td>
<td>69</td>
<td>164</td>
<td>265</td>
<td>671</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Finally, in regard to the sixth and last question in this section involving the most and the least beneficial subjects for vocational preparation, a total of 1278 responses were received as indicated in Table 14. Of these, 819 were related to the most relevant subjects and 459 to the least relevant subjects. This question was directed only to the student group. The most frequently mentioned subjects are shown in this table according to their rank order. In general, these subjects can be categorized in three groups: those which were rated only in the most relevant column, those rated in both columns, and those rated only in the least relevant column.

Related technology, drafting, and shop courses fall in the most relevant column and physical education, humanities and religious courses were rated least relevant. It may also be observed that mathematics, related technology, Turkish language and drafting were rated as the first four most relevant subjects, while social science,
### Table 14
The Most and the Least Beneficial Subjects in Preparation for Work
(Reaction to Question 5)

<table>
<thead>
<tr>
<th>Most Beneficial Subjects</th>
<th>No. of Responses</th>
<th>%</th>
<th>Rank</th>
<th>%</th>
<th>No. of Responses</th>
<th>Least Beneficial Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>212</td>
<td>25.8</td>
<td>1</td>
<td>26.1</td>
<td>120</td>
<td>Social Science</td>
</tr>
<tr>
<td>Related Technology</td>
<td>125</td>
<td>15.2</td>
<td>2</td>
<td>21.1</td>
<td>97</td>
<td>Physical Education</td>
</tr>
<tr>
<td>Turkish</td>
<td>124</td>
<td>15.1</td>
<td>3</td>
<td>20.9</td>
<td>96</td>
<td>Humanities*</td>
</tr>
<tr>
<td>Drafting</td>
<td>108</td>
<td>13.1</td>
<td>4</td>
<td>14.3</td>
<td>66</td>
<td>Natural Sciences</td>
</tr>
<tr>
<td>Natural Sciences*</td>
<td>93</td>
<td>11.3</td>
<td>5</td>
<td>9.5</td>
<td>44</td>
<td>Turkish</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>66</td>
<td>8.0</td>
<td>6</td>
<td>3.7</td>
<td>17</td>
<td>Mathematics</td>
</tr>
<tr>
<td>Social Sciences*</td>
<td>46</td>
<td>5.6</td>
<td>7</td>
<td>2.8</td>
<td>13</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>Shop</td>
<td>32</td>
<td>3.9</td>
<td>8</td>
<td>1.3</td>
<td>6</td>
<td>Religious Education</td>
</tr>
</tbody>
</table>

*Natural Sciences: Physics, Chemistry, Biology, Mechanics

*Social Sciences: History, Geography, Citizenship

*Humanities: Painting, Art-Craft, Music

Physical education, humanities and natural sciences were rated as the four least relevant subjects in terms of the number of responses. The fact that the students rated shop courses last in the most relevant column and social science first in the least relevant column may well indicate the inefficiency of the presentation of these subjects.
In summary, indications are that consistency exists among the four interested groups in their attitudes and thinking about the present programs. An overwhelming majority of the respondents agree that there is no provision in academic secondary school programs for preparation for employment. The main contributing factors to this situation appear to be:

1. Conventional nature of the existing educational system,

2. Irrelevant curricula,

3. Outmoded educational methods, teacher shortage, and poorly qualified teachers, and

4. Lack of interest on the part of both students and parents.

The data reveal that the most important student deficiencies are in personal traits for adjustment to work conditions, lack of vocational education background of academic school graduates, and, inadequate general education background of vocational school graduates.

For the improvement of the existing situation, it is evident that more flexible programs are needed which include provisions for work experience. In addition, all groups believe that there is need of vocational preparation for academic school students and provision of work experience for vocational school students.

The most relevant subjects for the development of employment skills in the existing curriculum, as rated by the students, appear to be mathematics, related technology, Turkish and drafting. Student reactions also indicate that shop and social science courses are not accomplishing their objectives.
Need for Cooperative Vocational Program

The central focus of the second part of the questionnaire was to secure the reaction of the various groups toward the cooperative program and to find out the possible need for such a program in each community. For this purpose, a number of questions concerning the different aspects of the program were directed to selected groups.

In addition, the questionnaire was intended to clarify acceptability of the cooperative plan over regular vocational education programs, on-the-job training over in-school shop training, student's interests in the cooperative program, and employment opportunities for student-learners in the community.

The question concerning the possibility of adopting the cooperative vocational education program as an alternative to other conventional programs was directed to the four individual groups. Table 15 indicates that a majority of the respondents, 70 percent, favored the cooperative program as an alternative to in-school vocational preparation. The groups differed slightly in their reactions, employers being more strongly in favor while students tended to favor it the least.

Table 15

Cooperative Vocational Program as an Alternative to In-School Vocational Preparation
(Reaction to Question 7)

<table>
<thead>
<tr>
<th>Response</th>
<th>Educator</th>
<th>Employer</th>
<th>Parents</th>
<th>Students</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>143</td>
<td>59</td>
<td>116</td>
<td>148</td>
<td>466</td>
<td>70.4</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>6</td>
<td>46</td>
<td>114</td>
<td>196</td>
<td>29.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>173</td>
<td>65</td>
<td>162</td>
<td>262</td>
<td>662</td>
<td>100.0</td>
</tr>
</tbody>
</table>
The question concerning on-the-job training as an alternative to in-school shop training was directed only to educators and employers. According to Table 16, 71 percent of the respondents who replied to this question believed that on-the-job training can be an alternative to in-school shop training. The data indicate that employers appear to be slightly stronger supporters of the idea than teachers.

Table 16

<table>
<thead>
<tr>
<th>Response</th>
<th>Educator</th>
<th>Employers</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>123</td>
<td>51</td>
<td>174</td>
<td>71</td>
</tr>
<tr>
<td>No</td>
<td>55</td>
<td>16</td>
<td>71</td>
<td>29</td>
</tr>
<tr>
<td>TOTAL</td>
<td>178</td>
<td>67</td>
<td>245</td>
<td>100</td>
</tr>
</tbody>
</table>

When parents were asked whether or not they are willing to have their children enrolled in the cooperative program, 93 percent responded. Data of Table 17 show that over 80 percent of the responding parents would be willing to have their children study under the cooperative education program.
On the other hand, when the student group was asked whether they are in need of part-time employment during their education, 92 percent of them who responded to the survey in general reacted to this question. Table 18 indicates that 69 percent of responding students are in need of part-time employment during their education.
When employers were asked if they would be willing to provide part-time on-the-job training for student-learners, 87 percent of employers responding to the questionnaire in general reacted to this question. Sixty-six percent of employers responding expressed a positive attitude toward it, while 34 percent were not interested. Table 19 indicates that of those employers who expressed a negative attitude, on this question, they gave as possible reasons unemployment, inconvenient working conditions, and legality problems.
Table 19

Employment Opportunities for Student-Learner
(Reaction to Question II)

<table>
<thead>
<tr>
<th>Available Jobs</th>
<th>Frequency</th>
<th>Rank</th>
<th>Status</th>
<th>Total</th>
<th>Rank</th>
<th>Total</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrician</td>
<td>12</td>
<td>1</td>
<td>Unskilled</td>
<td>21</td>
<td>1</td>
<td>5</td>
<td>Unemployment</td>
</tr>
<tr>
<td>Turners</td>
<td>10</td>
<td>2</td>
<td>Skilled</td>
<td>18</td>
<td>2</td>
<td>4</td>
<td>Inconvenient Working Place</td>
</tr>
<tr>
<td>Mechanics</td>
<td>7</td>
<td>3</td>
<td>Semi-Skilled</td>
<td>13</td>
<td>3</td>
<td>3</td>
<td>May Create Problems</td>
</tr>
<tr>
<td>Welder</td>
<td>5</td>
<td>4</td>
<td>Technician</td>
<td>11</td>
<td>4</td>
<td>1</td>
<td>Child Labor Law</td>
</tr>
<tr>
<td>Cabinet Maker</td>
<td>4</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Those employers who were willing to provide on-the-job training mentioned a variety of available job titles by skill levels. Of those named, electrical and machine trades were mentioned most frequently. Occupations requiring unskilled or semi-skilled workers were the most widely available.

Educator and parent groups were asked if there is need for cooperative vocational education programs in their respective communities. Almost 92 percent of those responding to the survey in general reacted to the question. Seventy-nine percent of them indicated the need for the program, while 21 percent felt that there was no need. The reasons for the negative attitude are shown in Table 20. Most of them no doubt can be attributed to the respondent's unfamiliarity with the cooperative program.
### Table 20

#### Need for Cooperative Vocational Program
(Reaction to Question 12)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>146</td>
<td>114</td>
<td>260</td>
<td>79.3</td>
<td>20.7</td>
<td>68</td>
<td>41</td>
</tr>
</tbody>
</table>

#### Industrial Field Identified

- **Machine Industry**
  - Rank: 1
  - Reason for No: No need
- **Agriculture Industry**
  - Rank: 2
  - Reason for No: Will increase the State burden
- **Electric-Electronics Industry**
  - Rank: 3
  - Reason for No: Program cannot be successful
- **Business and Service Occupations**
  - Rank: 4
  - Reason for No: Ind. is not qualified
- **Construction and Woodworking Industry**
  - Rank: 5
  - Reason for No: Lack of training staff
- **Various Arts and Crafts Occupations**
  - Rank: 6
  - Reason for No: Education is not employer's responsibility
Those who indicated the need for a cooperative program believed the greatest need to be the industrial occupations in their local communities. The typical occupational areas mentioned most frequently are also shown in Table 20 in their rank orders. The machining and agricultural industries seem to be in greatest need for this type of program.

The question concerning the academic high school students' interest in preparation for employment, while also preparing for college, was directed only to the student group. Ninety-seven percent of the student group responding to the questionnaire in general reacted to this question. Table 21 shows that almost all of these respondents, 97 percent, expressed their desire for such preparation.

Table 21

| Academic High School Students' Interest in Preparation for Employment (Reaction to Question 13) |
|---------------------------------|-------------|--------------|
| Type Response                  | Number      | Percentage   |
| Yes                             | 260         | 97.4         |
| No                              | 17          | 2.6          |
| TOTAL                           | 277         | 100.0        |

On the other hand, the same student group was asked if they would be interested in a college preparatory course while enrolled in vocational school. The data in Table 22 show that about 66 percent expressed such a desire while about 34 percent did not seem interested in such a plan.
Table 22

Vocational School Students' Interest in Preparation for Academic High School Graduation (Reaction to Question 14)

<table>
<thead>
<tr>
<th>Type Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>176</td>
<td>66.2</td>
</tr>
<tr>
<td>No</td>
<td>90</td>
<td>33.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>266</td>
<td>100.0</td>
</tr>
</tbody>
</table>

It is interesting that although this investigation is limited to a rather small percentage of the student population, the result is consistent with the findings of other more comprehensive research studies which revealed that two-thirds of the vocational student population express a desire to be able to continue higher learning.

It is a surprising fact that in spite of students' motivation for higher education by the conventional education system, an overwhelming majority of students are expressing a need for preparation for employment as part of preparation for college.

When educator and parent groups were asked to indicate their opinions of employer's attitudes toward participation in the cooperative program, about 59 percent expressed their belief, in Table 23, that employers would be willing to participate in the program. Parents were evidently more optimistic in their reaction than were educators.
Table 23

<table>
<thead>
<tr>
<th>Response</th>
<th>by Educator</th>
<th>by Parents</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>87</td>
<td>62</td>
<td>149</td>
<td>58.6</td>
</tr>
<tr>
<td>No</td>
<td>70</td>
<td>35</td>
<td>105</td>
<td>41.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>157</td>
<td>97</td>
<td>254</td>
<td>100.0</td>
</tr>
</tbody>
</table>

However, as stated before, it is important to note that in response to provisions for on-the-job training for the student-learner, employers indicated a stronger attitude than did educators and parents. The difference between the educators' predictions and the employers' attitudes would seem to be an indication of a lack of communication between the two groups.

In respect to the question concerning the need for a specially designated coordinator to serve as a liaison between school and industry, 97 percent of responding educators and employer groups reacted. As shown in Table 24, almost 90 percent expressed a need for such a provision in the program. In addition, a considerable degree of consistency has been recorded between the two groups.
Table 24

Need for Coordinator
(Reaction to Question 16)

<table>
<thead>
<tr>
<th>Type</th>
<th>Response by Educators</th>
<th>Response by Employers</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>145</td>
<td>54</td>
<td>199</td>
<td>89.6</td>
</tr>
<tr>
<td>No</td>
<td>15</td>
<td>8</td>
<td>23</td>
<td>10.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>160</td>
<td>62</td>
<td>222</td>
<td>100.0</td>
</tr>
</tbody>
</table>

On the other hand, when the employers were asked if they would join an advisory committee upon invitation, about 55 percent of the respondents, Table 25, expressed their willingness to serve while 45 percent of them would not serve.

