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A NEEDS ANALYSIS STUDY FOR THE ESTABLISHMENT
OF A COMMUNITY COLLEGE EDUCATIONAL SYSTEM
IN THE UNITED ARAB EMIRATES

by

Hussain M. Joma

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment of the
requirements for the
Degree of Doctor of Education
Department of Educational Leadership

Western Michigan University
Kalamazoo, Michigan
December 1982

A NEEDS ANALYSIS STUDY FOR THE ESTABLISHMENT
OF A COMMUNITY COLLEGE EDUCATIONAL SYSTEM
IN THE UNITED ARAB EMIRATES

Hussain M. Joma, Ed.D.

Western Michigan University, 1982

Although the United Arab Emirates (U.A.E.) survived for nearly a decade, its future is far from secure. Among the most immediate and pressing of the U.A.E.'s problems are those of manpower and trained personnel in technical and middle management.

The purpose of this study was to conduct a needs analysis for a community college educational system that will be established in the U.A.E. Underdeveloped nations have imported the idea of the community college concept to help them as they face new problems of modernization and growth.

The questions that were researched are as follows:

1. What are the educational plans of high school seniors in the U.A.E., and will they support a community college system?
2. What are the present and future personnel needs of local business and industries in the U.A.E., particularly in occupations that require more than a high school education?

The methods for gathering data concerning the above questions were as follows:

1. For the first question, a list of high schools was obtained from the U.A.E. Ministry of Education. A random sample of 200 students was selected from four high schools with the highest

enrollments. Two hundred copies of the survey questionnaire were administered through school principals to students in the 12th grade.

2. For the second question, structured interview techniques were used. The sample interviewed was 20, which included 10 presidents of banks and 10 presidents of factories.

The following conclusions were drawn as a result of this investigation:

1. A growing interest in technical level training beyond high school was expressed by leaders in almost all areas of business and industries in the U.A.E.

2. There is evidence of sufficient interest among high school seniors for attending the community college for the purpose of transfer-credit courses, but not terminal professional programs.

3. There is evidence that many high school seniors are interested in a community college because it is close to home and a place to spend a few years in a transfer program.

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CHAPTER I

INTRODUCTION

One of the perpetual subjects which has been existing throughout the history of man has been the constant search for problem solving. There have been a variety of challenges confronting the individual in every time period. History has been the record of man's efforts to overcome these obstacles in order to survive. Due to the growing complexities of life during our time, man has had increasing difficulty in coping with all of the new problems of the modern age. During much of recorded history the nature of the challenges facing societies have been similar from one nation to another.

Although the United Arab Emirates (U.A.E.) survived for nearly a decade, its future is far from secure. Among the most immediate and pressing of the U.A.E.'s problems are those of manpower and trained personnel in technical and middle management. Until very recently, member emirates lacked personnel who were qualified to run the government and manage the enormous resources of the country. While educational opportunities have increased, qualified native personnel in technical occupations are lacking (Khalifa, 1979).

It is true that there have been attempts in the U.A.E. to lay down guidelines for the educational system. There have also been attempts to introduce new educational methods and to improve the teaching of certain subjects. There are also subsidiary matters that can easily be dealt with once sufficient light has been shed

on the primary problem, which is how to answer the following question: What does the U.A.E. wish to achieve through education?

Venn (1970) said it well:

The importance of education to the individual and his success in occupational preparation, as well as his role as a citizen, cannot be overestimated. However, education alone is not enough for the youth and adults in today's work force. To attempt education without occupational training is to ignore the facts of modern technological life. When occupational training takes place, one's education should be a matter of individual goals and plans, not a matter of age or educational structure. (p. 236)

Venn indicated that in today's society, the individual cannot attain in his studies a stage which can be considered as adequate once and for all--individuals need to readapt themselves to changing modern civilization. This will lead people to further and update their knowledge and skills, and in order to obtain these, individuals may make use of some of the courses provided by educational establishments for this purpose.

The community college could provide higher education to every individual who can profit from it and allow each person to develop as far as his/her talent permits. Gleazer (1968) emphasized that: "The comprehensive community college exists to give students opportunity beyond the high school to find suitable lines of educational development in a social environment of wide range of interests, capacities, aptitudes, and types of intelligence" (p. 28).

Problem Statement

Despite the progress achieved in education in the U.A.E. during the last decade, the lack of trained personnel in technical and

middle management among its nationals still exists. The shortage of skilled manpower forced the government of the U.A.E. to rely on expatriate labor for its rapid development.

Khalifa (1979) pointed out the danger of the foreign labor to the U.A.E.: "The magnitude of this phenomenon is alarming if only for the fact that U.A.E. nationals happen to be a minority in their own land" (p. 113).

To remedy this problem, self-reliance and education of local manpower is the one way to reduce the dependency upon foreign labor. What does a nation have in the first place? The answer is obvious, but too often overlooked--the energy of its people! Woodhall (1972) stated that educated manpower is an important element in the process of economic development. The economy, and its rate of growth, are dependent on an adequate supply of skilled and trained workers. The general acceptance of this view is the basis for some form of educational planning, given that the production of qualified manpower lies in most countries within the control of the country's education system.

The role of education in economic activity becomes clear. Economic growth is, to a great degree, dependent upon productivity, which, in turn, is dependent upon technical and human know-how, which, in turn, relies on education (Woodhall, 1972).

Purpose of the Study

The purpose of this study was to conduct a needs analysis for a community college system that will be established in the U.A.E.

In order to conduct needs analyses for a community college system in the U.A.E., the writer adopted two steps which were developed by the community college council in the state of Florida (Bailey, 1957, p. 28). The two steps were modified by the writer to suit the conditions of the U.A.E.

The two steps are:

1. A business-industry survey to determine personnel needs of local business and industries in the U.A.E.

2. Conducting a local survey to determine the readiness of high school students in the U.A.E. to support a community college.

The survey, when conducted, was expected to provide answers to the following questions:

1. What are the educational plans of high school seniors in the U.A.E., and will they support a community college system?

2. What are the present and future personnel needs of local business and industries in the U.A.E., particularly in occupations that require more than a high school education?

Significance of the Study

In recent years, a considerable amount of attention has been given to the general education in the U.A.E. while technical and vocational education has been neglected at the expense of primary and university education. The U.A.E. is in need of an educational system which will meet its socioeconomic needs and the development of middle level manpower. If economic growth targets are to be reached, technical and vocational education must be strong enough to

provide those skills which are the backbone of any economic growth. No educational system deserves national support unless it serves the cause of production, and one of its main functions nowadays is to prepare individuals for the labor market.

Singer (1969) reported that:

The type of post-secondary educational institution most generally needed in the developing countries probably more nearly resembles the American junior and community college than the four-year college. In addition to the similarity of objectives, producing educated people who can immediately be absorbed by the critical skilled manpower needs of the wider community, the U.S. junior college and the developing country colleges face similar problems. (p. 14)

Bogue (1950) gave a similar response. He stated that: "Probably the greatest and certainly the most original contribution to be made by the junior college is the creation of means of training for the vocations occupying the middle ground between those of the artisan type and the professions" (p. 367).

The community colleges have met the local needs of business and industry more successfully than the universities. They seem to be adaptable to the changeable manpower markets.

In the U.A.E., led by the immense oil revenue and the government's strenuous efforts to improve the management of the economy, investments and industrialization, aimed at economic reconstruction, have increased tremendously. The unprecedented wealth brought about by the fairly recent discovery and exploitation of oil has thrust all facets of life in the U.A.E. into a rapid current of socio-economic change (Khalifa, 1979). The demand for professionals and technicians has also increased dramatically. As a result of a

glaring lack of practical training in the U.A.E., the supply is less than the demand, especially in the fields of industrial technology, engineering technology, teaching, medicine, and business.

Considering the increasing demand for trained personnel in technical and middle management and limited educational institutions for supplying the demand, this study is significant because it will determine the extent of training needed by employees and the training required for them. The study also will determine the plans and/or expectations on the part of high school seniors to attend a community college. Halstead (1974) indicated that among the primary reasons why new two-year colleges fail are that they open without reasonable evidence of local interest, or that they do not meet educational needs of the community (p. 362).

Rassool-Ali (1981), in his doctoral dissertation on The Feasibility Study for a Comprehensive Community College System in the United Arab Emirates, found that the two-year comprehensive community college system, as an institution of higher education that pertains to a changing economic order and middle level manpower development with defined manpower needs, is fully supported by the Minister of Education and Youth, selected educational officials from the Ministry of Education and Youth, and the majority of the UNESCO experts and advisors in the U.A.E.

Summary of Chapter I

Chapter I has dealt with the background of the study, purpose of the study, and significance of the study. The purpose of this

study was to conduct needs analyses of business, industries, and high school seniors in the U.A.E. to determine if a community college system would be supported by high school seniors and local business and industries.

The remainder of this study is organized into four chapters. Chapter II is a review of literature regarding the development of a community college, major tasks in development of a community college, major tasks in establishing a community college, and global development of the community college concept.

Chapter III, the methodology: This chapter deals with the methodology for the study including samples, instruments, and data analysis procedures.

Chapter IV will present the findings of the study and discussion of results and present the conclusions and recommendations related to the findings of the study.

Finally, Chapter V will present the summary and the implications of the study.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

It was the major purpose of this study to conduct a needs analysis for a community college to be established in the United Arab Emirates. The community college is expected to contribute to the solution of present socioeconomic problems and the satisfaction of industrial development needs of the U.A.E.

A respectable sum of literature has been written concerning community colleges. There also has been a great deal of interest in discovering the educational needs of communities and the way in which these needs may be satisfied. In many countries around the world where a need for community programs has been identified, efforts have been made to establish an institution designed to provide educational services to all people of the community and operate in the public interest. Institutions which have been modeled through efforts of this nature have been called community colleges.

Community College Growth

Although universities tended to occupy the center of the academic stage during the latter part of the 19th century, they were not the only institutions of higher education which existed. One of the major contributors to the scheme of higher education was the

two-year college.

The two-year college emerged in the early part of the 19th century. Only a handful of two-year colleges existed anywhere in the world in 1900 (Thornton, 1960). By 1960 the total number of two-year colleges had increased to 677, with an enrollment of 905,000 students. The consistent growth of the two-year college can be observed by examining the Community, Junior, and Technical College Directory (Gilbert, 1980). A look at the data presented by Gleazer in 1961 will show the growth of the institution and the increase in enrollments in them. In 1900-1901, there were eight junior colleges in America. By 1915-1916, the total number of junior colleges had increased to 74 with an enrollment of 2,363 students, and in 1979 there were at least 1,193 junior colleges with total enrollments of 4,216,666 students throughout the United States (Digest of Education Statistics, 1981, p. 105). The preceding analysis provides one basis for observing the growth of junior colleges: the number of institutions and the number of students enrolled in them.

The first permanent junior college in the United States was established at Joliet, Illinois, in 1901. Joliet Junior College has not been satisfied to rest on its historical merits. Although it has retained the name junior college, it has also seen its function as that of a truly comprehensive community college. This college was designed to cater to the higher educational needs of the local community. It was the spearhead of a growing trend toward more higher education for the common man. The community to be served is located near Chicago and, with its wide range of occupational

opportunities, attracts people from every social, economic, and ethnic group. Thus to serve the community, the college must necessarily be prepared to serve a great variety of interests.

One of the first scholars to use the term community college in a similar way as it is used today was Jesse P. Bogue in 1950. He published a book entitled The Community College, in which he provided an overview of the community college and described the functions, roles, and origin of the two-year college. Bogue's work was an effort to identify the role of the community college in higher education. The main purpose of Bogue's work was to provide some guidelines and suggestions about the role of the community college and its relationship with the community in which it functions.

Bogue (1950) wrote: "The basic function of the community college is to make higher education available to larger number of population" (p. 67). He suggested that the community college is a more or less autonomous institution in American education, capable of countervailing the conventionality of both high school and college curricula.

One of the early attempts advocating a comprehensive community college was the 1958 work of Hillway. He described the community college as being unique and different from the old concept of junior colleges in that the community college provided a wide variety of programs designed to meet the needs of the community.

Hillway (1958) further stressed and said:

The modern American community college, developing out of the junior college movement of the last 50 or 75 years, probably constitutes the most significant contribution

which our nation has made to the entire history of education. In today's world, the community college seems to offer a promising solution to the problem of providing equal and adequate collegiate opportunities to all qualified citizens. (p. ix)

Hillway was not alone in writing about the community college in the sense of divergence from the mainstream of the scholarly educational literature. The newness of the community college concept and the lack of well-defined objectives led to a confusion as to the actual nature of the community college. As a result of the growing confusion, Medsker in 1960 decided to make a thorough study of the existing institutions to determine the extent to which the community colleges were meeting their objectives by using data obtained in a survey of objectives of community colleges. He set out to examine the functioning of community colleges by assessing their utility against alternative schemes of schooling beyond the 12th grade. Among the conclusions reached by Medsker was that the individual college should initiate plans for gathering data concerning the local community in an effort to provide programs which were relevant to the needs of the local community.

The Community College Gains Recognition

Thornton (1960) wrote a book entitled The Community Junior College, in which he provided detailed descriptions of the development of the community college. His work was intended to provide community college administrators, staff, and community leaders with basic functions of the community college.

Thornton (1960) has differentiated between junior college and junior community college. He wrote:

College refers to four-year degree-granting institutions. "Junior College" includes all two-year colleges. "Community junior college" refers to those institutions, mostly under public control, which offer an expanded program of education developed in consideration of existing needs of the local community. (p. vi)

It appears that the work of Thornton had a significant impact on the thinking of many administrators of the community college. Suggestions from Thornton's work will help in developing community colleges for the United Arab Emirates.

The community college concept had received a wide recognition, that the number of new community colleges emerging each year amazed those who are involved in the development of such institutions. This growth and popularity of the community college encouraged some prominent figures in the movement to write about the role of the community college.

The Role of the Community College

The community college had received increasing recognition by the middle of the 1960's. The community college had been recognized and had achieved acceptance in different parts of the country. In 1964, community colleges were found in every part of the United States, and also in Alaska, Hawaii, the Canal Zone, Puerto Rico, and the Virgin Islands (Reynolds, 1965). Despite this acceptance and growth, little attempts have been made to explain the phenomenon as to how it fit into the sphere of higher education. As a result of

this interest in identifying the role of the community college in the field of higher education, Thomas E. O'Connell (1968), President of Berkshire Community College, published an early study which was concerned with the establishment and growth of a community college in which he described the development of a specific college through the eyes of the college's president. His work gave some insights to some of the obstacles encountered in the growth and development of a community college. The most interesting aspect of his work was the illustration of the gap which existed between the theoretical studies in the community college literature and the actual situation which might be encountered by the administrator attempting to develop a new community college. He recommended that more research studies were needed in order to bridge the gap between theory and practice.

Community Aspects of the Community College

No single venture has done as much to change the institutional nature of the traditional community college as did its involvement in community service (Palinchak, 1973). In 1969 Harlacher wrote a book in which he saw the entire community as the campus of the community-oriented college. His main argument was the need for an educational institution to have a close relationship to its community. He urged the utilization of all types of community service programs and inclusion of the educational needs identified in the community. Harlacher (1969) stated seven major trends which could serve as a program guide for community college. He wrote that

community service programs should:

1. Develop aggressive multiservice outreach programs that extend its campus throughout the entire college district.
2. Increase emphasis on community education at all age levels.
3. Utilize a greater diversification of media in meeting community needs and interests.
4. Increasingly utilize its catalytic capabilities to assist its community in the solution of basic educational, economic, political, and social problems.
5. Be increasingly concerned about the cultural growth of its community and state.
6. Place greater emphasis on interaction with its community.
7. Increasingly recognize the need for cooperation with other community and regional agencies.

Harlacher (1969) indicated that the community college leaders were in the process of developing a reasoned list of factors supporting the view that the community college was the logical institution to provide a wide variety of educational services to the local community. He believes that the community college cannot fulfill its function until it serves the community in many ways as was indicated in the seven major points mentioned above.

The Characteristics of a Community College

The policy of the community college is to provide higher education to every individual who can profit from it and allow each person to progress as far as his/her talents permit. It is designed to serve the whole population and sometimes it is referred to as a

comprehensive multipurpose institution. Edmund J. Gleazer, Jr. (1968), President of the American Association of Community and Junior Colleges, claims that developmental education, occupational education, and other services are considered to be the major functions of a community college. The community college benefits the entire community in which it is located.

Gleazer has developed a profile of the community college in which he stated 13 common characteristics of a community college. Gleazer (1968) wrote that a national overview would see the community college as:

1. A part of higher education in a state plan.
2. Receiving an increasing proportion of financial support from the state.
3. Established and operated under standards set at the state level.
4. Admitting all students who can benefit by a program.
5. Charging little or no tuition.
6. Having almost entirely students who commute.
7. Increasing the number and variety of technical and semiprofessional programs.
8. Comprehensive in its programs.
9. Providing services to aid undereducated students of post-high school age.
10. Looking to a state-level junior college board for coordination of planning, programs, and services and for state aid.
11. Represented in a state board or council for coordination with other institutions of higher education.

12. Having a separate and distinct district board, facilities, and budget.

13. Locally initiated and controlled, with sufficient state participation to maintain standards.
(pp. 36-37)

The functions and characteristics of the community college have also been defined by a number of scholars, among them Bogue (1950), Cohen (1971), Harlacher (1969), Monroe (1972), Reynolds (1965), and Thornton (1972). Six purposes which are common to all six authors are as follows: (a) transfer programs, (b) general education, (c) occupational programs, (d) counseling and guidance, (e) community services, and (f) open-door policy.

In speaking of the function of the community college, Gleazer (1968) went on to say: "The comprehensive community college exists to give students opportunity beyond the high school to find suitable lines of educational development in a social environment of wide range of interests, capacities, aptitudes, and type of intelligence" (p. 28).

The community colleges differ in their organizational patterns according to the different attributes and characteristics of the community in which any one particular college is located. Evans and Neagley (1973) identified three major patterns of a community college: (a) local community colleges, (b) state two-year colleges, and (c) branch campuses and extension centers. Technical institutes sometimes are considered as a fourth pattern.

Local Community Colleges

The responsibility for institution usually rests with the proposed local districts, which may vary in size from several square miles to a number of counties. Of the three basic organizational patterns, the locally controlled community college has received the greatest attention (Medsker, 1960).

State Two-Year Colleges

In this pattern, an institution develops as a result of state legislation, petitioning by city, and county school systems. Others have developed as a result of actions taken by authorities such as state boards of community colleges, state junior college boards, and state councils on higher education.

Branch Campuses

The use of university branches for decentralizing higher education has recently received considerable attention. They are usually established as a result of need as demanded by citizens in the areas to be served and by decisions of state higher education authorities.

Global Development of the Two-Year College Concept

Nations in all corners of the inhabited world are rallying to meet the burgeoning demands for postsecondary education. The two-year college concept has spread abroad particularly in recent years. Both Japan and Canada, the countries aside from the United States

with the most advanced system of two-year college education, had early prototypes foreshadowing their modern systems. The one nation abroad which most nearly rivals the United States in historical and contemporary development of junior colleges is Japan. Thus, in 1962 Japan had 321 junior colleges (Gleazer & Medsker, cited in Yarrington, 1970a). They also reported that of the 321 junior colleges in Japan in 1962, 252 were private, 41 were prefectural, and 28 were national. One hundred seventy-five were women's colleges. Japanese junior colleges are serving higher education through both functions, terminal and preparatory, just as they do in the United States.

In the Middle East, one country should be noted. Certainly among Arab nations in the Middle East, Jordan has one of the best educational programs. One institution that contributes the most to the nation's growth and development is the junior college. Jordan's junior colleges have provided most of the teachers for the country's school system and a large number of technically trained people for business, industry, and government positions. Although the junior college has changed rapidly in Jordan, a network of six junior colleges provides the foundation for the nation's higher education system (Yarrington, 1970a). There are four junior colleges for teacher training; one junior college offers agriculture courses; and one offers business administration courses. All junior colleges in Jordan are government controlled and under the responsibility of the Ministry of Education. Each school has an enrollment of about 200 students.

An attempt at a comprehensive cataloging of global developments of a two-year college was made by Yarrington (1970a). He collected what he believed were the most important of the articles concerning the international aspects of the two-year college into a single volume. Yarrington listed numbers of countries in all corners of the inhabited world which adapted the community college concept, among those countries are Britain, Canada, Ceylon, Dominican Republic, India, Japan, and Jordan. It seems apparent that development of social and economic pressures in those countries are creating the kinds of educational needs to which the junior college has successfully responded in the United States (Yarrington, 1970a).

Developing Colleges for Developing Countries

Collins (1968) wrote, "Several preconditions must be recognized before the junior college idea will be workable in another country" (p. 10). He listed three conditions which are essential for the creation of a junior college system in developing countries:

1. Full and unwavering commitment of the minister of education to this idea.
2. To have a secondary school system turning out more graduates than the universities can absorb.
3. To have an economy potentially, if not immediately, ready to employ the trained products of the junior college.

In describing the three conditions for the creation of a junior college system in developing countries, Collins (1968) pointed out that:

Unless there is a minister of education willing to make a political fight for creation of a junior college system; unless there are plenty of secondary school graduates prepared and eager to enter the junior college; unless there are mid-level jobs in the economy to be filled by junior college graduates; unless these three pre-conditions obtain, junior colleges will not and should not be established. These are hard rock problems that defy solution. (p. 12)

Typically, the United Arab Emirates like other middle eastern countries has a national education system. There is a ministry of education which usually plans the type of educational effort to be made and then controls closely the implementation of plans. The ministry of education headed by a minister of education, who is a cabinet member of the council of the Union (SCU) and the traditional bureaucratic system, discourages any innovation being initiated from below. "Certainly, a whole new level of education, such as the junior college stratum, could be added only if the minister of education gave it his whole-hearted support" (Collins, 1968, p. 10).

Rassool-Ali (1981), in his study, using Collins's three conditions for creation of a junior college system as applied to the U.A.E., found out the following:

1. In the U.A.E. the majority of selected educational officials including the Minister of Education and Youth supported the community college idea.
2. In the U.A.E. there were more high school graduates than those students entering its only university.
3. The economy of the U.A.E. has the potential of employing all trained students from community colleges.

Rassool-Ali (p. 77) pointed out that the two-year comprehensive community college system, as an institution of higher education pertaining to changing economic problems, has a severe shortage of

skilled middle level manpower. He indicated that all community college functions were found desirable, and the three necessary pre-conditions set by Collins (1968) for the creation of a community college were tested and obtained.

Collins (1968) listed six problems facing education in developing countries, three of which are applicable to the U.A.E. and are presented below:

1. Lack of any manpower surveys.
2. Lack of "know-how" and scarcity of highly trained specialists.
3. Lack of qualified staff officers.

He explained that a manpower survey, upon which to base curricular planning, is usually not available. The problem to be solved is the number of people needed and at which stages of development, in order to promote balanced growth, to avoid the other type of unemployment which comes as a result of having too many of the wrong sorts of educated people. This problem could be solved by creating a curricular advisory committee made up of certain key administrators.

Lack of know-how and scarcity of highly trained specialists created a problem for the developing countries. Looking at the U.A.E. in particular, there is no easy formula for breaking the technological dependence of the U.A.E. on the advanced industrial countries. But an important element in any such strategy is the strengthening of the capacity of the U.A.E. to meet some of its own technological needs. This does not mean that it should invest

scarce resources (oil) in research and development institutes that simply copy those in the industrial countries. Rather, the need is to determine indigenous technological requirements and remove barriers keyed to local needs and resources.

Qualified staff officers is another critical problem facing education in developing countries. A related problem is that of finding qualified staff officers to fill the posts of president, dean of instruction, dean of student personnel, counselors, and so on. "In this regard, the starting point is zero" (Collins, 1968, p. 21).

Since the university of the U.A.E. is comparatively new, it has not as yet developed from within itself well-trained scholars for instruction and research. As a result, it adopted the policy of recruiting foreign staff at all levels from full professor down to laboratory technician.

Planning in Higher Education

Community college planners and students of higher education administration alike should understand the procedures utilized in establishment of community colleges. Since a college is not built just for today, but for an anticipated future, plans and decisions of far-reaching consequence must be made very adequately.

Halstead (1974) proposed six steps for a planning strategy.

1. Determining goals: The beginning basis for sound planning is a clear understanding of the ultimate ends or objectives. It is not possible to plan systematically for the unknown. Logical preparation requires a reasonably accurate understanding of what is to be accomplished,

i.e., the mission or desired result.

2. Identifying problems: The basic reason for planning is to solve problems (questions proposed for solution) which impede or obstruct the achieving of a goal or goals. Problem areas can be identified by assessing the degree to which the organizational effort is or is not meeting the goals.