Table 25

Employer's Willingness to Serve on Advisory Committee
(Reaction to Question 17)

<table>
<thead>
<tr>
<th>Type</th>
<th>Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>34</td>
<td></td>
<td>54.8</td>
</tr>
<tr>
<td>No</td>
<td>28</td>
<td></td>
<td>45.2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>62</td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>

When the student group was asked about their plans after graduation from secondary schools, almost 79 percent expressed their desire to continue higher education while 21 percent stated that they were planning to enter the world of work.
Table 26 indicates that engineering was the most frequent choice for higher education. Of those who plan to enter employment after secondary school graduation, mechanical trades were listed most frequently.

Table 26

Students' Plans for After Graduation
(Reaction to Question 18)

<table>
<thead>
<tr>
<th>Enter Work</th>
<th>Total</th>
<th>%</th>
<th>%</th>
<th>Enter College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Expected:</td>
<td>Total</td>
<td>Rank</td>
<td>Total</td>
<td>Study Field</td>
</tr>
<tr>
<td>Mechanics</td>
<td>21</td>
<td>1</td>
<td>84</td>
<td>Engineering</td>
</tr>
<tr>
<td>Electrician</td>
<td>9</td>
<td>2</td>
<td>13</td>
<td>Teaching</td>
</tr>
<tr>
<td>Gov. Service</td>
<td>8</td>
<td>3</td>
<td>12</td>
<td>Health</td>
</tr>
<tr>
<td>Draftsman</td>
<td>6</td>
<td>4</td>
<td>7</td>
<td>Social Science</td>
</tr>
<tr>
<td>Bus. Occup.</td>
<td>3</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woodworking</td>
<td>2</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>49</td>
<td></td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>

Finally, when the students were asked whether they would enroll in a cooperative vocational program is available, 92 percent of the responding students reacted to the question. As the data in Table 27 reveal, about 73 percent of them indicated that they would so do while 27 percent stated that they would not enroll.
Table 27

Students' Attitude Toward Cooperative Vocational Program (Reaction to Question 19)

<table>
<thead>
<tr>
<th>Type Response</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>191</td>
<td>72.9</td>
</tr>
<tr>
<td>No</td>
<td>71</td>
<td>27.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>267</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In general, this second part of the investigation seems to indicate a strong need for cooperative vocational education in the communities surveyed and that the attitudes of all individuals involved in the investigation appear to be positive and supportive.

Two-thirds of the population believe that a cooperative vocational program can be an alternative for existing types of vocational programs. Seventy percent of educators and employers accept on-the-job training as an alternative to in-school shop training. The great majority of parents are willing to have their children study under the cooperative vocational program, while students express their desire to enroll in such a program. In addition, almost two-thirds of the students report the need for part-time employment during their education. Employers indicate their willingness to provide part-time employment for these students and evidently would provide a variety of job opportunities at various occupational skill levels.

Educators and parents both indicate the need for cooperative education programs and believe that employers will support such an
effort. While more than half of employers responding are willing to take part in advisory committees, the great majority of them, together with educators, express the need for a teacher coordinator to act as a liaison between school and industry.

An overwhelming majority of the students enrolled in the academic track express a need for preparation for employment in addition to preparation for college entrance, while two students out of three in vocational schools have a desire for college preparation prerequisites in addition to vocational studies. In general, a majority of the student group presently plan to continue higher education especially in the engineering field.

**Nature of the Cooperative Program**

The third section of the questionnaire was designed to secure the ideas and the suggestions of the interested groups in regard to some fundamental aspects of the cooperative program.

For this purpose an attempt was made to determine the acceptability of school credit being given for work experience and wages being paid for student-learner's on-the-job training activities. In addition, suggestions concerning the appropriate length, grade level, and program schedule were requested.

When the groups were asked which one of the three schedules, shown in Table 28, would be the most appropriate in their community, the one-half day school and one-half day work was chosen by more than 58 percent response in the combined ranking.
Table 28

Opinion on Program Schedule
(Reaction To Question 20)

<table>
<thead>
<tr>
<th>Type</th>
<th>by Educators</th>
<th>by Employers</th>
<th>by Parents</th>
<th>by Students</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A^a</td>
<td>81</td>
<td>12</td>
<td>97</td>
<td>171</td>
<td>361</td>
<td>58.2</td>
</tr>
<tr>
<td>B^b</td>
<td>50</td>
<td>18</td>
<td>49</td>
<td>49</td>
<td>166</td>
<td>26.7</td>
</tr>
<tr>
<td>C^c</td>
<td>22</td>
<td>25</td>
<td>18</td>
<td>29</td>
<td>94</td>
<td>15.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>153</td>
<td>55</td>
<td>164</td>
<td>249</td>
<td>621</td>
<td>100.0</td>
</tr>
</tbody>
</table>

^aOne-half day school + one-half day work.
^bOne day school and one day work.
^cOne week school and one week work.

While there is complete consistency among the opinions of the three groups, employers show a reverse reaction. They prefer the one week school and one week work program. In addition, four suggestions were made for alternative schedules. These were (1) one month work, one month school, (2) one semester school and one semester work, (3) utilization of summer vacation as a work experience period, and (4) special arrangements according to the existing conditions at the time of application.

The question concerning the appropriate length of the program was directed to educator, employer and student groups. All groups agreed that the length of the program should be adjusted to the nature of the occupation under consideration. As shown in Table 29, there are insignificant differences among the groups concerning the importance of other alternatives.
Table 29

Opinions on the Length of the Program
(Reaction to Question 21)

<table>
<thead>
<tr>
<th>Length</th>
<th>Response by Educators</th>
<th>Response by Employer</th>
<th>Response by Students</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. One-year</td>
<td>5</td>
<td>6</td>
<td>58</td>
<td>69</td>
<td>13.7</td>
</tr>
<tr>
<td>b. Two-year</td>
<td>15</td>
<td>13</td>
<td>21</td>
<td>49</td>
<td>9.7</td>
</tr>
<tr>
<td>c. Three-year</td>
<td>34</td>
<td>12</td>
<td>70</td>
<td>116</td>
<td>22.8</td>
</tr>
<tr>
<td>d. According to occupations</td>
<td>120</td>
<td>28</td>
<td>125</td>
<td>273</td>
<td>53.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>174</td>
<td>59</td>
<td>274</td>
<td>507</td>
<td>100.0</td>
</tr>
</tbody>
</table>

On the other hand, the question concerning wages for the student-learner’s part-time employment was directed to all groups. Table 30 indicates that about 86 percent of them were in agreement that the student-learner should be paid for this employment while slightly over 14 percent disagreed. The small percentage of respondents not favoring the idea believed that since on-the-job training is a learning activity, the student-learner should not be paid for it. Those who favored payment suggested the establishment of a special training rate for this purpose.
Table 30
Wage for Student-Learner's Part-Time Employment
(Reaction to Question 22)

<table>
<thead>
<tr>
<th>YES</th>
<th>Educator</th>
<th>Employer</th>
<th>Parent</th>
<th>Student</th>
<th>Number</th>
<th>Percentage</th>
<th>Educator</th>
<th>Employer</th>
<th>Parent</th>
<th>Student</th>
<th>Number</th>
<th>Percentage</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wage Rate</td>
<td>149 52 141 227</td>
<td>569</td>
<td>85.7</td>
<td>143 95 45 17 15</td>
<td>18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Rate</td>
<td>90 27 84 145</td>
<td>348</td>
<td>57.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum labor rate</td>
<td>30 4 41 67</td>
<td>142</td>
<td>23.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apprenticeship Rate</td>
<td>37 25 29 26</td>
<td>117</td>
<td>19.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

When the groups were asked whether school credit should be given for the student-learner's work experience, 93 percent of the responding individuals reacted to the question. Table 31 shows that about 73 percent of them took a positive stand, with educators and employers being slightly stronger supporters than were either parents or students.

Table 31
Credit for Work Experience
(Reaction to Question 23)

<table>
<thead>
<tr>
<th>Type</th>
<th>Educators</th>
<th>Employers</th>
<th>Parents</th>
<th>Students</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>150</td>
<td>59</td>
<td>102</td>
<td>173</td>
<td>484</td>
<td>72.6</td>
</tr>
<tr>
<td>No</td>
<td>12</td>
<td>5</td>
<td>59</td>
<td>107</td>
<td>183</td>
<td>27.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>162</td>
<td>64</td>
<td>161</td>
<td>280</td>
<td>667</td>
<td>100.0</td>
</tr>
</tbody>
</table>
For the question concerning the most appropriate grade levels for cooperative vocational programs, a total of 621 responses were recorded. Table 32 indicates that all groups with complete consistency suggested the grade 9, in the first year of senior high, be the first choice. Grade 6, the first year of junior high, received second rating while grade 8 was third choice. The grade levels which ranked as first and second have high potentiality in serving those youth who leave their education after either primary school or junior high school.

Table 32

<table>
<thead>
<tr>
<th>Grade Levels</th>
<th>School</th>
<th>by Educators</th>
<th>by Parents</th>
<th>by Students</th>
<th>Rank</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Junior High School</td>
<td>159</td>
<td>50</td>
<td>78</td>
<td>2</td>
<td>187</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>21</td>
</tr>
<tr>
<td>8</td>
<td>19</td>
<td>15</td>
<td>36</td>
<td>3</td>
<td>70</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Senior High School</td>
<td>65</td>
<td>77</td>
<td>113</td>
<td>1</td>
<td>255</td>
</tr>
<tr>
<td>10</td>
<td>16</td>
<td>5</td>
<td>17</td>
<td>4</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>7</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>12-13</td>
<td>Post High School</td>
<td>5</td>
<td>7</td>
<td>23</td>
<td>5</td>
<td>35</td>
</tr>
<tr>
<td>TOTAL</td>
<td>178</td>
<td>166</td>
<td>277</td>
<td></td>
<td></td>
<td>621</td>
</tr>
</tbody>
</table>
In summary, the general attitude of the interested groups concerning some of the fundamental aspects of the cooperative program appeared to be consistent with the basic principles of cooperative programs and with the existing nature of society.

While the majority of all groups suggested a half-day cycle as a basis for schedule arrangement, employers tended to favor longer periods of rotation between school and work. There was, however, a general awareness of the fact that existing conditions and the requirements of employers in a particular community should be the basic determining factor in the program arrangement.

Suggesting that the nature of occupation under consideration be the basis for determining the length of the program coincides with the modern vocational education concepts.

A large majority of all groups favor the establishment of both a special wage rate and school credit for student-learner's part-time employment. They also suggest the first years of junior and senior high schools, (grades 6 and 9), as the most appropriate levels for the program.

Predicted Problems and Suggestions

The purpose of the fourth part of the questionnaire was to identify the probable obstacles, the problems to be created at the time of implementation, and to secure constructive suggestions for overcoming these factors.

A total of 1284 responses were recorded in Table 33 related to the question about possible major obstacles to be encountered.
Existing educational rules and regulations was ranked first and the arrangement of school schedules second in terms of probable obstacles.

Table 33

Predicted Obstacles to be Encountered
(Reaction to Question 25)

<table>
<thead>
<tr>
<th>Types of Hindrances</th>
<th>Rank</th>
<th>Educator</th>
<th>Employer</th>
<th>Parent</th>
<th>Student</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing educational regulations</td>
<td>1</td>
<td>106</td>
<td>42</td>
<td>65</td>
<td>108</td>
<td>321</td>
<td>25.0</td>
</tr>
<tr>
<td>Arrangement of school schedule</td>
<td>2</td>
<td>91</td>
<td>30</td>
<td>58</td>
<td>107</td>
<td>286</td>
<td>22.3</td>
</tr>
<tr>
<td>Lack of employer's interest</td>
<td>3</td>
<td>91</td>
<td>21</td>
<td>47</td>
<td>76</td>
<td>235</td>
<td>19.1</td>
</tr>
<tr>
<td>Lack of student's interest</td>
<td>4</td>
<td>52</td>
<td>26</td>
<td>52</td>
<td>99</td>
<td>229</td>
<td>17.8</td>
</tr>
<tr>
<td>Unemployment</td>
<td>5</td>
<td>55</td>
<td>27</td>
<td>40</td>
<td>81</td>
<td>203</td>
<td>15.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>395</td>
<td>146</td>
<td>262</td>
<td>471</td>
<td>1284</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Unemployment is considered an important obstacle by the employers. Educators seem mostly concerned about lack of employers' interest. The possible lack of student interest appears to be a serious obstacle in the minds of both student and parent groups.

A very low rate of response was recorded for the question concerning the problems to be created by the program. This low rate might be attributable to the unstructured nature of the question. The problems
mentioned are shown in Table 34 in their rank order with the percentage of response given for each problem.