3. Diagnosing problems: The third step in planning methodology, basically a research activity, is that of analysis and interpretation of statistical data and relevant information to clarify identified problems and discover their causes and ramifications. All problem situations must be fully understood before solutions can be attempted.

4. Establishing premises: Because all human activity is conducted under conditions of uncertainty, planning is necessary. Coping with the present and future requires constant anticipation and preparation according to expectations and needs. Anticipation of the future, then, is a necessary and crucial step in planning. And such anticipation should establish as clearly as possible the expected events upon which specific plans may be formulated.

5. Searching for possible solutions: When preparatory planning steps have been completed, the more constructive phase of searching for possible solutions can begin. A most creative and challenging step, it is the heart of the planning process. Consequently, it should be conducted without any preconceived restrictions.

6. Selecting a solution: The final and most difficult step in the planning process is that of comparing the alternatives being considered and deciding on the specific course of action which appears to be most appropriate to effect desired changes. Rational decision making requires a careful calculation of the advantages and disadvantages of each alternative, with emphasis on the crucial effectiveness and efficiency of each. (pp. 17-20)

Planning in postsecondary education is similar to planning in most any endeavor. It requires value judgments, evaluation, and re-evaluation of goals. Halstead (1974) said that there are four ways to reduce the possibility of serious error: (a) reviewing the

planning process to expose weakness or errors in analysis, data inaccuracy, unexpected consequences, or even faulty premises; (b) conducting a pilot test to verify expected results; (c) hedging the decision, through implementation by stages, so that total commitment is not made until after initial results are known; and (d) securing agreement from others to test accuracy by degree of acceptance (p. 20).

In the United States some see the school as a production system quite similar to an industrial plant. Schools were encouraged to adopt the styles and methods of industrial plant management in assessing their efficiency in the name of accountability and performance contracting.

Mead (1968) advocated that:

Similar to the plant manager in a large industrial corporation, the principal is the key person responsible for the productivity of the organization. The school, like the industrial plant, represents a process. Raw material goes in and a product comes out. The change that occurs between input, that is the entering pupil, and output, the departing pupil, measures the school. (pp. 6-7)

Educational planners have to look at the state of the society, where it wants to go, and what it will require, educationally, to get there; at the nature of the students, their needs, aspirations, and practical prospects; at the state of knowledge itself and the state of the educational art and technology; and most of all at the innate ability of the educational system to examine itself critically and to take wise action to improve its own performance.

Coombs (1970) briefly summed up educational planning by saying:

The great majority of the world's educational leaders and governments have by now committed themselves to the idea of educational planning, international agencies are giving it top priority, new training programs have been set up and a large new professional literature is emerging. (p. 11)

The U.A.E., as one of the developing countries, is no exception to the concept that educational planning is important and that viable strategies must be arrived at by careful planning. The concept of educational planning as Coombs (1970) sees it seems to fit a young developing country such as the U.A.E. The strategy should be flexible and adaptable to suit situations that differ in ideology, level of economic development, and form of government.

Coombs (1970) reported that educational planning "deals with the future, drawing enlightenment from the past" (p. 14). He pointed out that as a continuous process, educational planning is concerned not only with where to go but with how to get there and by what best strategy.

It was during the First Regional Conference of the Ministers of Education of Arab States, organized by UNESCO, in Beirut, 1960, that the need for educational planning in the Arab countries was declared to be urgent.

According to UNESCO (1971) report, the editor wrote:

There are still many Arab countries which have not yet started to plan their educational development. Some ministries of education, though few, have elaborated their plans and have achieved satisfactory results. It remains, however, abundantly clear that the question of planning should be given very serious thought by the majority of the Arab Ministries of Education. (p. 26)

The report by the UNESCO (1971, p. 26) noted that technical and vocational education planning bodies in the Arab countries should be strengthening by including representatives of producing and employing institutions and through studies on manpower needs and occupational structures. The report went on to say that there should be a cooperation among institutions of educational planning in the Arab world with a view to achieving agreement on planning concepts, foundations, and methods, on the one hand, and, on the other, ensuring that the Arab States derive positive benefits in the field of "comprehensive planning."

Planning a Community College

Any plan for developing the post high school level of education in a country must recognize the organization of educational administration in that country as well as the customs, traditions, and established ways of operation already in use in that country.

Evans and Neagley (1973, p. 1) explained that whenever a planning for a community college takes place, planners must become familiar with the various laws, rules, and regulations that govern the planning of a community college in their states. They further stated that planners should be knowledgeable about their "state's master plan for higher education" if one exists.

In establishing the need for a community college, Evans and Neagley (1973) provided seven steps for planning a community college, presented as follow:

1. Identify the appropriate agency to spearhead the local study such as a university, city hall, administrators. From these potential sources, a project study leader should emerge.

2. Organize a council for higher education, which could be chosen among people with a leadership role in the community including business, industrial, and labor leaders.

3. Study state legislation, master plan, and regulations for community colleges.

4. Organize and conduct local need studies especially in the areas of business, industry and student enrollment predictions.

5. Organize a comprehensive program of public information by involving the newspapers, radio and television stations and other forms of media to secure publicity.

6. Identify and assess possible opposition or competition. These may include: political leaders, several special interest groups and even persons in a nearby established university.

7. Complete and publish the feasibility study and distribute this study to state department leaders to insure compliance with state law and regulations. (pp. 18-25).

Major Tasks in Establishing a Community College

The process of establishing a community college, once the feasibility study was completed, and its objectives have been defined.

Johnson (1964) stated the following major tasks in establishing a community college. They are slightly modified and can be summarized as follows:

1. Curriculum and instruction. Plan and develop an educational program designed to achieve the agreed-upon purposes of the college.

2. Student personnel. Enroll, counsel, and organize students, and provide out-of-class services for them.

3. Staff personnel. Employ and organize a staff to administer and to teach the program of the college.

4. Finance. Secure and administer funds to pay the operational and capital outlay costs of the college.

5. Plants and facilities. Provide adequate plant and facilities in and with which to carry on the educational program.

6. Community service and relationships. Enlist the interest, support, and participation of the community in the college and its program. (p. 5)

The findings of a community survey can be useful in curriculum planning and program development. The process of making a community survey can involve leading citizens of the community and encourage their support of the college.

The Nature of the Institution

The community colleges differ variously according to the different attributes and characteristics of the community in which they are located. Since these colleges vary in size, location, type of support, purpose, and philosophy, it is expected that differences are inevitable. However, community colleges, as they develop around the world, tend to have certain basic characteristics common to all of them. The common characteristics will be discussed below in relation to curriculum, student personnel, staff personnel, finance, plants and facilities, community services and relationship, and location.

Curriculum

Building a curriculum is a continuing process. Johnson (1964) generated five principal steps in curriculum development, namely: (a) defining the purposes of the college; (b) planning and developing a program designed to achieve these purposes; (c) offering the program; (d) evaluating the program on the basis of the achievement of college purposes; and finally, (e) revising the program, as necessary, on the basis of the evaluation (p. 8).

In his explanation, Johnson suggested that the college should make a community survey as a basis for curriculum planning. The college should also use a general lay advisory committee, with appropriate subcommittees, during the period of establishment.

He further suggested that the college should use lay advisory committees in the development of specific curricula, especially technical-vocational curricula, during the period of establishment. He concluded that the community college should have a comprehensive curriculum including both offerings which are transferable to senior institutions and those which prepare for immediate employment (pp. 8-10).

Since the community college serves a wide variety of students of different ages and intellectual abilities, the college tries to offer beneficial courses. A comprehensive curriculum therefore becomes a first priority to the college.

Monroe (1972) said it clearly:

More than any other segment of the educational system from kindergarten to university, the community college

has the freedom to experiment, to explore new paths of learning, to break with traditional methods of teaching, and to become a unique and innovative educational agency. (p. 25)

Because community colleges have accepted the transfer function as one of their important roles, they have been obliged to provide the first 2 years of college level instruction in such diverse fields as liberal arts, education, business, and engineering. One of the primary items to be included in the model program for the community college would be the establishment of a sound and comprehensive academic division which would provide an organized transfer curriculum. The curriculum should include courses of a level and quality parallel to those provided during the first 2 years of study in a university.

Monroe (1972) cited four distinct elements of a curriculum, namely: (a) the subject matter accumulated from the knowledge of the past; (b) skill-learning activities such as those needed in language, mathematics, and technical courses; (c) the attitudes or emotional predispositions deemed valuable for a host of experiences; and (d) a set of values which the decision makers of a given society believe are necessary for the survival of that society (p. 46).

Considering the relatively modest level of technology and industrialization in most developing countries, many of the most specialized programs at community colleges in the United States are not suitable for developing countries. Nevertheless, the situation is rapidly changing. New skills not required today must be urgently required in the future. Singer (1969, pp. 13-14) pointed out that

the establishment of a modest, flexible, but growth-oriented, comprehensive community college system in many of the newer countries overseas could well implement and facilitate the rapid modernization and growth which they so eagerly seek.

Singer (1969) offered a list of the "two-year college skills" which he thinks are most needed and in shortest supply in the developing world. The following programs have been listed:

1. Automobile mechanics
2. Diesel mechanics
3. Farm machinery management
4. Machinery and equipment maintenance and repair
5. Secretarial and business
6. Data processing
7. Engineering technology
8. Medical laboratory technology
9. Physics and chemistry laboratory technicians
10. X-ray technology
11. Fire science
12. Recreation and physical education
13. Elementary education
14. Community service (p. 13)

Student Personnel

Hillway (1958) indicated that the real essentials of successful student personnel work are: (a) willingness to regard the student not merely as a member of the group but as an individual with desires and needs different from those of others, and to help him achieve satisfactory self-realization; and (b) the employment of properly trained persons to perform the special functions involved (p. 161).

Medsker (1960, p. 141) expressed his view about student personnel services by saying that a two-year college may have a plant, a faculty, and a curriculum; but unless there is an orderly way of admitting students, some method of assisting them to appraise themselves and to plan their educational and vocational programs accordingly, some means of assuring enriching experiences through campus social interactions, and some attempt to center attention on the individual rather than on the group, the college is an impersonal shell in which students are not conditioned for optimum learning.

Bogue (1950), in viewing student personnel services, stated that:

Clear recognition of the student as a person, the philosophy of individual differences, the claims of personalized education, and the responsibility of the college to advise, counsel, and guide students into fields of worthy service and fruitful living where talent, skills, and interest may be matched with opportunity must be made; otherwise, the college must assume the risk of society's harsh judgment that may approach a verdict of moral turpitude. (p. 326)

Bogue (1950) concluded that it is imperative that the issue of personnel services be met. They can only be performed by professional people whose interests are centered in the benefit of the student as a person from the time he is accepted as a member of the college until the college can no longer be of service to him (p. 327).

Staff Personnel

After the student, the most important element in the community college is the staff. Teachers vary in their educational experiences and their motives for teaching in a community college. The "good" community college instructor is hard to define; however, some characteristics which Hillway (1958) believes make for success in this field are: (a) a well-adjusted personality; (b) interest in teaching rather than in research; (c) a good cultural background; (d) interest in the subject matter taught; (e) adequate professional training; (f) good habits of citizenship, including active participation in community activities; and (g) a mature professional attitude, loyalty to the institution, interest in professional activities, and sound professional ethics (p. 186).

Most of the above qualities ought to be present in any teacher. But not everyone who has teaching experience in a university or in elementary school is necessarily a success on the community college level. For high school teachers, a position in the community college may seem like a step upward; for university teachers, it occasionally seems like a step downward. Hillway (1958) argues that

neither conception is true. Junior college teaching is not on a higher plane than high school teaching; nor is it on a lower plane than university teaching. It is, however, different from either (p. 187).

Finance

Although community colleges, in general, show lower unit costs than universities, higher education of any kind costs money. One of the first and most important tasks in finance is the development of the college budget. Evans and Neagley (1973) explained that this procedure will vary, depending on different circumstances. They presented the following example: (a) Is a new building program contemplated or underway? (b) Does the local board of trustees prepare the budget and levy the necessary taxes, or does the board recommend a budget to the governmental agency? (c) Is tuition to be charged, and if so, how much?

Some idea of how community college revenues are derived can be seen from Table 1 presented by Cohen and Brawer (1982), which shows community college financial support for the years 1918-1980.

The data in Table 1 shows the percentages of aid received from various sources by the average community college. Note the trend in recent years for the state to increase its share of support to community colleges.