Table 34
Kinds of Problems to be Created
(Reaction to Question 56)

<table>
<thead>
<tr>
<th>Kinds of Problems</th>
<th>Rank</th>
<th>Educator</th>
<th>Employer</th>
<th>Parents</th>
<th>Student</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student adjustment and decreased interest in school activities</td>
<td>1</td>
<td>11</td>
<td>--</td>
<td>17</td>
<td>47</td>
<td>75</td>
<td>26.2%</td>
</tr>
<tr>
<td>Administrative, supervisory and disciplinary difficulties</td>
<td>2</td>
<td>26</td>
<td>10</td>
<td>2</td>
<td>--</td>
<td>30</td>
<td>13.2%</td>
</tr>
<tr>
<td>Lack of qualified work place and employment</td>
<td>3</td>
<td>20</td>
<td>2</td>
<td>9</td>
<td>2</td>
<td>33</td>
<td>11.5%</td>
</tr>
<tr>
<td>Legal Prob., wage, social security, child labor</td>
<td>4</td>
<td>14</td>
<td>10</td>
<td>3</td>
<td>--</td>
<td>27</td>
<td>9.6%</td>
</tr>
<tr>
<td>Lack of employer interest and support</td>
<td>5</td>
<td>14</td>
<td>--</td>
<td>5</td>
<td>3</td>
<td>26</td>
<td>9.0%</td>
</tr>
<tr>
<td>Program revision and schedule arrangement</td>
<td>6</td>
<td>15</td>
<td>--</td>
<td>6</td>
<td>4</td>
<td>25</td>
<td>8.7%</td>
</tr>
<tr>
<td>Lack of qualified teacher</td>
<td>7</td>
<td>19</td>
<td>--</td>
<td>4</td>
<td>--</td>
<td>23</td>
<td>8.2%</td>
</tr>
<tr>
<td>Conflict with routine production</td>
<td>8</td>
<td>2</td>
<td>20</td>
<td>--</td>
<td>--</td>
<td>22</td>
<td>7.6%</td>
</tr>
<tr>
<td>Opposition from traditional system</td>
<td>9</td>
<td>9</td>
<td>--</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>4.5%</td>
</tr>
<tr>
<td>Employment problems for adult workers</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>--</td>
<td>--</td>
<td>4</td>
<td>1.5%</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>133</td>
<td>43</td>
<td>46</td>
<td>58</td>
<td>286</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

For both parents and students the most important problems were reported to be (1) the adjustment of students to work conditions, (2) carrying school activities along with the part-time work, and (3) to maintaining interest in general academic studies.
For the employers, the potential problems were (1) the conflict between routine production activity and on-the-job training activities of the student-learner, and, (2) administrative and legal problems.

For the educators, the most serious problems appeared to be (1) administrative, supervisory, and disciplinary difficulties, (2) arrangement for appropriate training stations and employment, and (3) shortage of qualified instructors. However, many respondents indicated that instead of creating new problems the cooperative program could solve many of the existing ones in the present programs.

Typical suggestions to overcome these potential problems are shown in Table 35, in their rank order with the percentage of response given to each.
Table 35

Suggestions for Overcoming the Problems
(Reaction to Question 27)

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>by</td>
</tr>
<tr>
<td></td>
<td>Educators</td>
</tr>
<tr>
<td>New legislative provisions</td>
<td>32</td>
</tr>
<tr>
<td>Reorg. of existing system and prog.</td>
<td>22</td>
</tr>
<tr>
<td>Prep. and Orientation Adm. and Training Staff</td>
<td>22</td>
</tr>
<tr>
<td>Systematic planning and organization</td>
<td>17</td>
</tr>
<tr>
<td>Creation of new emp. opportunities</td>
<td>11</td>
</tr>
<tr>
<td>Systematic cooperation</td>
<td>11</td>
</tr>
<tr>
<td>Motivation and orientation of employer</td>
<td>9</td>
</tr>
<tr>
<td>Motivation of public and student</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>128</td>
</tr>
</tbody>
</table>
Provision for substantial new legislation is the main concern of the three groups. It is the author's opinion that such legislative action must include the following aspects:

1. Enactment of a massive and comprehensive vocational education law,
2. Provision of new rights and privileges for vocational school graduates,
3. Enactment of an apprenticeship law, and
4. Establishment of new child labor policies and regulations.

Reorganization of the existing educational system, establishment of new policies and programs, orientation of administrative personnel and preparation of teaching staff are the second important suggestions of the educator group. Educators also emphasized the need for systematic planning, organization, development of accurate manpower-forecasting machinery, and effective instructional media.

Development of systematic cooperation between various sectors, and maintenance of an effective school-industry relationship are the second most important suggestions made by the employer group.

The parents pointed out the need for creation of new employment opportunities for youth. Educators also felt this was important as was also revolving funds in vocational schools, developing production units and establishing in-plant schools.

Finally, motivation and orientation of employers and incentives for creating an active interest in students and in the public are suggestions by educators for overcoming the predicted obstacles and problems.
In summary, it may be concluded that the main obstacles, as they were perceived by the groups surveyed, appear to be the conventional structure of the existing educational system, and the arrangement of school programs with employers' schedules. Lack of employers' and students' interest, and unemployment are also conceived as a possible difficulty to cooperative programs.

Although groups differ in their emphasis on various problems to be created by the program, they are all concerned about (1) possible increase on student load, (2) decrease in student interest in academic subjects, (3) difficulty of carrying both work and school study at the same time, (4) conflict with employer's routine production, (5) various administrative, supervisory and disciplinary difficulties, (6) lack of qualified teachers, and (7) availability of appropriate training stations.

However, in spite of these expected problems, many respondents also believed that instead of creating new problems, the proposed program could solve many of those which already exist in the present program.

Among the basic recommendations made by the groups to overcome the possible difficulties were a substantial new legislative provision, changes in the traditional educational patterns, a reorganization of the prevailing educational system, sound planning and cooperative effort, creation of new job opportunities for youth, and the development of a comprehensive strategy for incentives.
Interpretation of General Comments

Finally, in the fifth part of the questionnaire, all individual groups were requested to express their ideas concerning those aspects of the program which might not have been covered in previous sections of the questionnaire.

Although the rate of response was low no doubt due to the nature of the question, some interesting responses were received. An examination of these general reactions reveals that most of the comments centered around the need for expanded vocational education and for recognition of some additional privileges for vocational school graduates. Criticism of the existing system and programs, cooperative experiences of few vocational schools, suggestions for implementation of the cooperative program and need for publicity were also mentioned as needing attention.

In general, most of the respondents agreed that prevailing educational programs are out-of-date and do not meet contemporary demands. The preparation of teachers is inadequate, and most of the problems in schools stem from excessive student enrollment.

Some respondents stated that the most pressing need is to design programs in relation to local needs. Others pointed out that vocational schools should enrich their offerings in various occupational areas. They also maintained that junior and senior academic high schools should emphasize the preparation for good citizenship and productivity, as well as emphasizing the preparation of "alim," meaning a very knowledgeable scientific man.
Among others, one parent stated that "revision of the curricula is necessary. Systematic student selection procedures must be developed and adequate vocational guidance and counseling services must be provided. Emphasis on student experience in every subject and individual attention to all students are necessary if the programs are going to be functional."

Some educators, pointing out the cooperative approach currently in use in some vocational schools in Adana, Malatya, and Eregli, stated that these programs are making progress. According to the principal of one of these schools, "The biggest problem has been the lack of interest on the part of on-the-job training instructors in spite of a compensational provision." He believed that if this problem is solved, the program can be more successful.

Two other concerns of the respondents were the importance of providing adequate job opportunities for vocational school graduates and the opening of doors to higher education to any eligible and talented vocational school graduate. This matter received special attention by both vocational school students and parents. On this subject, one vocational school student stated that:

Academic high schools and vocational high schools must be considered equal in every aspect. In a highly sophisticated technological age, the impossibility of developing a country without well prepared technical personnel and recognition of the important place and function of this personnel in the society ought to be realized. The concept of education for merely obtaining a "school ticket" diploma, in order to secure social prestige and status must be obliterated in the public mind; and youth should not be encouraged in this direction.
Comments concerning the implementation of the program centered around the changes necessary in traditional thinking, and around the establishment of cooperation between educational institutions and industrial enterprises. The two alternatives mentioned are undertaking a general reform in educational thought and in utilization of legislative force in order to bring about change.

Furthermore, initiation of an experimental program and subsequent adoption of the prepared model, establishment of coordination between interested groups, and preparation of qualified teachers are given priority for the implementation of the program. Development of a systematic publicity program is also strongly suggested by the educator group.

One employer made a very interesting statement which reflects the feeling and attitude of the majority of the population surveyed.

This enthusiastic employer expressed his attitude in the following statement:

...this proposition will not only be able to solve unemployment and poverty, but it will also end the economic dependency on their parents of the youth reaching their 30's, and the exploitation of the families by their children for educational excuse. It will bring to society the values of good work habits and discipline...

He also maintained that the vocational competence which would be provided by cooperative vocational programs is a very important asset to the intellectual growth and social development of an individual.
Summary

As was stated previously, the central purpose of this field study was to provide a basis for further refinement of the proposal which is to develop a practical, functional cooperative vocational program. For this purpose, a selected population representative of four interested groups was surveyed. The inquiry was primarily centered around clarification of such aspects as:

1. Provision for employment preparation in the existing secondary school programs,
2. Need and acceptability of the cooperative program,
3. Ideas and suggestions concerning some aspects of the cooperative vocational program,
4. Predicted problems and obstacles, and
5. General comments on the subject by the respondents.

The study indicates that there is no provision for employment preparation in academic junior and senior high school programs. Vocational schools, on the other hand, are accomplishing this objective in a limited way. Generally, the conventional nature of the educational system, irrelevant curriculum, outmoded instructional methods, inadequate staff and lack of interest on the part of parents and students are conceived as the major contributing factors to this situation.

The study also reveals that the failure of the present program is causing such deficiencies in the students as lack of work experience, lack of desirable personal traits relevant to occupational life, and inability to adjust to employment conditions. The lack of vocational background in academic school students and inadequate general education
background in vocational school students appear to be the two main weaknesses of the present program.

Provision for work experience, and emphasis on those subjects which were reported as most relevant seem to be the primary remedial measures for the improvement of existing programs.

Two of the main indications of the study are that there is a need for a cooperative vocational program in the communities surveyed, and that the attitudes of the individuals toward the program are positive and supportive. The majority of the population agree that cooperative vocational programs can supplement or be an alternative to other types of vocational education. The idea of using on-the-job training as a substitute for in-school shop training is also accepted.

A majority of the students and parents indicated an interest in the program. While a majority of students expressed their need for part-time employment, employers also expressed their willingness to provide on-the-job training.

The general attitude of the population concerning the few fundamental aspects of the cooperative program is consistent with the basic principles of the cooperative plan and with the requirements and realities of the country. The general tendency is that existing conditions and local needs should be the determining factors of operational policies. The length of the program should be determined according to the nature of occupation under consideration. Student-learners should receive both school credit and pay for on-the-job training. The first year of junior and senior high schools should be considered the most appropriate grade levels for the program.
The conventional structure, rigid rules and regulations of the existing educational system, coordination of the school program with the employer's work schedule, and lack of interest on the part of employers and students appear to be the main obstacles to implementing the program.

Both parents and students were concerned over the possibility of an increase in the student's school load, and of a decrease in student interest toward academic studies, as a result of the program. Educators were mostly concerned about the administrative and operational difficulties, such as finding qualified teachers and coordinators, and the availability of appropriate training stations. Generally, respondents believed that there is need for massive legislative revision, reorganization of the present educational system, creation of new employment opportunities and development of a systematic program for incentives in order to overcome these obstacles.

To improve the present program, it is recommended that there must be an effective system of teacher preparation; development of more functional programs; consideration for local needs; enrichment and expansion of vocational school offerings; and modification of the objectives of academic high schools to include provision for employment preparation.

In addition, recognition of the importance of vocational education for the development of the country and for the preparation of youth for productive life must be emphasized. Finally, reform in traditional thinking, legislative support, publicity and cooperative action are suggested for the successful implementation of the cooperative program.
Above all, the most important indication of the study is its consistency with similar research studies previously made. This is especially true in terms of its findings concerning the nature of the existing educational system and of the students' desire for higher education. In addition, suggestions for improvement in this study are strongly related to the recommendations made by other researchers.
CHAPTER V

A SUGGESTED MODEL

An Overview

As the previous discussion indicates, the existing situation in Turkish society is characterized by a change in the social and economic structure, an increased growth rate of population, a shift from agriculture to industry, a commitment to universal mass primary education and increasing expectations of the people.

From the foregoing chapters it is evident that the present educational system is failing to serve the majority of Turkish youth. It is essential to raise the level of academic achievement of these youth if they are to be able to lead economically independent, socially productive lives. Unless something is done, these youth will continue to enter the world of work in ever-increasing numbers with an ever-increasing disparity between the requirements of industry and the skills which they have to offer.

More importantly, in permitting the unemployment, underemployment, and maladjustment of its large population of youth to continue, the Turkish society is sacrificing much of the productive power it possesses, is limiting its national income, and is initiating into its citizenry young people who are experiencing the serious consequences of failure in early life.
Since the majority of the young are out-of-school, and since there is a commitment to rapid industrialization, the main challenge for education is to provide a meaningful, integrated and functional educational program to meet the needs of youth and the demands of industry. First priority must be the accomplishment of basic mass education together with the development of skills required by economic growth. However, the most serious obstacles in the realization of this demand seem to be lack of capital, teacher shortage, inadequate educational facilities and traditional thinking, characterized by allegiance to outmoded educational patterns.

The most effective solution appears to be the mobilization of the whole community with all its agencies, organizations and groups working with a common purpose, each ready to assume its proper part of the responsibility in meeting this educational challenge. Therefore it is necessary to stimulate the interest of all users of the educational product.

Although achievement of the long-term goals requires a systematic analysis of the ills of education at the basic level, an attempt to work new proposals into the program seems to be an unavoidable approach even for short term solutions. However, any proposal which will offer new techniques for reaching and thereby training youngsters for employment throughout the country must take into consideration the creation of new and realistic job opportunities.

Furthermore, any attempt to improve the situation should consider the great number of students who do not have the opportunity
for any kind of vocational education and who fail to succeed in academic curricula. Hence, present realities suggest that preparation for employment should be a part of the educational experiences of all students at all levels of education. This education should also be concerned with all the capacities of an individual as well as with the needs of the community.

On the other hand, besides these contextual considerations, examination of underlying principles of cooperative education reveals that it represents a plan to unify vocational and general education needs of the youth; that it bridges the gap between school and the outside world; that it provides an educational opportunity for those youth who are not satisfied with conventional programs; that it prepares the youngsters for immediate employment.

In fact, it is already proven that the cooperative plan is paving the way for efficiency in training by making both employers and schools jointly alike responsible for the task, and for the utilization of the resources of industry and the community. Furthermore, this cooperation creates insight into the problems of youth as well as into those of the community.

As a realization of this fact, an attempt is made in the following pages to develop a cooperative plan incorporating the fundamental principles of a cooperative education program and a plan that is geared to the special needs and requirements of the present Turkish society.
Design of the Proposed Model

Generally speaking, an educational program is a plan involving the teaching-learning activities of an educational institution. All programs, no matter what their particular design, are comprised of certain elements, namely, (1) the purpose and objectives to be accomplished, (2) an administration and teaching staff, (3) an instructional system, (4) the student, and (5) a facility.

Program design, on the other hand, is a statement which identifies the elements of the program, states their relationship, and indicates the principles of organization and administration. A program design requires a systematic study of all aspects of the program ranging from goals to means to achieve those goals. As shown in Figure 4, a complete process of program design starts with a preliminary planning stage and proceeds through various stages until it evolves into its final form.

The preliminary planning stage starts with the decision making for initiation and establishment of a task force to identify the problems, with developing general policies and strategies for action, and with making recommendations for further study.

Following this exploratory stage, actual program design is undertaken. However, development of a sound program requires an analysis and clear understanding of the main determinant factors at the outset, such as: (1) the contextual setting in which it operates, (2) sources of power and their influence on education, (3) participants and interested groups involved in the process, (4) the particular
Figure 4 - Complete Cycle of a Program Design
structure of the program under consideration, and (5) various developmental phases of the design.

The nature, needs and requirements of the specific society will require special orientation to the design, and will suggest a different set of criteria. The legal authority, tradition, prestige, funds, etc., and their influence will affect the nature of the design and the underlying policies. The groups involved, such as the government, educators, professional organizations, industry, students and parents, and the roles and responsibilities of each will also require special arrangements and operational procedures. Therefore, a careful study must be undertaken before detailed consideration of a program can begin.

On the other hand, since the program consists of specific elements, and since its design identifies the function of each element, the development of the model requires an analysis of each of these elements with the specific nature of the determinant factors in mind.

On the basis of the previous discussion, the general structure of the model, as shown in Figure 5, has been developed around the five major components which must be integrated and geared to the specific nature of the determinant factors. An elaboration of these components can serve to clarify the general characteristics of the proposed model.
Figure 5 - General Structure of the Model
Theoretical Foundations

In a sense, theory means a general conceptual background in a discipline to guide its practical activities, and it is a necessity for healthy progress in the discipline. Educational theories are mainly concerned with the learner, the teaching-learning process, contextual setting, curriculum, objectives and administration of an educational program.

Any sound educational program must be based on contemporary concepts of the nature of man and of the teaching-learning process and must be based on a systematic analysis of other educational determinants.

Modern theories of education regard man as a dynamic energy system interacting through his sense organs with his environment. Learning is a process of adjustment for continuous growth and for active participation in a problematic situation.

Although the theoretical foundation of Turkish education has been based on the 19th century idealism of developing idealist personalities, it has produced merely idealistic sounding rather than actual idealist personalities. The present situation of the society requires more realistic and practical approaches in education aiming at the development of economically independent, socially well adjusted, and of politically conscious productive individuals in order to meet the emerging demands of the country immediately.

The theoretical foundation of cooperative vocational education is also based on modern scientific educational theories with a special emphasis on cooperation, dynamism of human experience, social efficiency, and on active participation in actual life situations.
As shown in Figure 6, the basic structure of a theoretical foundation for a model comprises such components as a workable philosophy, goals, guiding principles and specific objectives, each deriving from the other consequentially and all together based on the general determinant factors in education and on the basic elements of the program.

Figure 6 = Theoretical Foundation of the Model
Consistent with the three determinant factors, namely, modern educational theories, conceptual foundations of cooperative vocational education, and the requirements of present Turkish society, the underlying philosophical premises of the model may be summarized as follows:

1. Education is a process of individual development toward economically and socially useful ends through active participation in actual life situations.

2. Individual growth and development proceeds more systematically when periods of work and study follow each other in regular alternation.

3. School is a community institution and learning is an active and cooperative process. Active participation in genuine life situations and integration of theory and practice is necessary for meaningful learning. One of the main missions of education is the preparation of an individual for work and to this end instruction should combine both theory and practice.

4. Work is a fundamental means of learning in the human experience. It is a better means of stimulating interest and of initiating mental development than many other kinds of exercises.

5. Activity in productive, organized and supervised work experiences should be an integral part of the educational process and of the training of youth.

6. Cooperation of all the interested agencies in the community is necessary to provide actual learning experiences in the student's social environment, and to make his transition from school to life easier.
Thus, a combination of work and education as an integrated whole, the student's natural development through genuine experiences, his economic and social adjustment through the shared responsibilities of the interested institutions of the society, together constitute the central focus in the conceptual framework of this underlying theoretical foundation.

Therefore, the ultimate goal of the design is the realization of an effective cooperative approach in the educational process, of exploration and of effective utilization of all available resources, of service to the youth and community, of enrichment of educational opportunities and of relevancy in learning. Above all, replacing the outmoded concept of vocational education, "education for the poor," with the new concept of "education for all," is the central focus.

Moreover, certain guiding principles are needed as a means of planning, organizing, operating and developing a sound program. Guiding principles are essentially a set of organized concepts derived from the study of the determinant factors, of the needs and requirements of the society, the learner and the learning process, subject matter, and of the underlying philosophical implications. The specific nature of these factors will suggest different sets of principles.

However, in general, guiding principles of a cooperative vocational education program should be based on such common criteria as (1) consistency with the general theoretical framework of the program, (2) relevancy and validity for all youth, (3) adaptability to
individual differences, and (4) integrity, practicality and adaptability to the changing requirements of the time.

Thus, in the light of this general framework, and on the basis of the indications of this study, the following guiding principles have been developed for the model in addition to a set of general criteria suggested early in this study which were based mainly on societal requirements.

1. A cooperative vocational education program should be established after a careful study of industry and of community conditions and the needs and interests of youth.

2. The immediate goal of the program should be to combat the problems of unemployment and illiteracy due to the lack of basic education and vocational skills.

3. The major purpose of the program should be to retain in or return to school a wavering youngster, giving him an opportunity to work while he is studying.

4. The program should encourage the youngster to reach toward the effective use of his capacities and resources in his preparation for functional life.

5. The program should help the youngster to understand and control the dynamic forces affecting his living and to reach appropriate decisions and find solutions to his problems.

6. The program should be geared to the psychological, social, cultural, and economic needs, problems and expectations of the youth as well as to the needs and the requirements of the community.
7. The principle functions of the program should (a) develop employable skills, (b) expand communication skills, (c) develop educational flexibility, (d) improve human relations, (d) facilitate social participation, and (e) expedite personal growth of youth.

8. The program should be flexible, should operate on several levels, provide basic educational and vocational skills as well as prepare students for upper levels of the educational ladder.

9. Because of the high rate of youth leaving school at primary and junior high school levels, the basic policy should concentrate on preparation for work as much as possible in the early school years.

10. Training should be based on accomplishment rather than on a definite time period and no more students should be trained in a specific field than industry can absorb.

11. The participation and assistance of various community agencies, of associations, industrial and civic organizations should be sought to supplement the educational experiences of the student.

12. Since cooperative vocational education requires actual participation of the learner in production, prospective employers should assume this responsibility of providing the student-learner learning experiences in production. Where this is impossible, other alternatives should be created to carry out this requirement.

13. In the planning, organization, and administration of the program a solid partnership based on shared responsibility should be established among the educational institutions, industry and the other agencies of the community.
14. Under the leadership of educational institutions, a system of team approach should be developed among the educators, employers, employees, students and parents as well as community leaders.

15. The goals, interests and needs of the individual student should provide the clue to content, organization of materials and procedures of the instructional system which will be based primarily on the specific nature and requirements of the occupations to be offered.

16. The selection of subject matter and the activities of the student-learner should be the by-product of continuing analysis of the occupation studied, of the specific needs of the learner and of the present and future demands of industry.

17. In general, the curriculum should embody the essential elements of appropriate general education, related technology, and work experience under actual work conditions integrated together as a meaningful educational experience.

18. A variety of teaching-learning methods based on the mandates of modern learning theories and geared to the specific teaching-learning situations should be employed.

19. The special nature of the cooperative plan requires extensive use of individualized and programmed instruction and a team approach. Therefore, special emphasis should be placed on the possibility of applying these methods.

20. Consideration should be given to the different learning styles of the individual students in formal classroom situations and
in less formally structured environments, especially in connection with their respective occupations.

21. The development of continuing self-study and improvement habits in the students should be a prime target in all teaching-learning situations.

Finally, the last step in the foundational stage of the design is the development of specific objectives in the light of these foregoing general conceptual concerns.

Any educational program is directed by the expectations of certain outcomes. The statements concerning these desired outcomes are the objectives of the program. They are derived from numerous sources, as in the case of guiding principles. However, they point out more specific directions and require the arrangement of teaching-learning activities, accordingly.

As mentioned earlier in this study, the ultimate goal of a cooperative vocational education program is to develop the whole individual through the utilization of his vocational interests. Preparation for employment is the immediate objective of the program.

In this particular situation, the needs and the requirements of society and of youth suggest the development of specific objectives for the program as: to reduce the number of dropouts, to decrease unemployment, to eliminate the need for retraining of unemployed youth and to improve the public image of vocational education.

The nature of the learning process suggests the development of an objective: to provide a basis for an educational environment and for activities for the student appropriate for his individual
development and skills necessary for social adjustment. The character of the subject matter, on the other hand, suggests the development of an objective: to equip each student with manual and verbal skills and social attitudes needed to enter the world of work. Thus, the specific objectives of the program must be oriented accordingly.

**Administration**

An analysis of the organizational structure of the cooperative vocational education program indicates that the administrative body of the program is made up of a number of agencies concerned both at national and at local levels. The complexity of the administrative structure requires strong, well qualified leadership from the educational enterprise and effective relations and cooperation among the agencies involved.

The nature of the present educational system suggests a hierarchical administrative setting, expanding from school to central organization of the National Ministry of Education. Therefore, the administrative structure of the model, presented in Figure 7, combines these fundamental features and is consistent with both the requirements of the Turkish educational system and with the underlying principles of cooperative vocational education.

General policy making and the setting up of rules and regulations are under the jurisdiction of the National Ministry of Education. The Undersecretariat for Vocational-Technical Education undertakes this responsibility through the authority delegated by the Ministry of Education.
Figure 7 - Administrative Structure of the Model
Preparation of general plans, setting up standards, and developing operational procedures at the national level are the responsibilities of the General Directorate for Vocational-Technical Education. The General Directorate carries out these responsibilities in close cooperation with advisory bodies and the directives of the Undersecretariat. The General Directorate secures the assistance, advice and support of these advisory bodies for developing, implementing and executing these national policies and plans. Furthermore, the Directorate provides financial support and leadership services and supervises the operational activities of the local school system.

At the provincial level, the Board of Education is responsible for providing leadership and for creating suitable conditions for the initiation and operation of the local programs within the provincial boundaries. Together with school authorities and advisory bodies, the Board will lead the program development, planning and organization activities and community studies. It will develop local policies and regulations within the general framework of national standards and act as a liaison between national and operational levels of the program.

It is the school administrator's responsibility to carry out general administrative and organizational arrangements concerning a particular program within his school and in the community, in cooperation with the established national and local standards and regulations. The executive power for a particular program rests on the school administrator, and he is responsible for integrating the
cooperative program, establishing cooperation among the faculty, and providing instructional facilities and clerical services for the successful operation of the program. In carrying out this mission, the administrator works in close cooperation with the Board of Education and with local advisory committees, and delegates his operational authority to the teacher-coordinator.

The teacher-coordinator is the central element within the entire administrative structure at the actual operational level of the program. His duties and responsibilities involve every aspect of the program, ranging from the preliminary planning stage to evaluation and re-development of the program. Administrative, supervisory, coordinative, student personnel service and instructional service responsibilities of the cooperative program rest upon the teacher-coordinator. The success of the program depends upon his ability, qualifications and the clarification of his functions and roles concerning the various aspects of the program.