Table 1
Sources of Revenue for Community Colleges
Percentage of Income from Each Source

Source	Year								
	1918 %	1930 %	1942 %	1950 %	1959 %	1965 %	1975 %	1977 %	1980 %
Tuition and fees	6	14	11	9	11	13	15	18	15
Federal aid	0	0	2	1	1	4	8	5	5
State aid	0	0	28	26	29	34	45	59	60
Local aid	94	85	57	49	44	33	24	15	11
Private gifts and grants	0	0	0	0	0	3	1	0	1
Auxiliary services	NA	NA	NA	NA	12	6	6	0	3
Other	0	2	2	2	2	7	1	3	3

Source: Cohen & Brawer, 1982, p. 129.

Plants and Facilities

Buildings and salaries represent the most costly one-time expenditures a community college will make. In discussing guidelines for providing plant and facilities for a new community college, Johnson (1964) suggested two major steps in plant development: (a) the "temporary phase" during which a college is housed in a plant used only while permanent buildings are being planned and developed; and (b) the "permanent phase," when provisions are made for the long-term needs of the college through the acquisition of a site

and the planning and construction buildings (pp. 53-54).

Evans and Neagley (1973, p. 176) indicated that one of the first decisions made by the board of trustees in respect to establishing a new community college is whether or not to open it in a temporary building or to delay opening until permanent facilities can be constructed.

Illustrations of community colleges that are using renovated buildings as their first quarters were presented by Evans and Neagley (1973) as follows: (a) Burlington County College, New Jersey, shared the facilities of the Lenape Regional High School; (b) the Philadelphia Community College chose a center city renovated department store as its first quarters, and did not plan to occupy a new campus until 5 or more years later; (c) Montgomery County Community College, Pennsylvania, utilized an abandoned high school building while its new campus was being planned and built (p. 177).

Some community college facilities are being constructed as sections of other building complexes as mentioned above. The development of community college facilities requires expert planning and the involvement of a great many people. Responsibility for planning of a new campus building, sites, locations, utilities, is, in most community colleges, delegated to the chief administrator by the board of control.

Morrison (1957) proposed the following steps for the planning and development of a permanent plant for a community college:

1. Formulate the philosophy and role of the college.
2. Survey the educational needs of the community.

3. Determine the space requirements for the programs to be offered, keeping in mind the number of students to be served.

4. Make preliminary plans.

5. Make final plans. (pp. 57-59)

Blocker (1961), in viewing the above five steps outlined by Morrison (1957), stated that "those procedures have been tested in a variety of situations and provide a sound approach applicable to most institutions" (p. 326).

Community Services and Relationships

Community services have sometimes been called the newest function of the community college. Service to the community by providing programs which meet local needs is a major role of a community college.

Harlacher (1969), who has written about the community service function, presented this definition of community services: "Community services are educational, cultural, and recreational services which an educational institution may provide for its community in addition to its regularly scheduled day and evening classes" (p. 12).

This definition of community services refers to all of the functions of a college which do not fall within one of the degree programs. This includes noncredit courses, specialized forums, cultural series, recreation activities, and any use of the college plant and facilities, or faculty and staff, for community purposes.

Harlacher (1969), in publicizing the community-services function of the community college, wrote:

If the community college is to fulfill its promise as being a total service institution to its community, then the college's boards and administrators need to exert more imagination and leadership in devising means for expanding and extending these services. Since the community college aims at the whole person in a whole community, it sees no one as being unworthy because of his present level of development, his ideas, or his current status within the culture. (p. 4)

Harlacher's (1969) main theme was the need for an educational institution to have a close relationship to its community. He maintains that quite unlike other educational institutions, the community college is quite unique, free from tradition, with dynamic qualities and has a chance to do what the universities have not done. Harlacher believes strongly that the community college cannot fulfill its mission until it serves its community in many ways such as: providing education to countless groups, opening its doors wide for the use of its facilities by the whole community.

Governance and Decision Making

When the local sponsor and the state have approved the establishment of a community college, then election or appointment of the board of trustees takes place. In accordance with existing state laws and regulations, board members will either be elected or appointed. Monroe (1972) wrote:

Once the college district has been voted into being, it is ready to begin operation. Normally, at the time of the referendum a slate of citizens run for positions on the community college board. In a few instances, the local college boards are appointed by a local official. But this is the exception. For example, in Chicago, the mayor appoints the seven board members. (p. 306)

Evans and Neagley (1973) proposed the following criteria for selection of board members:

1. A minimum residence requirement of two to three years in the area is desirable. Local problems and conditions are usually understood better by those who have lived with them awhile.
2. A racial mix should be sought. Minority groups such as Negroes, Puerto Ricans, Mexican-Americans, and American Indians ought to have representation on the board.
3. There should be an age range, from young to mature.
4. It is desirable to have both men and women trustees.
5. All candidates should be civic-minded and committed to service on a community college board. The first few years are especially demanding in time and effort.
6. One or more members of the council for higher education should be encouraged to serve. This provides continuity with the previous work in establishing the college.
7. It is highly desirable to have various religions represented in the total makeup of the board.
8. A good board is cosmopolitan in nature with persons from government, education, labor, business, industry, and the professions. This will help to assure a range of income levels, as well as a variety of occupations represented.
9. It is important that several members of the new board have demonstrated leadership ability.
10. Political affiliation is not a valid criterion for board membership. Every attempt should be made to resist political appointments to college boards. One enlightened county governing board asked all newly appointed college board members to sign an affidavit that they would not participate in partisan politics while serving as trustees, and for two years thereafter. This policy could well be emulated by all appointing bodies. (p. 42)

The board of trustees is the body legally responsible for the affairs of the college. The board is the bridge between the college and the community. Its primary function is to translate the needs of society into policies which will meet these needs and to insure the integrity of the college in the face of external demands.

Thornton (1960) identified seven basic functions and duties of the governing board as summarized and listed below:

1. The adaptations of a statement of the purpose of the college.
2. Establishing policies affecting the admission, control, and graduation of students.
3. Establishing personnel policies, including employment practices, salary schedules, working conditions and fringe benefits.
4. Development, use and maintenance of sites, buildings, and equipment.
5. Development of financial procedures in budgeting and expending funds.
6. Developing relations with other colleges and with governmental agencies.
7. Preparing its own procedural rules. (p. 118)

The board of trustees is not the institutional leader, but it appoints one, the president, who makes policies accordingly. If an institution expects to be successful it must build a highly reliable team of personnel and weld individual efforts into one common overall goal.

Choosing the President

The first and most important step in planning a community college is to employ the best person available as its chief administrator. He/she, in turn, will recommend the employment of able, effective, professional persons as his administrative assistants and his/her teaching faculty.

The selection of a community college president is not only the board's first job, but it is likely to be the most important task that it will perform.

Gleazer (1968) believes that it might be a good idea to measure the candidates' attitudes and abilities against criteria similar to the following:

1. Conviction of the worth and dignity of each individual for what he is and what he can become. Commitment to the idea that society ought to provide the opportunity for each person to continue appropriate education up to the limit of his potential.
2. Appreciation of the social worth of a wide range of aptitudes, talents, interests, and types of intelligence. Respect for translating these into suitable educational programs.
3. Understanding of the interpersonal processes by which the individual comes to be what he is. Appreciation for the interaction of the college and other social institutions and agencies--the community, family, and church organizations--in providing a social milieu for personality development.
4. Knowledge of community structure and processes. Capacity to identify structures of social power and the decision makers involved in various kinds of community issues.
5. Understanding of education in our society and viewpoints about its role. Acquaintance with critical contemporary issues in education. Appreciation of the

responsibilities of elementary and secondary education as well as those of higher education. Commitment to community college services as part of a total educational program. Constructive and affirmative views toward the assignment of the comprehensive open-door institution.

6. Some understanding of the elements at work which are changing society throughout the world. Awareness of the significance of population growth, shifts in population, changes in age composition of population, the dynamics of aspirations and ambitions in cultures on all continents, the rapidity of technological development, societal resistance to self-examination and criticism, and other developments foretelling social change.

7. Ability to listen, understand, interpret, and reconcile. Capacity to communicate. (pp. 104-105)

Gleazer (1968) further suggested that:

Board members will probably have in mind three other questions as they size up a candidate. Has this man enough stature in the field of education so that the leadership of other educational institutions will have respect for him and hence for this new institution we are creating? Or if not now, does he have potential in this regard? Do his attainments suggest to the community that the institution holds marked promise because it can attract a man of this caliber? And most important, what is there about him to persuade outstanding people to join in making this a superior institution? (p. 105)

Evans and Neagley (1973) pointed out that it is recommended that the doctorate be required as a qualification for the president's job, and that candidates have had some course work in the administration of higher education (p. 64).

Monroe (1972) agreed that such persons are likely to have above average intelligence, the ability to meet people easily, the ability to speak in public with fluency, write reports, and win the support of the persons with whom he/she works (p. 315).

Master Plans and State Planning

In order to develop a cohesive, viable, and comprehensive community college model, it has been assumed necessary for those concerned with planning and development to have a clearly defined master plan. Without specifically identified objectives and goals for each aspect of the model, certain functions of the college have often been overemphasized while others of equal value have been neglected or even omitted entirely. Each individual community has had particular local needs which have differed from those found in other areas, but enough similarity has existed between institutions to warrant the development of a general model.

During the early development of the community college movement, local communities organized two-year colleges at a rapid rate. The increase in the number of community colleges caused many states to look closely at the standards for establishment and control of community colleges.

Halstead (1974) indicated that during the 1950's, master plans, or surveys closely resembling master plans, were developed in eight states, as shown in Table 2.

Here are some examples of how the community colleges were viewed in many state plans. In Hawaii, Kosaki (1965) stated the purposes of community colleges as follows:

To provide two-year college transfer and general education programs, semi-professional, technical, vocational, and continuing education programs, and such other educational programs and services as are appropriate to such institutions. (p. 6)

Table 2

Dates When Master Plans Were Developed
in Eight States

State	Year
California	1954
Florida	1956
Louisiana	1956
Minnesota	1956
Tennessee	1957
New Jersey	1957
North Dakota	1958
Michigan	1958

Source. Halstead, 1974, p. 10.

In California, where community colleges have existed for more than a half a century, the Liaison Committee (1960) stated the purpose of community college in this manner:

The public junior colleges shall offer instruction through but not beyond the fourteenth grade level including, but not limited to, one or more of the following: (a) standard collegiate courses for transfer to higher institutions, (b) vocational-technical fields leading to employment and (c) general, or liberal arts courses. Studies in these fields may lead to the Associate in Arts or Associate in Science degree. (p. 2)

In Michigan, home of the Grand Rapids Junior College dating back to 1914, Russell (1957) directed extensive surveys of higher education and described the place of the community college. He specified that:

The Michigan community colleges seem to agree strongly on three purposes. Variouslly stated, these are: (1) the provision of courses for students who plan to go on to further collegiate study and a baccalaureate degree; (2) the offering of courses of a terminal-occupational nature for persons seeking employment in business, industry, or some other fields immediately after leaving the community college; and (3) the provision of a broad and flexible program of continuing and adult education for out-of-school youth and adults in the community. (p. 23)

The Florida state legislature created a junior college board in 1961 to coordinate statewide growth of these institutions with the help of the Division of Community Junior Colleges in the State Department of Education. Florida has established a system of public junior colleges. Recognizing the value of the comprehensive community college concept, Florida has continually increased its operating funds for vocational and technical courses in occupational programs (Palinchak, 1973).

In order to develop and implement a feasible master plan, it is necessary to take into account the basic character and climate of the country. For the purpose of this study the writer will examine the socioeconomic and educational system in the U.A.E. in which the plan is intended to serve. The second section of this chapter sets out to fulfill this requirement as briefly as possible.

The Economics of the United Arab Emirates

There are no special economic theories or methods of analysis fashioned uniquely for the study of the underdeveloped world. But while the tools of analysis are of wide relevance in a study of underdeveloped countries, the situations to which they must be

applied vary greatly. The economy of the United Arab Emirates does not fit the classification in the traditional academic categorizations of either "developed" or "underdeveloped." There is a blur or smoke on the horizon as economists approach to apply their general-purpose tools in a situation such as the economy of the U.A.E. To discuss the economic system of the U.A.E. without acknowledging oil as the backbone of the economy is like writing an essay on the economy of the United States without recognizing tax revenues. Oil revenues have given the U.A.E. the highest per capita income in the world, \$22,000 (Encyclopedia of the Third World, 1980). On the other hand, on the debit side of the development, an equally striking example of underdevelopment such as oil exports, account for 90% of the gross national product, shortages of labor (indigenous supplies of skilled labor), and a sizable trade balance due to importation of economic goods and services.