The teacher-coordinator, after receiving special professional education, is appointed by the Ministry of Education and works under the responsibility and supervision of the Board of Education and of the school administrator. He maintains direct relationship with and is responsible for cooperation with advisory committees, the school staff, the employer, and community agencies.
Instructional System

In general, the instructional system is a design developed to approximate the transaction between teacher and learner. It includes such elements as objectives, subject-matter domain, instructional materials, teaching aids and teaching methods. A typical instructional system of cooperative education is represented in Figure 9.

The objectives of the instructional system should be consistent with the specific objectives of the total program. Secondly, they should comprise the three basic components of the educational activities of the student, namely, general education, related technology, and practical training. Therefore, the three major instructional objectives of the model should be:

1. The development of basic educational skills necessary for success in a chosen occupational area as well as the individual development of the student-learner.

2. The development of knowledge, concepts, attitudes, and cognitive skills relevant to the world of work, industry, and a particular occupation.

3. The development of manipulative skills and dexterity, technical knowledge, and attitudes in a specific job.

The subject-matter domain of the instructional system is made up of four main aspects of occupational life—occupational practice, basic related technology, supplementary technical knowledge and general education basic to the attainment of other skills. The content is derived from the analysis of the occupation and the need of the student with due consideration to the specific conditions of the community. Through coordination, the in-school and on-the-job training activities are so arranged as to equip the student-learner with
Figure 8 - Instructional System of the Model
knowledge, skills, and attitudes needed for immediate employment as well as for the student's general personal development.

The first and major element of the subject-matter domain is referred to as "shop practice," and includes technical and manipulative competencies of the occupation. The second area consists of highly specialized subjects related to specific job competencies. The third includes broad occupational information concerning specific occupational competencies. The fourth area concerns such subjects as are necessary for development of basic educational skills, good citizenship characteristics and personal traits.

The specific nature of the program and the characteristics of student-learners require the utilization of various instructional methods and imaginative techniques. Step-by-step approaches for on-the-job training, team teaching, programmed instruction and differentiated staffing are some of the most promising techniques that can be adapted to the different instructional settings for this purpose.

The effectiveness of any educational activity depends upon the type and nature of the educational media, materials and aids. They are vehicles of instruction and can become an integrated part of the educational process. The special nature of cooperative education requires the utilization of a variety of educational media.

In general, directly and indirectly related materials, various devices and instruments, audio-visual aids, and auto-instructional devices should be used wherever appropriate and available. Development of instructional materials necessary for effective job performance of
the student-learner should be given priority. Variety, combination, refinement and appropriate utilization should be the central focus in developing and selecting educational media for the program.

The unique nature of the cooperative education instructional system requires integration and systematic organization of all its basic components around the problems associated with both the individual student's needs and the job requirements. The utilization of a specialized staff, variety in methods and educational media are necessary for effective instruction. Teaching basic occupational concepts, principles, and skills in-school as well as on-the-job, and correlation of all these activities under the leadership of the teacher-coordinator are the basic features of the instructional system.

Basic education should be tied in closely with vocational studies in a meaningful way. There should be systematic cooperation, supervision and continuous evaluation of course offerings in the three main areas of the instructional system. Student-learners should be encouraged to participate in co-curricular activities such as vocational youth clubs.

Student Body

An examination of the Turkish educational system, the youth, and the principles of cooperative education indicate that the cooperative program should operate beyond the basic compulsory education, and that student-learners should be at an employable age upon graduation. The program should serve those youth who do not fit the traditional pattern, who are potential dropouts, who live in rural areas or urban slums,
Figure 9 - Categorization and the Recruitment Sources for Student-Learner
need personal adjustment and vocational guidance, those who need special attention for transition from school to employment, and who have a commitment and desire for vocational preparation and the ability to benefit from the instruction.

The educational background and existing educational opportunities for youth, and the nature of the educational system require the categorization of the student body under two main categories, (See Figure 9).

Illiteracy, the high proportion of cut-of-school population and lack of opportunities to continue further education, in the case of the first category, present a special challenge to cooperative education. High rate of dropouts, low rate of placement, and the changing status of secondary technical schools as "four-year technician school," suggest the development of the cooperative program to meet the vocational training needs of youth at this second level.

On each level, the student-learner should be selected according to certain standards, receive practical on-the-job training, study related technology and continue regular required school studies. They should be paid for part-time employment, receive credit for on-the-job training and be given an opportunity to continue their education at the upper levels. The program should help the student-learner gain self-confidence, maturation, knowledge and habits which are necessary for the mature adult and for successful employment.
As shown in Figure 10, the special nature of cooperative vocational education programs requires provision for three typical instructional settings suitable to the basic components of the program.
Facilities

Since teaching-learning activities do not take place in a vacuum, it is necessary to provide a planned environment for each kind of educational program. Physical facilities, equipment, and materials are the basic elements of this educational environment and require special arrangements which are geared to the nature of the program.

Adequate classroom facilities for general education, and a laboratory for related technology studies are usually provided by the school system, and training stations for on-the-job activities by industry. The criteria will vary, depending upon the occupational areas being taught and the special nature of the particular program. However, location and accessibility, flexibility, future expansion, safety and health, adequate space, equipment and materials for effective instruction are among the basic considerations for a functional facility. Above all, close cooperation and integration of these three instructional settings is a most important aspect in the success of the program.

Besides these general characteristics of the facility requirements, special conditions in the society and the nature of the youth under consideration bring some other factors into attention. For instance, the general shortage of educational facilities in the present system and the high rate of out-of-school youth suggest the creation and utilization of a variety of facilities other than existing school facilities. Therefore, all possible facilities in the community and industry should be explored and utilized for this purpose. Figure 11 presents a listing of the most potential sources...
Figure 11 - Potential Sources and the Main Institutions in the Society to Provide Cooperative Vocational Education Facility
of facilities and of the main institutions attached to these sources within the society in general.

Reorganization and expansion of regional primary schools in rural areas as residential institutions offering cooperative programs will be necessary to meet the needs of the majority of youth. These schools could be the most significant institutions in the transition of rural youth from agricultural occupations to industrial employment. The military is the second potential source for this purpose with its basic education and skill training centers. Since military service is compulsory for every Turkish male between 18-22 for two years, this channel must be utilized extensively to provide an educational opportunity for those youth who still lack basic educational and vocational skills.

The establishment of youth centers and community service organizations and the utilization of those already existing is necessary to serve those youth who live in urban slums. In large industrial centers, industry should assume a major responsibility by providing facilities through the establishment of factory-schools, production-training units, and special training centers. Finally, educational institutions should mobilize all kinds of schools at every level to provide facilities for cooperative vocational education activities and integrate them into the total school program.

Some General Remarks

As a concluding statement, the fundamental characteristics of the proposed model may be summarized as follows.
In general, the unmet needs of youth for basic education for vocational training and social adjustment, need for manpower, and the inadequacy of the present educational system seem to be the basic challenges to education. The cooperative scheme with its high potentiality to meet these challenges offers a promising solution to these problems.

The model to be adopted for this purpose is based on contemporary educational concepts suggesting practical, functional and economic approaches for the immediate accomplishment of the emerging demands. The combination of work and education in a productive and educative environment appears to be the most appropriate core of the underlying concept.

The goal of the model is to create new educational channels for providing equal educational opportunity, relevancy in learning and for meeting the emerging needs of society. The team approach under a well qualified leader and in a hierarchical setting with delegated authority is the basis for the administrative structure.

An integrated and functional instructional system geared to the development of basic educational and occupational skills as well as a desired personality in the youth constitutes the essential medium for teaching-learning activities and correlates in-school and on-the-job activities.

The model aims at rendering guidance, educational and work experiences to the majority of youth who most need it and who have not been served by the existing educational system. It suggests the
mobilization of all the available resources of the community in
providing adequate facilities for instructional activities. It puts
special emphasis on the creation and utilization of a new instructional
setting outside the normal school situation.

In addition, the nature of cooperative education, the society
and the youth under consideration require the accomplishment of certain
specific aspects related to the model. First of all, the administrators
must work closely with community and industrial leaders; they must
establish harmonious cooperation with industry, business, private
organizations and the military. Advisory bodies must be utilized
extensively in every stage of the program. Since community support
is necessary for success, and utilization of all community resources
is an urgent need, the program must be well publicized in order to
establish community interest and a willingness on the part of all the
interested groups to invest in the program. A complete exploration of
financial resources available in the community is the first pre-
requisite for the successful implementation of the program.

Finding ways and means to return out-of-school youth to school,
identification of potential dropouts, undertaking studies concerning
the problems of out-of-school youth and underachievers in-school,
guidance and attention for the individual student, establishment of
remedial classes, and obtaining accurate information about the needs
of the job market are important aspects that need special attention.
In addition, co-curricular activities of the students should be
considered an integral part of the program. A systematic evaluation
involving both progress of the student and the effectiveness of the program must be a continuous process.

Finally, since the implementation of the model would mean innovations in the prevailing system, and since it would mean change in the status quo, there would be some obstacles to overcome during the implementation period. Reaction of the traditional thinkers, the attitude of the power structure in the community, lack of financial resources, unemployment, inadequate qualified personnel, bureaucracy and the rigid structure of the prevailing system all represent some of the fundamental factors that could create problems and would require special attention.

The creation of new goals, expectations and values in individuals and groups, modification and mobilization of the power structure, exploration of new financial resources, motivation of necessary personnel for action and the development of an implementation program are the fundamental considerations for an effective strategy in overcoming those possible obstacles. It should be noted that any attempt to bring about a change in a prevailing system has to be carefully organized, developed, and popularized before it is initiated. It must overcome a number of obstacles in order to be realized and institutionalized.
CHAPTER VI

IMPLICATIONS OF THE STUDY

A Code for Epilogue

Since the analytic summaries have been included in each section throughout the study, it would be appropriate to present a brief and general perspective of the previous discussions, to clarify the fundamental prospects suggested in the discussions, and to codify the basic implementations of the study for further action.

The proposition under consideration consists of three major facets, namely, (1) presentation—stating the assumptions, identifying the problem, and suggesting a proposal; (2) analysis and development of the proposition in view of the stated premises through the utilization of the suggested approach; and (3) the implementational process.

As depicted in Figure 12, this study directly involves the first and second aspects of the proposition, and attempts to develop a basic conceptual framework and a model for the third or implementation stage. Thus, in the first presentational stage assertions were made, the problem was identified, and a proposal for attacking the problem was suggested.

In general, the main underlying assumptions of the study were that the revolutionary developments and the rapidly changing character
I. STAGE—Introduction

II. STAGE—Development

III. STAGE—Implementation

Figure 12 - Schematic Presentation of Various Development Stages of the Thesis
of the present time are creating new and challenging problems for education, steadily shaping and re-shaping the conventional contour of the basic elements of the educational model, and are requiring re-casting of traditional patterns of education to create new designs.

It has also been assumed that the main challenge of the time for education is equality of opportunity, provision for all, better use of human resources, orchestration of individual, social and economic demands and development of excellence in programs. Within this general framework, it was asserted that vocational education must orient itself according to these new challenging frontiers, rapid change, new aspirations and expectations of modern man, and increasing demands for new and highly sophisticated skills.

It was also maintained that continuous modification of vocational education programs is necessary under the influences of a steadily and rapidly changing occupational structure, new advances in the world of work, and the changing requirements of social and economic life.

In the midst of this universal scene, it was observed that Turkey, as a developing country, is facing a series of social, economic, and educational problems stemming mainly from the commitment to create a planned democratic society compatible with human dignity and with modern living requirements.

The rapid change in social structure, high rate of population increase, unmet basic educational, social and economic needs of the great masses, lack of skilled manpower, ever-increasing unemployment, low rate of production and limited natural resources are among the
basic factors which accentuate the need for rapid development in the educational system.

All these inhibiting factors require intelligent use and effective concentration of resources in industry and agriculture and present a special challenge to vocational education. In short, the problem lies at the middle of a continuum which has presently developing Turkish society on one end and the vocational-technical education system of the country at the other.

In fact, the emerging manpower needs for skilled labor, the educational needs of youth leaving school with little or no preparation for employment and the serious shortcomings of the existing educational system make it imperative to find better ways and means for making vocational education more effective and more productive. Therefore, it is absolutely necessary to create new designs based on new assumptions and on the requirements of the country in order to improve the situation.

With this view in mind, the purpose of this study has been to search for a practical and functional educational program in the field of trade and industrial education which will meet at least part of the emerging skilled manpower needs of industry and which will provide an additional regular channel for educational opportunity to those youth who are not being served by the existing educational programs.

The underlying thesis of this quest has been that a kind of work-education combination based on proven educational principles, the recognition of the pedagogical values of work and the socio-economic
function of education, and geared to the particular needs and the
conditions of the Turkish society would be one of the best solutions
to the problem.

On this conceptual ground, the elaboration of the proposition
has been undertaken on three main lines, namely, (1) a systematic
analysis of the contextual setting, (2) a study of the basic principles
and organizational nature of work-education schemes, and (3) an
investigation of the ideas, criticisms and reactions of a selected
population.