Fryer (1965) has attempted a classification and analysis of levels of economic development throughout the world. He made a fourfold division of types of economies: (a) highly developed, (b) semideveloped, (c) underdeveloped, and (d) planned economy (pp. 283-303).

The highly developed economy is primarily industrial-commercial; the semideveloped economy is mixed industrial-agricultural; the underdeveloped economy is essentially an agricultural economy; and planned economies exhibit some features from each of the other three groups. This is a useful general classification, but with respect to the economy of the U.A.E. needs to be explored further.

The economy of the U.A.E. is not difficult to understand. Before the discovery of oil, the U.A.E.'s subsistence economy depended on fishing and pearl diving. The growing competition of cultured pearls which was developed by the Japanese caused a rapid decline of the latter industry which worsened the economic conditions of a large group of people whose only source of income was pearl diving. In the 1960's the flow of commercial oil in huge quantities, first in 1962 for Abu Dhabi and later for Dubai and Sharjah, has helped in initiating changes. As a result, the economy has begun to take on a new dimension (Sadik & Snively, 1972).

The base of the United Arab Emirates' capital accumulation is oil, a primary commodity which is also a depletable asset. "It is true to say that a majority of under-developed countries participate to varying degrees in international trade, exporting usually only one or two primary products, and one of their problems is vulnerability to any fall in world prices" (Mountjoy, 1966, p. 24). The situation and the condition of the U.A.E.'s economy, however, is more extreme than that of most of the economies falling in this category. About 90% of the budgetary revenue which in 1981 totaled Dhs. 24 bn (\$6.57 bn) is attributed to its single product, oil, 1,825,000 barrels a day produced over the first half of 1978. The extent of this dependence and the limitations of other natural resources of the U.A.E. have dictated a single-product economy, rather than a choice of economic specialization. The key to the United Arab Emirates rapid economic and social change mirrors to a great extent the smooth exploitation of its vast reserves. This can

be traced back to 1960 when the discovery of oil brought about the opportunity for the country to cast off its legacy of deprivation and to prepare to take its place in the modern age. Hudson (1977) has pointed out the following relationship between economic progress and oil: "Oil has been transforming the material life of the people of the Gulf just as the Industrial Revolution did in Europe and the United States" (p. 136).

The United Arab Emirates is now witnessing a rare opportunity which may not recur and which has been the dream of other civilizations. In less than two decades these centers moved from typical Arabian peninsula towns, modest and traditional, to air-conditioned cities, some of the largest on the Arabian Gulf. The U.A.E. has won for itself an important position among the nations of the world, and has raised the level of the standard of living of its citizens to a high and still growing level. Much of the course remains to be done; what has been achieved, however, is the laying down of the base of a developed country.

Federal Finances and Economic Development

The main instrument of development policy in the U.A.E. is the federal budget which is mainly concerned with the infrastructure policy. The individual emirates draw up separate budgets for local spending and projects. Unfortunately, there is little coordination in economic policy, resulting in a rapid and uncontrolled expansion and wasteful duplication of projects.

Dating from the period prior to the union's establishment, a pattern of ostentatious expenditure has frequently characterized some of the investment and development projects launched by the various emirates. First, various emirates wanted their own "international" airports, then an "international" harbor, then cement factories, then container ports, then petrochemical plants, then skyscraper hotels, and most recently, "international" trade centers. These highly visible, costly, and often duplicatory schemes were launched in accordance with decisions made not by federal agencies responsible for development on a regional basis but by the rulers of the individual emirates. The impetus for these projects continues to be an inter-emirates competition for commercial preeminence and regional prestige, rather than concern for the interests of the union.

The rulers of the non-oil-producing states of Ajman, Umm al-Qaiwain, Ras al-Khaimah, and Fujairah remain the most dependent on the existing U.A.E. framework, inasmuch as this framework is the principal, if not the sole, means whereby they have been able to obtain the economic assistance necessary for developing their societies.

According to the Ministry of Information and Culture (1981, p. 40), federal budget allocations have risen substantially, from around 10 billion dirhams in 1979 to 16 billion in 1980, then to 24 billion in 1981. The rise is partly due to the decision by the emirates of Abu Dhabi and Dubai to contribute half of their oil receipts to the federal budget. Much of the development within the

emirates in the spheres of housing, public works, and other social services is paid by the local government. Table 3 demonstrates the federal budget expenditure.

Industry

The U.A.E., like some other Gulf oil producers, sees industry as the long-term key to the future. It was realized a long time ago that oil would not last forever. Since the U.A.E. was formed in 1971, it has been a clearly stated objective of the federal government to diversify the sources of national income. According to the Ministry of Information and Culture (1981, p. 62), the government of the U.A.E. has two things in mind: the first is to conserve the depletable natural resource of oil for future generations; the second is to develop new industries that can help to diversify the economy, making it much more broadly based.

The growth of industry in the U.A.E. can be broken down into the following sectors:

1. Oil and gas related industries, such as refineries, gas-liquefaction, sulphur production, platform fabrication, and production of drilling chemicals.
2. Heavy industry, with products ranging from aluminum to ship-repairing and cement for the local market and for export.
3. Small scale industry, manufacturing a variety of goods for the U.A.E.'s own consumers. Items such as paper sacks, food and drink, and household utensils.

The industrial development of the U.A.E. can be conveniently split into three main geographical areas:

1. Emirate of Abu Dhabi

Table 3

Federal Budget Expenditure
(1980--million U.A.E. dirhams)

Item	Amount
President's office and Council of Ministers	78.4
National Federal Council	13.8
Comptroller's office	27.5
Defence	4,500.0
Interior	1,224.9
Justice, Islamic Affairs and endowments	160.3
Finance and industry	53.7
Planning	32.4
Petroleum and mineral resources	18.0
Economy and trade	11.8
Foreign affairs	177.0
Information	209.9
Education, youth and sports	1,081.4
Health	1,071.6
Public works and housing	53.9
Communications	73.2
Electricity and water resources	291.3
Agriculture and fisheries	80.0
Labour and social affairs	307.7
General expenditure	2,833.5
Foreign investments	1,769.0
Total	14,069.0

Source. The Europa Year Book, 1981, p. 1592.

2. Emirate of Dubai

3. Northern Emirates

1. Emirate of Abu Dhabi. In Abu Dhabi the word industry is synonymous with "Ruwais" the industrial township and the cornerstone of Abu Dhabi's petrochemical plans. At Ruwais, 100 miles west of Abu Dhabi City, Abu Dhabi National Oil Company (ADNOC) is creating a major industrial complex including an on-shore gas gathering and processing plant, a refinery, and associated infrastructure. According to the Ministry of Information and Culture (1981, p. 68), 20 billion dollars was due to be spent by ADNOC on investment in the Ruwais zone.

The two significant ventures in which notable commercial opportunities are present are the development of the Upper Zakum off-shore field and the Ruwais industrial complex. The Upper Zakum field is presently in production at 50,000 barrels a day by ADMA-OPCO (The Abu Dhabi Marine Areas Operating Company). However, ADNOC plans to expand the field's capacity to 350,000 barrels/day by 1982 and 500,000 barrels/day by 1984. Expansion will require at least \$4 billion in expenditures including the construction of an island tanker terminal at Zirku Island whose capacity may reach 1.3 million barrels/day (one already exists on Das Island). ADNOC has formed a company--ZADCO (The Zakum Development Co.)--to undertake the venture. (Ministry of Information, 1981, pp. 61-71)

2. Emirate of Dubai. In Dubai the major industrial zone is called Jebel Ali. The concept behind Jebel Ali, which until four and a half years ago was merely a barren patch of land, was the creation of an integrated industrial community, where the various projects would be interlinked in terms of products and services. The dominant industrial giants are Dubai Aluminum and the natural gas project. Dubai Aluminum Company (DUBAL) was built at a cost of

around \$800 million and has an installed peak capacity of 135,000 tons of aluminum a year (Ministry of Information and Culture, 1981, p. 66).

3. Northern Emirates. Sharjah's industry at present is fairly small-scale and is concentrated near the port. It includes a lube-oil plant, a rope factory, a cement factory, and the successful Sharjah Oxygen Company. The four smaller emirates of Ras al-Khaimah, Fujairah, Ajman, and Umm al-Qaiwain have also made modest progress in creating the beginnings of an industrial base.

The Role of the United Arab Emirates' Government in Educational Development

The educational system of the United Arab Emirates has prospered since the federation was established in 1971, but as a consequence of its rapid growth, it faces difficulties of administration, staffing, and direction. Historically, formal education in the seven states which united to form the federation had received little emphasis, partly because of scarce resources and partly because of the sparse and unevenly distributed population pattern. The first developments were concentrated in the coastal towns, and at the time of the federation, two main and separate systems existed: the Abu Dhabi State Ministry of Education, founded on increasing revenue from oil, and the second system of education donated and administered by the Kuwaiti State Office for the six northern states. Parallel to these developing systems was the establishment of the Sharjah State Department of Education and the establishment of a

trade school providing a springboard for further technical education. It can be seen, however, that all of these developments are fairly recent and that the system was concentrated at the primary level.

Progress of Education in the U.A.E.

In 1960, Sharjah opened a school for 450 pupils, giving it a preeminence which was to be very short-lived. Twelve years later, elementary education became compulsory. The growth of education in the U.A.E. is enhanced not only by the fact that education has become compulsory for the elementary stage since 1972, but also by the magnitude of incentives provided. The Ministry of Information and Culture Department of Information (1978) stated that not only is education free at all levels, but students receive free books, meals, uniforms, transportation, and in addition, cash allowances of 500 dirhams a month (one U.S. dollar = 4 dirhams). Should parents be unable to work because of illness, disability, or old age, he/she receives help under the National Assistance Law.

Table 4 presents public school attendance over the first half-decade of growth of the federation from nearly 33,000 students in 1972 to over 96,000 in 1980.

Table 4 shows that schools increased from 74 in 1972 to 255 in 1980. The number of students increased from 33,000 students in 1972 to 96,077 in 1980. Thus it is not surprising that education gets a most generous slice of the federal budget. As Table 5 indicates, in 1972, 62,468,420 dirhams were allocated; by 1980, 1,081,393,200 were allocated.

Table 4
The Growth of Public Education in the U.A.E.,
1971-1980

School year	Students	Teachers	Schools
1971-72	32,862	1,585	74
1972-73	40,193	2,386	129
1973-74	44,272	2,957	148
1974-75	52,321	3,828	167
1975-76	61,803	4,856	185
1976-77	71,314	5,966	204
1977-78	78,981	6,347	228
1978-79	86,481	6,872	243
1979-80	96,077	7,814	255

Source. U.A.E. Ministry of Education and Youth, 1980a,
pp. 272-273.

Table 5
Annual Growth of Government Appropriations
for Education, 1972-1980
(in Dirhams)

Year	Dirhams
1972	62,468,420
1973	122,041,820
1974	186,635,906
1975	346,585,496
1976	513,514,996
1977	888,312,600
1978	915,578,900
1979	982,630,000
1980	1,081,393,200

Source: U.A.E. Ministry of Education and Youth, 1980a, p. 15.

There are obstacles that have to be overcome in order to make perceptible progress. The U.A.E. would like, for example, to increase productivity through modernization and industrialization, based partly on the development of technical education. But technical education is not as attractive to the people as so-called "academic education." In fact, the implicit definition of education for some is that it is an exercise through which children can avoid future manual or technical employment. But the U.A.E. has made tremendous progress at varying rates during the last 10 years. We shall find that the rate of enrollment is increasing as shown in Table 6.

Table 6
Enrolled Students in Technical Schools,
1972-1980

School Year	Students
1972-73	258
1973-74	184
1974-75	175
1975-76	210
1976-77	170
1977-78	226
1978-79	254
1979-80	380

Source: U.A.E. Ministry of Education and Youth, 1980a, p. 86.

The largest obstacle lies, as has been already shown, in the population factor. There is also the high proportion of young population and the related burden of many dependents.

Another obstacle that lies in the economic conditions of the U.A.E. is that trained high-level manpower is needed. At the same time, the government of the U.A.E. finds that the employment market is unable to absorb and benefit by the outstanding or highly educated. There is no equilibrium between needs, demands, and supplies.