Analysis of the contextual setting reveals that since the
beginning of the republican era the government has been striving
diligently for the realization of a balanced economy through a series
of development plans. The search for an educational system consistent
with the emerging requirements of the country has been a continuous
concern. Developing new industry, improving agriculture, and
maintaining a balance of trade have been basic economic policy.

However, further analysis of the matter indicates that inheritance
of a deteriorating structure from the Ottoman Empire, a lack of qualified
leadership, limited resources, oriental traditions, an outmoded
theoretical foundation of education, piecemeal improvement efforts,
world wars and international interferences, all together have been
serious inhibiting factors in this systematic development. As a
consequence, the present Turkish society is still in the process of
transition from agrarian to industrial setting.
In general, an increase in the rate of saving for capital formation, increasing industrialization, improvement in agricultural productivity, intelligent use of national resources in terms of human skill and material, and development of a sense of priority and timing seem to be the imperatives of the day.

Under these circumstances, the commitment for planned social and economic development in a foreseeable future, increase in the growth rate of the population, commitment to universal mass primary education, and increasing expectations of people together make the problem more complex and call for more intelligently planned systematic strategies in the field of education.

However, in spite of these facts, the present educational system is inadequate in terms of quality and quantity; it is not functional and is far behind in meeting the present demands of the society. As the analysis indicates, some of the typical basic needs and problems in the field of education appear to be:

1. Outmoded theoretical bases,
2. Traditional split between general and vocational education,
3. Inadequate financial resources,
4. Inefficient administrative structure,
5. Teacher shortage,
6. Lack of facilities,
7. High priority demand for basic mass education,
8. Lack of relationship between various agencies,
9. Gap between rural and urban areas and unbalanced distribution of educational opportunities,

10. Unbalanced distribution of students in various educational lines,

11. Inadequate guidance and counseling services,

12. Need for horizontal expansion at the secondary level,

13. Demand for relating education to manpower requirements, and

14. Need for training large numbers of skilled workers and out-of-school youth.

With all these constraints it is not possible for the prevailing educational system to meet the new demands merely by applying fragmentary changes in the existing structure. When the drastic changes taking place within the texture of society, a systematic adaptation of new policies, concepts, strategies and methodology in educational matters becomes a necessity.

As the related studies reveal, the most crucial educational needs of the country are mass education at the primary level, the development of a comprehensive manpower training system at the secondary level, and the establishment of coordination between various sectors and education. In spite of this fact, the present system suffers from the traditional dualism and most of its resources go into preparing a small percentage of youth for the universities.

Since the main source of the wealth of a country lies in the degree of efficient and effective use of its human and material resources, and since the most urgent need of present Turkish society is a skilled labor force, education must be adapted to serve this need,
As a matter of fact, the high rate of illiteracy and the limited educational resources of the country suggest the adaptation of "economic efficiency in education," rather than "intellectual excellency," as an immediate objective to be accomplished. This in turn requires the development of a functional, well planned vocational-technical education system throughout the country. Such an educational system is necessary to:

1. Provide necessary skills for people who are changing from farm work to industry,
2. Meet the emerging skilled labor demands of industry,
3. Ease the unemployment problems of the country,
4. Increase productivity in the use of natural resources of the country,
5. Increase the capacity of the people for production,
6. Ease the transition from an agrarian to an industrial setting,
7. Promote the quality of arts and crafts work,
8. Eliminate the economic barriers to extended schooling,
9. Overcome the cultural inequities in student background and unequal opportunities for rural youth,
10. Promote an understanding of the occupational structure and the importance and values of the work in the social and economic life, and
11. Promote vocational guidance and counseling services for youth.

On the other hand, an examination of the work-education scheme indicates that organized and supervised work-experiences can assist greatly in providing a smooth transition from school to life and from a dependent adolescence period to an independent adulthood status.
The cooperative plan can provide a functional and meaningful education for the majority of youth by motivating them for social adjustment, by helping them develop self-discipline, by preparing them for life as productive citizens, by relating class studies to life, by promoting an understanding of the educational system in the community and by promoting communication and mutual support between various groups and between general and vocational education.

Today, preparation for employment through cooperative education is becoming a major means of reducing poverty and other social ills in a community. The concept of work as a means of education and of enrichment of human experiences, as a combination of science with life, and as the participation of everyone in productive life are the basic premises of the cooperative plan which are gaining popularity.

As a matter of fact, the cooperative plan is based on the assumptions that school is the community and that learning is an active and cooperative process; that some aspects of an occupation can be learned best through genuine work experiences, while other concepts can be learned faster and more economically through organized classroom and laboratory instruction. Combinations of the two, properly organized, supervised, and administered, provide excellent learning situations. In general, the unique nature of the cooperative program is characterized by:

1. A cooperative approach,
2. The effective utilization of all available resources,
3. Service to youth and the community,
4. Enrichment of educational opportunities,

5. Relevancy in learning,

6. Provision for systematically organized and supervised on-the-job training,

7. A sound correlation between major components of the program,

8. Cooperation and systematic supervision in operating the program, and

9. Continuation of general high school studies in addition to preparation for employment.

Therefore, with all these special features, this plan offers high potentiality and realistic promises for the solution of a number of newly emerging problems within the Turkish educational system.

As a matter of fact, the opinions, attitudes and suggestions of the four interested groups surveyed also support the basic assumptions of this thesis. The study reveals that because of outmoded theoretical foundations, conventional structure, irrelevant curricula and inadequate instructional methods, there is no provision for preparation for employment in the existing secondary school system. This failure is creating such deficiencies in students as lack of desirable personal traits and vocational skills relevant to occupational life. All individual groups are of the conviction that there is need for developing relevant programs and providing work experience opportunities for the student to remedy this situation.

Furthermore, there is a need for cooperative vocational education programs in the communities surveyed. Attitudes of the population studied are positive toward the program. An overwhelming majority of
the parents and educators indicated their interest in the program. Students stated their needs for part-time employment during their education and expressed a desire for preparation for full-time employment upon graduation from secondary school. Employers pointed out their willingness to participate in the program.

The basic recommendations of the respondents about the improvement of the present programs and about the adaptation of the cooperative program are consistent with the underlying principles of the cooperative plan, with the requirements of the country and with the recommendations of other previous studies. Generally, respondents believe that there should be legislative provision, reorganization of present programs, creation of new employment opportunities and incentives for development of general public interest for the effective implementation of the program. In addition, the respondents recommended enrichment of vocational school offerings, and a modification of academic secondary school objectives to develop vocational skills in the student.

Finally, on the basis of these three factual grounds, the study of the contextual setting, the work-education scheme, and the selected population, a model has been developed to formulate the fundamental nature of the proposed cooperative trade and industrial program for Turkey. The model aims primarily at meeting the main educational challenge which is to provide a meaningful, integrated and functional educational program for youth in terms of the skilled labor demands of industry.
The model recognizes the importance of the present need for basic mass education together with the preparation of youth for employment; it takes into consideration the serious obstacles inherent in the existing educational system in terms of needed capital, available facilities, teacher shortages, and traditional thinking. Furthermore, it suggests the mobilization of the whole community with all its agencies and resources in meeting the present educational challenge.

The basic purposes of the model are the equality of opportunity and enrichment in educational offerings, relevancy in learning, utilization of available resources, efficiency in education with a minimum standard and provision for vocational education for all.

The basic fundamental aspects of the model include a team approach in administration, a functional instructional system, service to all youth who have the desire, ability, and need for preparation for employment, the utilization of every available facility within the community, and the creation of new employment opportunities for youth.

Finally, the model also realizes the need for and the importance of the development of a systematic and well planned implementation program for the successful accomplishment of its underlying objectives.

Suggested Implications

The data presented thus give rise to questions, such as: what are the implications arising out of this study? what is there that can be elicited from the study thus far that has a bearing on future developments? Although the study may imply different things to different
readers, and may make different impressions, this author suggests these three main implications:

1. The conceptual framework, purpose, place and function of contemporary vocational education in a modern society are changing considerably.

2. A commitment to social and economic development in Turkey requires a commitment to develop a vocational-technical education system: relevant to the social, economic, and manpower requirements of the country.

3. Combined education-work experience under the cooperative plan is one of the best educational approaches in the preparation of youth for productive life, and in bringing about social adjustment within the changing structure of modern societies, and the plan is gaining increasing popularity as a second means of education.

Further clarification of these three implications is necessary in order to understand their nature, interrelationships and their importance in the developing Turkish society.

**Changing Conceptual Framework of Vocational-Technical Education**

The related literature indicates that although the systematic development of modern vocational education started with the scientific educational movements on one hand and the industrial revolution on the other, the present development has not been able to reach maturity under the aggressive opposition of academic provincialism. Vocational education has always been overlooked, devaluated and restricted to mere manual training in the psychomotor domain within very narrow limits, and its educational values and social and economic functions have been denied for years.
In spite of this persistent traditionalism, however, the so-called post-industrial era, through its various revolutionary impacts, made the liberalization of vocational education an unavoidable necessity of modern life. Today, drastic changes in the social and economic life and the challenges of the time on the scientific and technological fronts are requiring a re-examination of the traditional educational patterns, change in the conceptual framework, and a re-interpretation of the basic principles of vocational education.

As a matter of fact, the present shift is from "vocational education for the poor" to "vocational education for all." There is a tendency toward unifying general---and vocational---education. Emphasis is being placed on the cognitive and affective domain in addition to the psychomotor domain. Specialized vocational education at the secondary level is shifting toward broad and comprehensive vocational education with an expansion toward lower and upper grades. The expansion of in-school activities to actual living situations, the systems approach in planning, and the organization and operation of new programs all represent the typical and concrete examples of the changes taking place in the conceptual framework of vocational education.

In fact, today the most important challenging problem in the field of education appears to be the effective combination of compulsory education with vocational training in order to establish a systematic and well organized continuous education for active life.

The mobilization of leadership services, the exploration and effective utilization of all available resources, and above all, the
development of a public commitment in the area of vocational education is necessary for immediate action.

Commitment to a Relevant Vocational-Technical Education

In a sense, education is an enterprise existing for the development of individuals in a society on the basis of pedagogic principles and of the needs and requirements of that society with a social consciousness and economic efficiency. As this study indicates, the present educational system in Turkey appears to be dedicated to outmoded and unrealistic ideals and practices which are not consistent with the emerging demands of the society.

The system is not relevant to the needs of almost 20 percent of the school-age youth. It is turning out unskilled and untrained graduates and dropouts into the world of work while the country is facing a massive shortage of skilled labor. In spite of increasing unemployment caused by the lack of skills, it does not concern itself with education for productive work.

The shift from an agrarian to an industrial setting, limited resources, a high rate of illiteracy, unemployment among the unskilled labor, a high proportion of out-of-school youth and dropouts, limited opportunities at the higher educational level, are all concrete indications of the fact that the actual critical need in developing Turkish society is for a practical, functional, and economic mass vocational education program integrated with basic education.
The great challenge for education in Turkey is the preparation of youth for employment within productive work conditions, not preparation for college entrance under outmoded conventional educational methods. It is a social and economic necessity to provide an opportunity for youngsters to understand their probable future adult needs and to equip them with the necessary skills for productive participation in developing Turkish society.

If the national commitment to social and economic development is to be accomplished successfully, it must be supplemented with a commitment to the development of a functional vocational education system since it is vocational education that provides necessary skills and produces social and economic growth. It follows that a well planned and relevant vocational-technical education integrated with the general development plans of the country is the first imperative of the day for the solution of many social, economic and educational problems. However, realization of this fact calls for a national commitment, and total mobilization for action by all the agencies of the country—government, industry, business, educational establishments, and the general public.

Cooperative Vocational Education as an Alternative

Finally, the changing concept of vocational education on the one hand, and the special nature of Turkish society on the other, require a kind of educational design which will satisfy both. An examination of the matter indicates that among other types of vocational
programs, the vocational education scheme with its unique features and limitations appears to be one of the best designs for this purpose.

It is an educationally, socially and economically sound program based on a functional and constructive philosophy. It can be designed for both the general and vocational educational purposes, and represents an effective method of combining work and education. It can be adapted to any particular community and has a high potentiality for meeting the existing educational problems of youth and skills demanded by industry. It requires less investment, has promise of a high rate of placement, and is an effective method of motivating the youth for social adjustment and preparation for employment. It is an outgrowth of the changes taking place in social, economic and occupational life and the natural result of a series of educational experiences and developments of the past.

With these important features, this plan promises high potentiality in meeting the emerging educational demands of the Turkish society. Therefore, serious consideration should be given to adopting this program as an alternative to other means of meeting the challenging demands.

Codification of the Implications

If this treatise and the conclusions elicited from it have any validity, what remains at this point is to formulate a strategy for action, or a guide for implementation of the suggested proposal. Since the evolving consequence is a change in the conceptual framework of vocational education, now functional programs must be designed
accordingly. Since the development of a new conceptual framework requires adaptation of new strategies and policies in general, and the new program design must be tested, the following recommendations, developed on the basis of this study, are being presented.

Recommendations Concerning the Change in General Policies and Practices

One of the most critical needs of the present Turkish society is for appropriately skilled labor and technical knowledge. Since all educational needs of the country cannot be met at once, priority must be given to the development of vocational educational programs to meet this crucial need.