The Economic Significance to Education

The U.A.E. is obviously exerting tremendous efforts in the field of education but the achievements are short of the region's needs, demands, and aspirations, especially if the U.A.E. compares its modest progress with the overwhelming advances made by a developed country.

In the United Arab Emirates there is a tendency to join an educational establishment without investigating the opportunities of employment or the specific aptitudes required. This has led to the production of types of manpower which the U.A.E. does not need, or of education of people for whom the U.A.E. cannot provide jobs appropriate to their capacity and productive potential. When the U.A.E. itself adopts the principle that it is obliged to create work for these graduates, we find that this overflow becomes a burden on the country. Many graduates of industrial secondary education, who have acquired skills which would enable them to embark on profitable employment, prefer to wait for a government job even if this means waiting months or years; people with degrees in literature or economics occupy clerical positions inferior to their true productive capacity. Thus, many ministries and departments in the U.A.E. could cut their staff to one-third of its present size without any effect on the performance of their work. The problem is that people working under these conditions do not normally face any challenge that would impel them to develop their capacities and skills in order to rise to the level of each new challenge when it occurs.

Continuity and Immediate Reform

The education system is a means by which a society hopes to perpetuate itself. But, to do so, every society hopes that its educational policy will somehow bring the next generation somewhat closer to reaching some of the society's goals and ideals. In a society such as the U.A.E., in which a chief characteristic is change, investment in human resources gives the individual greater flexibility in adapting to new demands. The rapid change in our society, the needs for anticipation, and the broadened concept of education are probably the major challenges to the economics of education. In addition, many educated adults in our society still need additional education and reeducation so as to be more capable of facing the changing requirements of life and of taking part in its evolution.

Wise (1968) pointed out the purpose of education:

Education makes for the economic well-being of the state by attracting immigrants and capital to the state, and educated labor is much more productive than uneducated labor. . . . It was pointed out that ignorance breeds idleness and vice, whereas education breeds thrift and virtue, and the cost of government over an educated citizenry is said to be less than that over an uneducated people. (p. 113)

Accordingly, the U.A.E. should educate for responsibility and social commitment, for freedom and democracy, for creativity, resourcefulness, adaptiveness, and initiative, and for the full realistic expression of the personality. It is true that there have been attempts, in the governmental sphere, to lay down guidelines for the educational system and place it on a proper theoretical basis.

These attempts, some of which have been made in each emirate and others at the federal level, have seemed to be a constructive step in the direction of educational development.

The trend at present adapted by the government of the U.A.E. is to do all that is possible to improve conditions of learning as they are. The aim of the government is to save the present situation as it is. They want to improve conditions of classrooms, of school furniture and equipment, of school transport and meals, of living conditions for teachers, of teacher qualifications, salaries, and standards, of textbooks, of curricula, of playing fields, of laboratories, of workshops, and of everything that can be thought of to raise the level of performance in the present educational system. There have also been attempts to introduce new educational methods and to improve the teaching of certain subjects. These are all subsidiary matters that can easily be dealt with once sufficient light has been shed on the primary problem, which is how we are to answer the following question: What does the U.A.E. wish to achieve through education? Once educational objectives are established, then the U.A.E. can tackle such problems as the level and training of teachers, curricula, and teaching methods. It is clear from what has been said that however the U.A.E. defines the aims of education, however it develops its educational systems and improves their content, the U.A.E. shall not arrive at a solution that is total or likely to endure for any length of time. The unending stream of scientific discoveries and of new industrial methods and products almost invariably create complex problems, affecting not only the

role and expectations of the individual but also the life of society through the creation of conditions favorable to the emergence of new values or to the development of old ones.

Development of Higher Education

In October 1977, the first university was opened in Abu Dhabi. Until then, students wishing to pursue postsecondary courses had to go abroad.

Encyclopedia of the Third World (1980) indicated that in 1974, 196 U.A.E. students were enrolled in colleges and universities abroad, including 25 in the United States, two in the United Kingdom, three in France, 50 in Iraq, and 96 in Kuwait (p. 1504). The ministry's crowning achievement in its 7-year existence has been the establishment of the University of the U.A.E. Five colleges were established: Education, Literature, Science Education, Administrative and Political Science, and Law, each offering a four-year Bachelor's degree program for the 550 students in the University's first year. Although the existing premises were converted for this purpose, these are temporary and a permanent campus is under construction. Residential accommodation is provided in purpose-built blocks where possible, but high-quality, private housing has been rented from local landlords for the remainder of the students. A close link between the courses available at the University and the country's requirement of skilled manpower is considered desirable and the number of places open in each course will be decided by this factor.

Woodhall (1972) indicated that: "One of the fundamental assumptions of most manpower forecasts is that there is a fixed relationship between education and occupation" (p. 53). Graduates will have no difficulty finding suitable government jobs. But the University cannot meet the needs of the communities in the U.A.E. as those needs are ordinarily understood. Benson (1978) indicated that: "When people use their education to obtain a better job than they otherwise might have, they are the primary beneficiaries of that education. The social benefits, on the other hand, are broadly diffused and largely nonquantifiable" (p. 127).

Table 7 shows the distribution of students enrolled at the University of the U.A.E.

New colleges of Agriculture and Fishery have been implemented in 1980. Students wishing to pursue programs not yet available at U.A.E. University are sent abroad, and those numbered 3,000 in 1978.

As can be seen from Table 7, although the total number of male to female students is only 26% greater, the writer believes this figure is misleading when examined out of context. If one looks at the fields in which women students are the majority, one will find these fields to be literature, the sciences, and education. What is not mentioned is that in these fields, most women are in "traditionally female" career fields such as teaching and nursing. In "traditionally male" fields such as administration, politics, and law, the enrollment of males is by far the greater--approximately 75% greater in the administrative and political science courses and 100% greater in agriculture and engineering courses due to the fact that there

are no females enrolled in those curricula. Needless to say, women still maintain the traditional roles in society and change will come slowly.

Table 7
Students of the U.A.E. University,
1980-1981

College	Students		
	Male	Female	Total
Literature	318	442	760
Sciences	204	241	445
Education	193	267	460
Administration and Political Sciences	399	144	543
Law	225	32	257
Agriculture	22	---	22
Engineering	32	---	32
Totals	1,393	1,126	2,519

Source. U.A.E. University, 1982, p. 2.

Summary

Chapter II has examined the literature regarding the growth and development in the United States and in other countries around the world. This chapter also examined the necessary steps which are crucial for the establishment of a community college. Chapter II also examined the scope of programs offered by the University of

the U.A.E., census and school enrollment data indicative of the likely demand for extended opportunities for education and training in various parts of the U.A.E.

CHAPTER III

THE METHODOLOGY

Introduction

A thorough search of the literature for secondary data has helped to bring to light the conditions, relationships, and inadequately met needs and trends existing in the socioeconomic and existing system of post-high school education of the U.A.E. These were all treated in Chapter II of this research. Chapter II also examined the scope of programs offered by the U.A.E. University, census, and school enrollment data indicative of the likely demand for extended opportunities for education and training in various parts of the U.A.E.

The review of literature helped to pinpoint areas of greatest need and immediate attention on which curricula could be designed immediately in this proposed institution to take immediate care of the demand for trained middle level technicians and managers.

In order to supplement the secondary data and to test the reliability and validity of the needs mentioned in Chapter II, a source of primary data was needed. This was accomplished by a needs assessment for obtaining comments and views of leaders in business and industry and seniors in high school in the U.A.E. The writer obtained this data during his visit to the U.A.E. in June of 1982.

The Sample

Business and Industries

For the business and industries samples, a list of banks, companies, and factories was obtained from the Chamber of Commerce in the area. For the business sample, 10 presidents of banks were randomly selected from the list of 40 banks.

For the industries sample, 10 presidents of factories randomly selected from the list of 20 industrial factories were interviewed by the writer. The targets were private and government-owned industries in the U.A.E.

Students Sample

On the targeted student population a list of high schools was obtained from the Ministry of Education in the U.A.E. A random sample of 50 students was selected from each of four high schools with the highest enrollments. Two hundred copies of the survey questionnaires were administered through school principals in the area to students in the 12th grade.

The Instrument

The purpose of the instrument was to provide sufficient data that would help the writer in the analysis of essential needs and desires of leaders in business and industry and seniors in high schools.

It was assumed by the writer that after data were collected and analyzed, answers to the following questions would be obtained.

1. What are the educational plans of high school seniors in the U.A.E., and will they support the proposed community college?

2. What are the present and future personnel needs of local business and industries in the U.A.E., particularly in occupations that require more than a high school education?

The instrument used in this study was adapted and modified from the questionnaire used by Evans and Neagley (1973) in their book, Planning and Developing Innovative Community Colleges. The instrument consists of two parts: Part I is the business-industry survey, and Part II is the high school students' survey. (See Appendix C, The Instruments.)

Part I. Business-Industry Survey

The following modifications were made to Part I of their instrument:

1. Question #5. The term "drafting and blueprint reading" was modified to "drafting and photocopying" because blueprint reading is not used widely in today's business and industries.

2. Question #5. The term "English and speech" was modified to "Arabic, English and speech" because Arabic language is the official language in the U.A.E.

3. Question #9. If you have not attached a separate letter on this questionnaire, would you please comment here on your thoughts concerning the need or advisability of developing a local community

college, which would include two-year terminal technical-vocational and/or semiprofessional training programs. This question was omitted because the investigator interviewed business and industry leaders personally.

Part II. High School Students Survey

The following modifications were made to Part II of their questionnaire:

1. Name, age, occupation of parents, and the question on the number of brothers and sisters were eliminated from the questionnaire. The reason for eliminating these items is that they do not serve a purpose for this study.

2. Question #1. If a two-year community college were available in Delaware County at a cost of \$300 per year, would you be likely to attend? This question was modified to read: If a two-year community college were available in the U.A.E. and in your hometown, would you be likely to attend? The reason for the modification is that a community college should be located within a reasonable distance from the community so the writer decided to add the following statement: "and in your hometown." A cost of \$300 per year was eliminated because of the free education in the U.A.E.

3. Question #II, Section A. The term "low cost" was eliminated because of free education in the U.A.E.

4. Question #IV. The term "police academy" was added to Section C because if high school graduates decided not to go to college, then they decided to join either the Army or the police

academy. Section D in Question #IV was omitted because of the free education in the U.A.E.

5. Students' and parents' signatures were also omitted because the survey was to be conducted at schools, not at home.

The questionnaire was accompanied by an introductory letter from the College of Education at Western Michigan University. This letter was delivered personally to the respondents explaining the purpose of this study.

Content Validity

Content validation is guided by the question: "Is the substance or content of this measure representative of the content or the universe of content of the property being measured?" The validity of the instrument used in this study came from the literature. Johnson (1964) reported a questionnaire which was used to survey high school students to obtain information about their future schooling. The purpose of the questionnaire was to gain an estimate of the mature interests and training needs of high school graduates.

Evans and Neagley (1973, p. 22) indicated that student surveys provide a key dimension to the need study for a community college. They recommended a survey for high school seniors which is the purpose of the instrument used in this study. The counselors can assist in planning for and administering the questionnaires in their schools. They are closest to the students and will make many excellent contributions. A representative high school survey may be found in Appendix C in this study. This questionnaire was developed

by a senior high school guidance counselor. It was approved by the Council for Higher Education and administered to all 11th and 12th graders in the country.

Evans and Neagley (1973) indicated that the business-industry survey is a key component of the need study for a community college. The main purpose is to determine the present and future personnel needs of local businesses and industries, particularly in occupations that require more than a high school education (p. 21).

Pilot Test

A pilot test of the survey instrument was administered to six graduate students at Western Michigan University whose native language is Arabic. The questionnaire was accompanied by a statement about the community college and suggestions on how to respond to each question.

Questions which the writer asked the pilot panel were:

1. Clarity: Is the item clear and concise?
2. Readability: Is the term used appropriate for the population target, high school seniors and business-industry leaders?
3. Were there any questions with which you had difficulty?

After completing the questionnaire, the pilot group was requested to offer suggestions which would improve the quality of the instruments. They suggested to the researcher to outline a statement in Arabic describing what a community college is, why were community colleges established, and what broad courses are offered in a community college. Also, they suggested to the researcher that when

he interviewed his respondents, he should verbalize in Arabic each question to them so when the question was translated to Arabic its translation was understood by the respondents.

Results of the pilot test were used as guidelines for improving the final instrument. The researcher followed these results and suggestions in conducting the survey questionnaire in the U.A.E.