It has already been proven by past experiences that effective progress is not achieved by merely adopting spectacular suggestions dealing with more or less isolated problems when the national economy and the fabric of the society are in a process of change. The ultimate success of any educational program depends upon the machinery developed by the government for decision making, planning, organizing, coordinating and utilizing all the resources in relation to its general national plans.

Therefore, coordinated decision making machinery must be developed at the national level. There should also be coordination among plans for economic development, manpower forecasting and organization, and vocational education. Educational authorities should develop their national plans as a result of this cooperation and on the basis of adequate knowledge and data concerning the illiteracy
rate and the employment needs of youth, actual manpower needs, nature of available job opportunities, and the facility provisions for training.

Vocational education must be a matter of joint responsibility. Government officials, educators, parents, employers, employee organization leaders, and other community leaders must assume responsibility in developing and operating vocational education programs. A close relationship between industrial management personnel and vocational education staff personnel must be established for the exchange of ideas and cooperative planning.

Every potential resource in the community must be explored and be used as extra-formal channels of education in industry, business, government and military organizations. School buildings, factories, union halls, university extension facilities, clubrooms, and other similar organizational facilities should be utilized for educational purposes. Creation of new resources and new combinations must be sought to relieve the financial burden on the central budget. In order to provide on-the-job training experiences for the students in those fields which are not yet developed in industry, appropriate production units must be established in connection with vocational schools and regional elementary schools.

The present realities of the country require a change in the concept, structure and instructional practices of education. Education should be conceived as a major means of furthering the process of industrialization by facilitating the adaptation of the displaced rural population to urban and industrial conditions. The immediate
objective must be the realization of mass education providing the needed supply of manpower and satisfying the educational needs of out-of-school youth.

Therefore, those people who are now pre-occupied with an outmoded concept of industry and of labor as menial occupations must develop a new outlook in respect to the social, economic and educational values of work and the contribution of labor. Furthermore, public concern on a countrywide scale must be oriented toward relevant education for the preparation of productive life.

The traditional split between general and vocational education must be redefined to develop a more unified approach. The present system of an elite-oriented education must be adapted according to the realistic requirements of mass education. Education within productive enterprise must be conceived as an essential secondary means of education, and must be expanded throughout the country. It must be made relevant for the total youth by equipping them with desirable basic skills. The schools must address themselves to the most pressing needs and problems of youth—the basic educational skills, vocational skills, and social and economic adjustment.

New programs should be instituted in cooperation with unions, professions, industry, public and private agencies. The course of study should be divided between on-the-job training and regular course work on the basis of particular vocational fields in terms of the stated goals.
Establishing and maintaining a balanced distribution of pupils in academic and vocational programs consistent with the social and economic requirements must be a basic policy. Minimum necessary standards for immediate needs must be based on realistic criteria for each kind of program.

Employment-oriented educational programs must be made available to all students. Systematic and massive employment information machinery should be developed. Elementary school programs must be re-organized to develop a positive attitude on the part of youngsters toward work.

Vocational courses should be so designed that students completing such courses can go on to the college if they so desire. No students shall be denied this opportunity for further education other than ability and interest. All students leaving primary, junior high, and senior high schools must be prepared and qualified with job skills if they are not likely to pursue further education.

The teacher-coordinator is the key element in the work-education scheme. Therefore, special consideration must be given at the very beginning to the recruitment, preparation and promotion of well qualified teacher-coordinators.

Above all, since most of the administrative and operational problems stem from the confusing nature of legislation currently in effect, and since the realization of all these recommendations depend strictly upon the clearly identified legislative provisions and support, a new comprehensive and unified vocational education law must be enacted at the outset as a platform for a solid development.
Recommendations Concerning the Development of Procedures for Experimental Programs

Implementation is the third developmental stage of this proposal. For this purpose, the suggested conceptual framework and model call for a major change in the status quo which means extensive innovation. Since any innovation should be based on tested facts and data, it follows that experimental or pilot programs must be initiated under close control. Therefore, an appropriate procedure for implementation should produce certain desirable ends and lay a basis for the completion of the whole cycle of the proposal.

First of all, there must be a clear understanding of the whole idea to overcome undesirable reactions. The leaders in all the related areas must be assisted to develop new goals, expectations and values consistent with the desired ends. The motivating factors of all groups, in this respect, should be shared responsibility, participation, cooperation, insight about the problem and good judgment. The general framework of action to be followed should be:

1. The mobilization of the power structure, within the contextual setting, both within and outside the system,

2. The development of certain expectations, values and standards of new action goals,

3. Creation of cooperative participation of all interested groups,

4. Clarification of the responsibilities and authorities of different levels;
   a) policy making
   b) expert committee
   c) advisory committee and
   d) separation of decisions and execution,
5. The guarantee of the rights of any individual, group, and institution,

6. Motivation of all interested groups for action, and

7. Establishment of procedures and principles to be followed in the implementation of the program.

Secondly, in the light of this general framework of action, the first step should be to establish an interdisciplinary committee with delegated decision-making authority. This committee should consist of vocational educators, philosophers of education, educational psychologists, social scientists, economists, and program specialists.

As a second step, a working relationship between the interdisciplinary committee and all interested groups for mutual support and assistance must be developed. In the third step, a curriculum development committee should be established. This committee should include interdisciplinary committee members, or at least the chairman of the committee, and representatives from the Ministry of Education, a student group, employers, employees, and from the parent group.

This curriculum development committee should clarify the nature of the experimental program and its strategy; the sources of evaluation and testing; the basic requirements for implementing the program, such as necessary equipment, material, facilities, and expert personnel; the nature of the teacher orientation program and the main specific objectives to be accomplished.

Furthermore, the curriculum committee should delegate authority to the expert committee for implementation and control of the experiment according to the principles developed by the curriculum committee.
Finally, through this delegated authority, the expert committee should develop a detailed curriculum for each component of the program, design instructional activities, identify instructional methods, techniques and materials, conduct the experiment, coordinate the activities, and evaluate and re-design the program.

In general, the following principles should be used to further the development, disambiguation and re-structuring of the programs:

1. Utilization of expert knowledge and scientific methods,
2. Application of modern organizational and administrative principles,
3. Cooperation and partnership in carrying out the tasks,
4. Provision for flexibility and delegated authority necessary for smooth operation of the programs,
5. Application of continuous development apparatus, procedures, and appraisal systems,
6. Creation and development of a sense of economic efficiency and productivity in every individual,
7. Application of a variety of approaches and consideration of the different alternative solutions to any problem,
8. Establishment of a vocational education concept comprising economic efficiency, social welfare and individual development,
9. Movement of vocational education to the center of the educational mainstream as an enterprise for serving all as a solution to many social, economic, and educational problems of the country,
10. Utilization of well integrated, countryside comprehensive planning commensurate with the country's general development plans,
11. Development toward making vocational preparation a continuous process in every individual's life,
12. Application of new scientific methods, new educational techniques, a variety of programs and different organizational arrangements geared to the present conditions of the country and to people's needs.

13. And, above all, enactment of a massive, comprehensive legislative provision and support for the implementation of new developments on a countrywide basis.
APPENDIX A

Intermediary Endorsement Accompanying Covering Letter and the Questionnaire

Dear..................

Enclosed is a set of formats concerning a study which is being conducted by Mr. Cevat Alkan, a faculty member of the Technical Teachers' Training College, Ankara, Turkey.

He is carrying out this investigation with our cooperation and support, under the professional advisement of an academic committee chaired by Professor Dr. Robert M. Reese, Chairman of Vocational-Technical Education Faculty at The Ohio State University.

He is seeking your cooperation in this phase of the study to serve you better. Your cooperation as ....................... will be of great value to this study. We join with him in asking your assistance with the hope that you will find it possible to participate.

Cordially,

the Chairman
The Ministry of Education
Vocational and Technical Education
The Bureau of Research and Planning
Dear ..................:

Enclosed is a set of questionnaires concerning the study that I am conducting at The Ohio State University.

The main purpose of the study is to explore the possibilities of establishing a program for high school age youth which will make them productive citizens while they are pursuing their education, and provide permanent employment upon their graduation.

In connection with the study, the purpose of this survey is to provide a basis for formulating a plan for an adequate trade and industrial cooperative vocational program to meet the requirements of the learner, the employer and the emerging demands of the community.

The cooperative vocational trade and industrial education program is a practical learning approach based on a constructive and functional philosophy of education. It is an instructional program which requires the cooperation and participation of all interested groups, to the school, student, employer, and parents. It is a supervised study program in which the student-learner receives his practical training on-the-job and related instruction in the school in order to develop required competency in a chosen trade and industrial occupation. Under this program, the student would receive school credit for his work in industry. He would receive the in-school related instruction and other high school subjects necessary for graduation.

The program can be offered by both academic and vocational schools of any size. It is extremely flexible, does not require expensive machinery, makes use of available facilities in industry and the resources of the community, maintains balance between supply and demand in trade and industrial occupations, and brings all interested groups together. The
program is not a disruption of the existing public school system but expands its offerings by providing vocational training in the curriculum. It is one of the many types of instructional plans that are being used in educational systems of various countries. Some of the fundamental provisions of the program are:

I. For the Student:

- To earn while learn,
- To further education,
- To graduate from high school into permanent employment.

II. For the School:

- To offer a sound alternative to those who will dropout,
- To serve great majority of its students who will not continue further education,
- To be more functional in serving the community.

III. For the Community:

- To turn its idle youth to productive members,
- To stabilize its employment,
- To create an awareness on the part of interested groups concerning their mutual duties in preparing all youth for employment.

IV. For the Employer:

- To give organized training for his new employees,
- To supervise and help plan the training of his future employees,
- To secure assistance of a full-time teacher-coordinator in his training problems,
- To serve his community through the public schools.

The enclosed set of questions is designed to secure your reaction concerning this program as ............... Information needed for this aspect of the study can be obtained only through your cooperation and assistance. If, in your judgment, this problem is of sufficient merit to warrant this expenditure of your time, will you kindly cooperate in this investigation by completing the attached questionnaire at your earliest convenience and returning it in the business reply envelope provided for your use?
You can be sure that all information will be treated confidentially and will be used for statistical purposes only.

I would like to take this opportunity to express my deep appreciation for any help you can give me in this matter.

Sincerely,

Cevat Alkan
Faculty
Men's Technical Teachers' Training
College, Ankara, Turkey
APPENDIX C

EDUCATOR'S QUESTIONNAIRE

Name (optional): ............................................................................................................
Type of school or office: ..................................................................................................
Position: .........................................................................................................................
Teaching field: .................................................................................................................
Educational background: (from the following list check only the highest degree received)

a-Voc. H.S. ............ ( )
b-Normal S. ............ ( )
c-Aca. H.S. ............ ( )
d-Junior Teach. Coll. ( )
e-Teach. Coll. ...... ( )
f-Tech. Teach. Coll. ( )
g-Com. Teach. Coll. ( )
h-Lib. Art Coll. ....... ( )
i-M.S. ................. ( )
j-Ed.D. or Ph.D. .. ( )
k-Other ............... ( )

Please answer the following questions after reading the letters of explanation which give you a general idea about the nature and the scope of the investigation.

PART I

1. Do you believe that secondary schools are equipping youth with the satisfactory initial skills to enter the world of work?

   a-Aca. H.S. Yes No ___ Why: ______________________________________________________
   b-Voc. H.S. Yes No ___ Why: ______________________________________________________

2. In what areas, do you think, do the youth who leave the secondary schools to seek employment lack ability?

   a-Gen. education ( ) ( )
   b-Voc. education ( ) ( )
   c-Work experience ( ) ( )
   d-Adjustment to work conditions ( ) ( )
   e-Personal traits ( ) ( )
   f-Others ____________________________

   Ac. H.S.  Voc. H.S.
   ( ) ( )
   ( ) ( )
   ( ) ( )
   ( ) ( )
   ( ) ( )
   ( ) ( )

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3. What would be your suggestion for improving the present secondary school programs?

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<th>Suggestion</th>
<th>Aca. H.S.</th>
<th>Voc. H.S.</th>
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<td>a- Provide voc. subjects</td>
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<td>b- Provide more elective courses</td>
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<td>c- Provide work-experience</td>
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<td>d- Design more flexible programs</td>
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<td>( )</td>
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<td>e- Others</td>
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(specify)

4. Would you prefer that academic high school graduates have some sort of vocational training, besides the preparation for college, before leaving school?

Yes ___ No ___

5. Do you think that the vocational high school should provide work-experience in industry for its students besides the in-school shop experience?

Yes ___ No ___

PART II

1. Do you think that, in general, cooperative vocational programs would be a feasible alternative for existing vocational preparation programs?

Yes ___ No ___

2. Do you think that supervised work-experience programs would be a valuable alternative to in-school shop experience?

Yes ___ No ___

3. Do you think that there is need for cooperative trade and industrial programs in your community?

Yes ___ No ___

If yes, in what occupations?