Data Analysis Procedure

Two distribution methods were used which would reduce the interviewer's influence on the respondents. The first is the self-administered technique where the questionnaire was presented and read by the interviewer in Arabic, if the respondent did not have knowledge of the English language. The purpose of the inquiry was explained, and the respondent was then left alone to fill in the questionnaire which was picked up by the researcher upon completion.

The second distribution method was the group-administered method which was given to groups of students in high schools. The purpose of the questionnaire was explained and students were left alone to fill in the questionnaires, which were picked up after completion. The writer chose these two techniques, because of the inefficiency of the postal system in the area, and above all, to assure a sufficient number of responses to the questionnaire.

Finally, the responses were gathered and tabulated, then converted into percentages and frequencies.

The data about the present and future personnel needs of business and industry and the data about the post-high school

educational needs in the U.A.E. were collected by the investigator during his visit to the U.A.E. in the summer of 1982.

In Part I of the questionnaire, Questions 1, 2, 3, 5, 6-A, and 7-A are informational questions. They were designed to provide information on the requirements of business and industry. Answers given to Question 1 were used to identify the number of employees and percentage of the work force in business and industry. Information provided by Questions 2 and 3 was used to examine the percentages of employees who are engaged in work which requires more than high school training, and to determine if the proportion of employees requiring training beyond high school will increase during the next 10 years.

Question 5 was used to determine which types of training, if offered by a community college, would be of value to business and industry. Answers given to Question 6-A were used to examine whether college graduate employees are spending their time at less than college graduate level work. Finally, data taken from answers given to Question 7-A were used to find out if business and industry have an organized training program for less than college graduate level employees.

On Question 4 the respondents were asked if there were opportunities for employment in their organizations for people with 2 years of technical or semiprofessional training beyond the high school. A 50% positive response indicates that a community college would be of value to their organizations.

Question 6-B asked respondents if employees having 2 years of training beyond high school could replace some of the college graduates in their organization. A 50% positive response indicates the need for a community college.

Question 7-B asked respondents if their training programs could be modified or eliminated by programs in a community college. A 50% positive response indicates the willingness of business and industry to have the community college provide their training programs.

Finally, Question 8 asked respondents if educational facilities in the U.A.E. meet employees' needs in their organizations for less than graduate level. A 50% negative response indicates support for the community college to provide the two-year training needs.

In Part II of the questionnaire, the first question asked high school seniors if they would attend the community college. A 50% positive response indicates that high school students support the community college concept. Questions II-A, II-B, II-C, III, IV, VI-A, and VI-B are informational questions. They were designed to provide information on high school seniors regarding the following.

Students were asked on Question II-A to give their reasons for attending the community college. Information provided by students answering this question was used to determine whether dormitories and transportation services should be provided by the community college.

Question II-B asked about types of programs in which students were most likely to enroll. Data taken from answers to this question were used to examine the type of program which is most desired

by students. The program which received the highest number of responses was considered a first priority; the program which received the next highest number of responses was considered a second priority; the third priority was determined by the program with the next highest number of responses.

Students were asked in Question II-C "Which type of student would you be?" Answers given to this question were used to determine the enrollment status of respondents.

Question III asked students to indicate the occupation in which they would be most interested. This indicates high school students' future plans and interests.

Question IV asked students to indicate their reasons for not attending a community college (even if a community college were available). Data taken from answers to this question were used to examine reasons for not attending a community college. Those responses were rank-ordered, beginning with the reason chosen by the largest percentage of students. Question V asked respondents if their parents want them to continue their education after high school. A 50% positive response indicates that students' parents are interested in additional higher education for their children.

Question VI-A asked if students had been accepted to a university or some other form of post-high school education for the fall of 1982. Data taken from answers given to this question were used to examine to which college or university in the area students had been accepted. Names of institutions were provided by the respondents.

Question VI-B asked if students were seriously considering one of the universities located within commuting distance of their home. Data taken from answers given to this question were used to examine if high school seniors were interested in attending a local institution of higher education in the U.A.E.

CHAPTER IV

THE FINDINGS

Introduction

The purpose of this study was to determine personnel needs of local business and industry in the U.A.E., and to determine the plans and/or expectations on the part of high school seniors to support a community college to be established in the U.A.E.

Data were collected in the summer of 1982 through the use of a questionnaire and interviews. The survey results are presented in this chapter. The presentation of results falls into two major categories. First, business and industry leaders' survey responses are reported. Second, high school seniors opinions were presented to determine the post-high school educational needs of the U.A.E.

Interview Responses and Data Analysis of Part I of the Questionnaire

All 20 of the businesses and banks responded; 10 of the respondents were from banks, including presidents and personnel directors, and the other 10 were from presidents of major industries operating in the U.A.E. A questionnaire of two pages was hand delivered to each respondent (see Appendix C). The data obtained from the questionnaire were supplemented by additional comments from the respondents. The survey results are presented in the following tables.

Of the 20 survey forms, 20, or 100%, were obtained. A total of 5,194 regular employees were reported by these 20 firms. Ten out of 40 banks operating in the U.A.E. reported that they employ 2,369 persons, about 17% of the work force in banking. Ten industries operating in the U.A.E. reported that they employ 2,825 persons, about 8% of the work force in industries. Table 8 describes the composition of the business-industry sample in terms of number of banks and industrial factories, and in terms of the number of people they employ. Means and standard deviation of regular employees are reported.

Table 8

The Average Number of Regular Employees in Banks
and Industrial Factories in the U.A.E.

Population group (<u>N</u> = 20)	Number of banks and factories	Number of employees	Mean	Standard deviation
Banks	10	2,369	236.9	311.91
Industrial factories	10	2,825	282.5	359.13
Totals	20	5,194	259.7	335.52

Question 2 of Part I of the questionnaire asked, "What percentage of employees in business and industries are engaged in work which requires more than high school training but not necessarily a college degree?"

A fairly large percentage of employees were reported to be engaged in work which required more than high school training but not

a college degree. Banks reported that 50.5% of their employees are engaged in work which requires more than high school training. A high of 70% and a low of 10% were reported to be lacking training on the level of a community college. Industrial factories reported that 41.4% of their employees are also engaged in work which requires more than high school training but not necessarily a college degree. A high of 70% and a low of 7% were also reported by industrial factories. Table 9 shows the results.

Table 9

Percentage of Employees Who Are Engaged in Work Which
Requires More Than High School Training But
Not Necessarily a College Degree

Population group	Average %	Range %	
		Lowest	Highest
Banks	50.50	10	70
Industrial factories	41.40	7	70
Total	45.95		

In Question 3 of Part I of the questionnaire, business and industry leaders were asked if the proportion of their employees who require training beyond high school will increase during the next 10 years.

Table 10 describes the responses to Question 3. Seventy percent (7 out of 10 banks) indicated that the proportion of their employees requiring training beyond high school will increase during the next 10 years. Only 30% (3 out of 10) said that it will not

increase.

Eighty percent (8 out of 10 industries) indicated that the proportion of their employees requiring training beyond high school will increase during the next 10 years. Only 20% (2 out of 10) answered no to the same question. A total of 75% (15 out of 20 businesses and industries) forecast an increase in their demand for employees who have training beyond high school during the next 10 years.

Table 10

Will the Proportion of Your Employees Requiring
Training Beyond High School Increase
During the Next 10 Years?

Subjects	Yes		No		Total %
	<u>n</u>	%	<u>n</u>	%	
Banks	7	70	3	30	100
Industrial factories	8	80	2	20	100
Totals	15	75	5	25	100

Question 4 asked whether there would be opportunities for employment in their organization for people with 2 years of technical or semiprofessional training beyond high school. The results in Table 11 shows: 100% (10 out of 20 banks) and 100% (10 out of 20 industries), a total of 20 respondents, answered that there would be opportunities for employment for people with 2 years of technical or semiprofessional training beyond high school in their organization.

The decision rule of 50% or more of desirability for a community college was used for this question. Results indicated that support from business and industry exceeds 50%. Therefore, the community college would be of value to those respondents (see Table 11).

Table 11

Percentages of Total Responses on Business and Industry
Who Have Employment Opportunities for People With
2 Years of Training Beyond High School

Subjects	Yes		No		Total %
	<u>n</u>	%	<u>n</u>	%	
Banks	10	100	0	0	100
Industrial factories	10	100	0	0	100
Totals	20	100	0	0	100

Question 5 was concerned with the types of training which would be of value to business and industry. A very lengthy list of professional fields was provided, and business and industry had to mark the type of training which, if offered by a local community college, would be of value to their firm or organization.

An attempt was made to rank-order the type of training most preferred by business and industries as shown in Table 12 beginning with the item of the highest frequency.

Items which were cited most frequently by banks were bookkeeping and accounting; 100% of the responses were reported. Business management, secretarial, and clerical practice received 90% of the

Table 12

Rank Order of Most Frequent Type of Professional Field
as Perceived by Business and Industry

	Banks		Industries		Total	
	Freq.	%	Freq.	%	Freq.	%
1. Bookkeeping and accounting	10	100	6	60	16	80
2. Management, development	8	80	6	60	14	70
3. Business management	9	90	4	40	13	65
4. Secretarial	9	90	4	40	13	65
5. Clerical practice	9	90	4	40	13	65
6. Business machines	5	50	7	70	12	60
7. Labor-management relations	5	50	5	50	10	50
8. Drafting and photocopying	-		9	90	9	45
9. Arabic, English and speech	8	80	-		8	40
10. Machine technology	-		8	80	8	40
11. Sales representatives	1	10	7	70	8	40
12. Foreign language	6	60	1	10	7	35
13. Purchasing	1	10	6	60	7	35
14. Apprentice training	-		7	70	7	35
15. Inspection and quality control	1	10	5	50	6	30
16. Mathematics	6	60	-		6	30
17. Mechanics (auto, diesel)	-		6	60	6	30
18. Advertising	4	40	1	10	5	25

Table 12 (Continued)

	Banks		Industries		Total	
	Freq.	%	Freq.	%	Freq.	%
19. Laboratory technician	-		5	50	5	25
20. Instrumentation and plant control	-		4	40	4	20
21. Economics and government	4	40	-		4	20
22. Industrial chemistry	-		4	40	4	20
23. Plant protection	-		4	40	4	20
24. Electronics	1	10	3	30	4	20
25. Electric Wiring and motors	-		4	40	4	20
26. Building trades	-		3	30	3	15
27. Retailing--merchandising	-		3	30	3	15
28. Air conditioning and refrigeration	-		3	30	3	15
29. Machine shop practice	-		3	30	3	15
30. Technical writing and reporting	-		3	30	3	15
31. Metallurgy	-		2	20	2	10
32. Agriculture (economics, engineering, etc.)	-		2	20	2	10
33. Product design	-		2	20	2	10
34. Law enforcement and related occupations	1	10	-		1	5
35. Literature and history	-		-		-	
36. Engineering aides	-		-		-	

Table 12 (Concluded)

	Banks		Industries		Total	
	Freq.	%	Freq.	%	Freq.	%
37. Dental hygiene	-		-		-	
38. Photographic processes	-		-		-	
39. Applied science	-		-		-	
40. Applied mathematics	-		-		-	
41. Welding	-		-		-	
42. Physics	-		-		-	

responses. Management development and Arabic, English and speech received 80% of the responses. Foreign language and mathematics received 60% of the responses. Fifty percent indicated their desire for labor-management relations and business machines. Forty percent cited economics and government and advertising. Ten percent cited inspection and quality control, purchasing, law enforcement, and sales representatives.

Items which were cited most frequently by industry were: drafting and photocopying, machine technology, business machines, sales representatives, and apprentice training (tool and die). Management development, purchasing, bookkeeping and accounting, and mechanics were also cited by the majority of the respondents.

Those items which received the highest support were community college oriented programs. The community colleges can assist this development by providing more learning opportunities in vocational

and technical programs.

In Question 6-A business and industry leaders were asked if some of their college graduate employees are spending a significant portion of their time at less than college graduate level work, four banks and four factories indicated that this was not so. Sixty percent of those banks and 60% of the factories said that their college graduate employees are spending a significant portion of their time at less than college graduate level work (see Table 13).