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If no, state reason: _____________________________
4. Do you think that employers will be willing to participate in cooperative vocational programs?
   Yes ____ No ____

5. Do you think that it would be helpful to have someone representing the public school serve as a coordinator between the school and industry?
   Yes ____ No ____

PART III

1. Which of the following schedules, do you think, would result in most effective training?
   a-One half day school and one half day work .... ( )
   b-One day school and one day work ............... ( )
   c-One week school and one week work ........ ( )
   d-Others (specify) ___________________________ ( )

2. What would be the length of the program?
   a-One year .......................................................... ( )
   b-Two years .......................................................... ( )
   c-Three years ......................................................... ( )
   d-According to the nature of occupation under consideration -- ( )

3. Should the student-learner be paid for his work experience?
   Yes ____ No ____

   If yes, what rate should be used?
   a-The apprenticeship rate .. ( )
   b-Minimum labor rate ..... ( )
   c-Special training rate ..... ( )

   If no, state reason: ____________________________________________________________

4. Should the work experience be given credit as if it were in-school shop training?
   Yes ____ No ____
5. At what grade level should this program start?

   a-6 ( )   c-8 ( )   e-10 ( )   g-After H.S. ( )
   b-7 ( )   d-9 ( )   f-11 ( )

PART IV

1. What do you think the major hindrances would be in applying the program in your community?

   a-Existing educational regulations ...... ( )
   b-Lack of student interest ............... ( )
   c-Arrangement of school schedule ...... ( )
   d-Unemployment .......................... ( )
   e-Lack of employer interest ............. ( )
   f-Others ................................. ( )

2. What kinds of problems, do you think, would the program create in the educational system?

   a-________________________________________
   b-________________________________________
   c-________________________________________

3. What are your suggestions for overcoming the probable hindrances and problems?

   a-________________________________________
   b-________________________________________
   c-________________________________________

PART V

1. Any additional comments or suggestions will be greatly appreciated.

   _________________________________________
   _________________________________________
APPENDIX D

EMPLOYER'S QUESTIONNAIRE

Name of Firm: ______________________________________________________

Type of Business: _____________________________________________________

Number of Employees: _________ Men, _________ Women, _________ Total

Representing Management ( ), Labor ( ), Union ( )

Address: ____________________________________________________________ Tel. _________

Please answer the following questions after reading the letter of explanation
which gives you a general idea about the nature and the scope of the investigation.

PART I

1. Do you believe the secondary schools are equipping youth with the
satisfactory initial skills to enter the world of work?

   a-Academic High Schools: Yes ___ No ___ Why: __________________

   b-Vocational High Schools: Yes ___ No ___ Why: __________________

2. In what areas, do you think, the youth who leave the secondary schools
to seek employment lack ability?

   a-General Education ......................... Ac. H.S. ( ) Voc. H.S. ( )
   b-Vocational Skills ......................... ( ) ( )
   c-Work Experience ......................... ( ) ( )
   d-Adjustment to work conditions ....... ( ) ( )
   e-Personal Traits ......................... ( ) ( )
   f-Others ............................. ( ) ( )
3. What would be your suggestion for improving the present secondary school programs?

   Ac. H.S.       Voc. H.S.
   a-Provide vocational subjects ....... ( ) ( )
   b-Provide more elective courses .... ( ) ( )
   c-Provide work-experience ......... ( ) ( )
   d-Design more flexible programs ... ( ) ( )
   e-Others (specify) _______________ ( ) ( )

4. Would you prefer that academic high school graduates have some sort of vocational training, in addition to preparation for college, before leaving school?

   Yes ___  No ___

5. Do you think that the vocational high school should provide work experience in industry for its students in addition to the in-school shop experiences?

   Yes ___  No ___

PART II

1. Do you think that, in general, cooperative vocational programs would be a possible alternative to vocational preparation in addition to the existing programs?

   Yes ___  No ___

2. Do you believe that supervised on-the-job experience would be a valuable alternative to in-school shop experience?

   Yes ___  No ___

3. Would you be willing to provide employment opportunities for cooperative vocational education students?

   Yes ___  No ___  If no, state reason: ________________________________

   If yes, what types of part-time training positions, and which fields would be available in your company?

   Positions: Identify occupation:
   a-Technician ( ) ________________________________
   b-Skilled ( ) ________________________________
   c-Semi-skilled ( ) ________________________________
   d-Unskilled ( ) ________________________________
4. Would you be interested in having someone representing the public schools serve as a coordinator between the schools and industry?

Yes  ____  No  ____

5. Are you willing to serve on an advisory committee if invited to do so?

Yes  ____  No  ____

PART III

1. Which of the following schedules, do you think, would result in most effective training?

   a-one half day school and one half day work ................ ( )
   b-one day school and one day work  ...................... ( )
   c-One week school and one week work  ..................... ( )
   d-Others (specify) _________________________________ ( )

2. What should be the length of the program?

   a-One year ......................................................... ( )
   b-Two years ..................................................... ( )
   c-Three years ................................................. ( )
   d-According to the nature of occupation under consideration  ( )

3. Should the student-learner be paid for his work?

   Yes  ____  No  ____

   If yes, what rate should be used?
   a-The apprenticeship rate ( )
   b-Minimum labor rate  ( )
   c-Special training rate  ( )

   If no, state reason: ________________________________________
                             _______________________________________

4. Should the work-experience be given credit as if it were in-school shop training?

   Yes  ____  No  ____
PART IV

1. What, do you think, the major hindrances would be in applying the program in your community?
   a-Existing educational regulations ( )
   b-Lack of student interest ( )
   c-Arrangement of school schedule ( )
   d-Unemployment ( )
   e-Lack of employer interest ( )
   f-Others ______________________ ( )

2. What kinds of problems, do you think, the program would create for you as an employer participating in the program?
   a-_____________________________________________________
   b-_____________________________________________________
   c-_____________________________________________________

3. What would be your suggestions for overcoming the probable hindrances and the problems?
   a-_____________________________________________________
   b-_____________________________________________________
   c-_____________________________________________________

PART V

1. Any additional comments or suggestions will be greatly appreciated.
   ______________________________________________________
   ______________________________________________________
   ______________________________________________________
PARENT'S QUESTIONNAIRE

Name (optional) : __________________________________________

Sex: Male ( ), Female ( )

Date of Birth: __________________

Education: __________________________________________

Profession: __________________________________________

Number of Children: __________________________________

Address (optional): __________________________________

Please answer the following questions after reading the letters of explanation which give you a general idea about the nature and the scope of the investigation.

PART I

1. Do you believe the secondary schools are equipping youth with the satisfactory initial skills to enter the world of work?

   a-Ac. H.S.: Yes___ No___ Why: ____________________________
   b-Voc. H.S.: Yes___ No___ Why: ____________________________

2. In what areas, do you think, do the youth who leave the secondary schools to seek employment lack ability?

   a-Gen. education ......................... ( ) ( )
   b-Voc. education ......................... ( ) ( )
   c-Work experience ....................... ( ) ( )
   d-Adjustment to work conditions ..... ( ) ( )
   e-Others ................................. ( ) ( )
3. What would be your suggestion for improving the present secondary programs?

<table>
<thead>
<tr>
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<td>( )</td>
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<tr>
<td>e. Others .....................................</td>
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<td>( )</td>
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4. Would you prefer that academic high school graduates have some sort of vocational training, besides the preparation for college, before leaving school?

   Yes    No

5. Do you think that vocational high school should provide work experience in industry for its students besides the in-school shop experiences?

   Yes    No

PART II

1. Do you think that, in general, cooperative vocational programs would be a valuable alternative to vocational preparation besides the existing programs?

   Yes    No

2. Are you willing to have your child enroll in this type of preparation?

   Yes    No

3. Do you think that there is need for cooperative trade and industrial programs in your community?

   Yes    No

   If yes, in what occupations:
   a- ____________________________       d- ____________________________
   b- ____________________________       e- ____________________________
   c- ____________________________       f- ____________________________

   If no, state reason: ____________________________________________
4. Do you think that employers will be willing to participate in cooperative vocational programs?

Yes ___  No ___

PART III

1. Which of the following schedules, do you think, would result in most effective training?

   a-One half day school and one half day work .......... ( )
   b-One day school and one day work ................ ( )
   c-One week school and one week work ............... ( )
   d-Others ______________________________________ ( )

2. Should the student-learner be paid for his work experience?

   Yes ___  No ___

   If yes, what rate should be used?
   a-The apprenticeship rate ......... ( )
   b-Minimum labor rate .............. ( )
   c-Special training rate ............ ( )

   If no, state reason: ____________________________________________________________

3. Should work experience be given credit as if it were in-school shop training?

   Yes ___  No ___

4. At what grade should this program start?

   a-6 ( )  c-8 ( )  e-10 ( )  g-After High School ( )
   b-7 ( )  d-9 ( )  f-11 ( )
PART IV

1. What, do you think, the major hindrances would be in applying the program in your community?

   a-Existing educational regulations ............ ( )
   b-Lack of student interest ..................... ( )
   c-Arrangement of school schedule ............. ( )
   d-Unemployment ................................. ( )
   e-Lack of employer interest ................. ( )
   f-Others ________________________________ ( )

2. What kinds of problems, do you think, the program would create?

   a- ________________________________________
   b- ________________________________________
   c- ________________________________________

3. What would be your suggestions for overcoming the probable hindrances and the problems?

   a- ________________________________________
   b- ________________________________________
   c- ________________________________________

PART V

1. Any additional comments or suggestions will be greatly appreciated.

   ________________________________________
   ________________________________________
   ________________________________________
APPENDIX F

STUDENT'S QUESTIONNAIRE

Name: (optional) _______________
Sex: Male ( ), Female ( )
Birth Date: _____________________
Grade: _________________________
Field of Study: __________________
School: __________________________

Please answer the following questions after reading the letters of explanation which give you a general idea about the nature and the scope of the investigation.

PART I

1. Do you believe the school is equipping you with the satisfactory initial skills to enter the world of work?
   Yes ___  No ___  Why: _________________________________

2. In what areas do you think you have deficiencies for successful employment?

   a-General education .................   Ac. H.S.   Voc. H.S.
   b-Vocational skills ...................... ( )   ( )
   c-Work experience ...................... ( )   ( )
   d-Adjustment to work conditions ....... ( )   ( )
   e-Personal traits ...................... ( )   ( )
   f-Others (specify) ...................... ( )   ( )

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3. What would be your suggestion for improving the present school programs?

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4. Would you prefer that academic high school graduates have some sort of vocational training, in addition to the preparation for college, before leaving school?

Yes ___  No ___

5. Do you think that the vocational high school should provide work-experience in industry for its students besides the in-school shop experiences?

Yes ___  No ___

6. What are the most and the least beneficial school courses in your preparation for the world of work?

The most beneficial courses:

| a- ___________________________ | a- ___________________________ |
| b- ___________________________ | b- ___________________________ |
| c- ___________________________ | c- ___________________________ |

The least beneficial courses:

| a- ___________________________ | a- ___________________________ |
| b- ___________________________ | b- ___________________________ |
| c- ___________________________ | c- ___________________________ |

PART II

1. What do you want to do upon graduation from school?

a- Enter world of work ( )  State the job: ________________________

b- Enter college ( )  State the field: ________________________

2. Do you need to work on a part-time basis for financial support while attending school (secondary or college)?

Yes ___  No ___
3. If you are enrolled in an academic high school, would you be interested in getting preparation for employment, in addition to the college preparation, while you are in school?

Yes ___ No ___

4. If you are enrolled in a vocational high school, would you be interested in getting preparation for college entrance, in addition to the preparation for employment, while you are in school?

Yes ___ No ___

5. Do you think that, in general, cooperative vocational programs would be a valuable alternative for this preparation?

Yes ___ No ___

6. If the cooperative vocational programs were offered as part of your school's program, would you choose to enroll?

Yes ___ No ___

PART III

1. Under which of the following schedules do you prefer to study in a cooperative vocational program?

   a-One half day school and one half day work ......... ( )
   b-One day school and one day work .................... ( )
   c-One week school and one week work ............... ( )
   d-Others (specify) ______________________________( )

2. What would be the length of the program?

   a-One year ................................................ ( )
   b-Two years ................................................ ( )
   c-Three years ............................................. ( )
   d-According to the nature of occupation under consideration . ( )
3. Are you willing to be paid for your work experience?

   Yes____  No____

If yes, what rate should be used?
   a-The apprenticeship rate ....... ( )
   b-Minimum labor rate ............ ( )
   c-Special training rate ............ ( )

If no, state reason: ___________________________________________________________

4. Should work experience be given credit as if it were in-school shop training?

   Yes____  No____

5. At what grade do you prefer to start this type of preparation?

   a-6 ( )  c-8 ( )  e-10 ( )  g-After H.S. ( )
   b-7 ( )  d-9 ( )  f-11 ( )

PART IV

1. What, do you think, would be the major hindrances in applying the program in your community?

   a-Existing educational regulations ........ ( )
   b-Lack of student interest ................. ( )
   c-Arrangement of school schedule ............ ( )
   d-Unemployment ......................... ( )
   e-Lack of employer interest ............... ( )
   f-Others (specify) _________________ ( )

2. What kinds of problems, do you think, this preparation would create for you in completing your regular program?

   a-______________________________
   b-______________________________
   c-______________________________
3. What would be your suggestions for overcoming the probable hindrances and problems?

a-________________________________________________________
b-________________________________________________________
c-________________________________________________________

PART V

1. Any additional comments or suggestions will be greatly appreciated.
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