Table 13

Percentages of Total Responses on College Graduates
Who Are Spending a Significant Time at Less
Than Bachelor Degree Work

Subjects	Yes		No		Total %
	<u>n</u>	%	<u>n</u>	%	
Banks	6	60	4	40	100
Industrial factories	6	60	4	40	100
Totals	12	60	8	40	100

In Question 6-B business and industry leaders were asked if employees having 2 years of training beyond high school could replace some of the college graduates in their organization, 70% (7 out of 10) of the banks and 60% (6 out of 10) of the industries reported that employees having 2 years of training beyond high school could replace some of the college graduates. Only 30% of the banks and 40% of the industries said employees having 2 years of training

beyond high school could not replace some of the college graduates in their organization.

The decision rule used for this question is that in order to have support for the community college, the question must have been supported by "yes" responses from 50% or more from business and industry. Based upon the 50% decision rule, results indicated that support for the community college exceeds the 50%; therefore, the community college could be of value to their organization. The result is abridged in Table 14.

Table 14

Percentages of Total Responses on the Question
of Having 2-Year Trained Employees
Replace the College Graduates

Subjects	Yes		No		Total %
	<u>n</u>	%	<u>n</u>	%	
Banks	7	70	3	30	100
Industrial factories	6	60	4	40	100
Totals	13	65	7	35	100

Question 7-A asked business and industry leaders if they have an organized training program in their organization for less than college graduate level employees; a total of 55% of respondents indicated no. Only 45% indicated that they have such a program in their organization. A decision rule of 50% or more not having an organized training program will indicate the need for an organized

program to be established. The result is shown in Table 15.

Table 15
Percentages of Total Responses to the Question of
Having an Organized Training Program for Less
Than College Graduate Level Employees

Subjects	Yes		No		Total %
	<u>n</u>	%	<u>n</u>	%	
Banks	7	70	3	30	100
Industrial factories	2	20	8	80	100
Totals	9	45	11	55	100

In Question 7-B respondents were asked if their programs could be modified or eliminated by programs in a community college. Eighty percent (8 out of 10) of the banks indicated that their program could be modified. Twenty percent said it could be eliminated. A total of 100% indicated that their program could be modified and/or eliminated. Twenty percent (2 out of 10) of the industries said their program could be modified. Eight of the respondents did not respond to the item of eliminating.

The decision rule used for this question is that in order to indicate support for the community college, the question must have been supported by 50% or more of businesses or industries indicating their desire to modify or eliminate their program. Results showed that 100% of businesses were willing to modify or eliminate their programs if a community college was established. This support

exceeds 50%; therefore, the community college could be of value to those respondents. Table 16 summarizes the responses.

Table 16
Percentages of Total Responses to the Question of
Modification or Elimination of Programs

Subjects	Modified or eliminated		No response		Total %
	<u>n</u>	%	<u>n</u>	%	
Banks	10	100	-	--	100
Industrial factories	2	20	8	80	100

Question 8 asked the respondents to give their opinions on whether existing educational facilities in the area meet the employment needs of their organization for less than college graduate level employees. Fifty percent (5 out of 10) of the banks said yes and 50% said no, the existing educational facilities in the U.A.E. do not meet the employment needs of their organization for less than college level employees. Ninety percent, an overwhelming proportion of industries (9 out of 10), said that the existing educational facilities in the U.A.E. do not meet their employment needs for less than college graduate level. Only 10% said that education facilities meet their employment needs. A decision rule of 50% or more of negative responses were used to indicate the need for a new institution.

The decision rule of 50% or more of unfavorable responses was used for this question. Results indicated that a total of 70% of business and industry responded unfavorably to this question. This support exceeds the 50%; therefore, business and industry indicate support for the community college. The results are shown in Table 17.

Table 17

Percentage of Business and Industry Opinions on
the Educational Facilities in the U.A.E.

Subjects	Yes		No		Total %
	<u>n</u>	%	<u>n</u>	%	
Banks	5	50	5	50	100
Industrial factories	1	10	9	90	100
Totals	6	30	14	70	100

Based upon results obtained from Questions 4, 6-B, 7-B, and 8, the following conclusions were reached in regard to business and industry support for the community college.

1. There are opportunities for employment in business and industry for people with 2 years of technical and semiprofessional training beyond the high school.

2. Business and industry were willing to replace some of the college graduates with employees having 2 years of training beyond high school.

3. Business and industry were willing to modify or eliminate their programs if those programs were offered by the community college.

4. Business and industry reported that the existing educational facilities in the U.A.E. do not meet the employment needs of their organizations for less than college graduate level employees.

Therefore, the two-year community college system, as an institution of higher education is found to be desirable by business and industry in the U.A.E.

Responses and Data Analysis of Part II of the Questionnaire

In Part II of the questionnaire, nine questions were addressed to 200 high school seniors in the U.A.E. They were mainly concerned with discovering the educational plans of these students: how they would support this type of educational institution, and what sort of programs they themselves prefer.

In the first question high school seniors would answer yes or no based on how they perceived the community college and the part it will play in the development of the U.A.E.'s economic and educational environment.

The majority of high school seniors (73%) reported an interest in attending a community college; 27% indicated that they would not be likely to attend a community college. Table 18 shows the number and percentages of high school seniors who expressed their feelings about attending a community college.

Table 18

High School Seniors' Perceptions of a Community College
 (Would You Actually Enroll if a Community College
 Were Available in the U.A.E.?)
 (N = 200)

Subject	Yes		No	
	<u>n</u>	%	<u>n</u>	%
High school seniors	146	73	54	27

The decision rule used for this question is that a 50% positive response indicates that high school seniors support the idea of a community college in the U.A.E. Results indicated that 73% of students were interested in attending a community college. This support exceeds the 50%. Therefore, high school seniors indicated support for the community college concept.

Question 2-A was regarding reasons given for choosing a community college if one were available. As shown in Table 19, 42, or 21%, of the students indicated that they would like to live at home. Twenty-one, or 10%, of the students indicated that they would like to keep a job while studying. Ten, or 5%, of the students stated that they would like to be near friends. Sixty-two, or 31%, of the students said that they would like to improve their scholastic record. Eleven, or 6%, gave other reasons for attending a community college, reasons such as an interest in a certain type of training not available in a local university. The university does not offer what they want such as nursing, diesel mechanic, automobile mechanic,

tractor operator, and welder. Fifty-four, or 27%, did not indicate any reason because they did not show any interest in attending a community college. Table 19 illustrates the results.

Table 19
Reasons for Choosing a Community College

Reason for attending	Freq.	%
To improve scholastic record	62	31
To live at home	42	21
To keep a job while studying	21	10
To be near friends	10	5
Other reasons	11	6
No response	54	27
Totals	200	100

Question 2-B was concerned with choice of college programs. Those students indicating an interest in attending a community college were asked to check the program in which they would be most likely to enroll. The responses were as follows:

Fifty-five percent (110 out of 200) of the respondents indicated that technical training programs, such as chemical, mechanical, and electrical technology, are the programs in which they would be most likely to enroll. Twenty-four and one-half percent (49 out of 200) indicated that a liberal arts program for transfer to a four-year college is the program in which they would be most likely to

enroll. Only 11.5% (23 out of 200) showed an interest in a terminal professional program. Nine percent (18 out of 200) were missing data. In order to better describe the data, the program choices were rank ordered as preferred. Table 20 summarizes the results.

Table 20
The Rank Order Distribution of Choice of Program

Program	Ranking	Freq.	%
Technical training program, chemical, mechanical, and electrical technology	1	110	55.0
Liberal arts program for transfer to four-year college	2	49	24.5
Terminal professional program: nursing, lab technician, dental or medical technician, legal or medical secretary	3	23	11.5
No response		18	9.0
Totals		200	100.0

Question II-C asks "What type of student would you be?"

Ninety-one percent (182 out of 200) of the respondents said that they would be full-time day students at the college. Three percent (5 out of 200) indicated interest in being part-time evening students. Three percent (6 out of 200) indicated that they would like to be full-time evening students. Their responses are shown in Table 21.

Table 21
Planned Enrollment Status of Respondents

Planned enrollment	<u>n</u>	%
Full-time day student	182	91
Part-time evening student	5	3
Full-time evening student	6	3
No response	<u>7</u>	<u>3</u>
Totals	200	100

Question III asks high school seniors about which occupations they are most interested. The first choice was engineering--15.5%. Fourteen percent said medicine; 13% said mechanical technology; 7% said electrical technology, accounting, and aviation; 4.5% said petroleum engineering and business administration; 4% said nursing. Other occupations chosen by students were: architectural engineering, computer science, telecommunication, civil engineering, computer programming, dental/medical technology, chemical technology, and geology. Solar energy, space engineering, and industrial engineering were also chosen by high school students (see Table 22).

On Question IV, those students not interested in college even if a community college were available were asked to list their reasons. The results indicated that "not sure of future plans" was the reason given by 50% (100 out of 200) of the high school seniors. Another reason which was given was desire for a full-time job; 8% of the students (16 out of 200) said they could not attend college

Table 22

Occupations in Which High School Seniors Are Most
Interested Rank Ordered by Frequencies

Occupation	Freq.	%
Engineering	31	15.5
Medicine	28	14.0
Mechanical technology	27	13.5
Electrical technology	14	7.0
Accounting	14	7.0
Aviation	14	7.0
Petroleum engineering	9	4.5
Business administration	9	4.5
Nursing	8	4.0
Architectural engineering	7	3.5
Computer science	6	3.0
Law	6	3.0
Telecommunication	5	2.5
Teaching	5	2.5
Civil engineering	4	2.0
Computer programming	3	1.5
Dental/medical technology	3	1.5
Chemical technology	2	1.0
Geology	2	1.0
Solar energy	1	.5
Space engineering	1	.5
Industrial engineering	1	.5
Total	200	100.0

because they are supporting their families and want full-time jobs. Five percent (10 out of 200) of the students indicated that they were getting married. Five percent (10 out of 200) said they were entering the armed forces or police academy. Other reasons such as going into private business and leaving the country were given by 23% (47 out of 200). Nine percent (17 out of 200) of the responses were missing. Table 23 shows the results.

Table 23
Reasons for Not Attending a Community College

Reason	Freq.	%
Getting married	10	5
Want full-time job	16	8
Entering armed forces or police academy	10	5
Not sure of future plans	100	50
Other	47	23
No response	17	9
Total	200	100

Question V asked, "Do your parents want you to continue your education after high school?" Ninety-three percent (185 out of 200) of the respondents indicated that their parents want them to continue their education. Seven percent (15 out of 200) said that their parents do not want them to continue their education. The decision rule used for this question is that 50% or more positive

response indicates that parents are encouraging their students to continue their higher education. This support exceeds 50%. Therefore, there is support by student's parents for additional higher education institutions in the U.A.E.

Question VI-A asked students if they have been accepted for college, university, or some other form of post-high school education for the fall of 1982; 15% (29 out of 200) said that they have not been accepted. Those who have been accepted were asked to give names of institutions.

Question VI-B, the final question, asked high school seniors if they had considered attending a local university. An overwhelming proportion of the students, 55% (110 out of 200), indicated that they would seriously consider going to a local university within a commuting distance of their homes. The institution listed most frequently was: The United Arab Emirates University (the only institution of higher education in the country, it is located in Al-Ain and was opened in the fall of 1977).

Forty-three percent (86 out of 200) who did not consider a local university indicated their desire to study abroad, in countries such as the United States, Great Britain, and Canada.

Summary

Findings of the survey have been presented in this chapter. The opinions of leaders in business and industries were included regarding their training needs and suggestions for more adequate programs for their employees, particularly in occupations that

require more than a high school education. The final section examined high school students' educational plans and their readiness to support the community college idea.

Chapter V will provide a summary of the study and will present conclusions and implications which can be drawn from the data regarding the need for community colleges to be established in the U.A.E.

CHAPTER V

SUMMARY

Purpose of the Study

The purpose of this study was to conduct a needs analysis for a community college educational system that will be established in the U.A.E., which could provide flexible training programs to meet present and future needs of business and industry. Such an educational system would also provide community involvement in the post-secondary vocational-technical education.

To accomplish this study three steps were taken. First, literature was surveyed to obtain a historical overview of the development of community colleges, both in the United States and overseas. Second, 20 businesses and industries were surveyed to determine personnel needs of local business and industries in the U.A.E. Third, a local survey of high school seniors was conducted to determine the readiness of high school students in the U.A.E. to support a community college.

The survey, when conducted, was expected to provide answers to the following questions:

1. What are the educational plans of high school seniors in the U.A.E., and will they support a community college system?
2. What are the present and future personnel needs of local business and industries in the U.A.E., particularly in occupations

that require more than a high school education?

It was evident in the literature that in underdeveloped countries across the world, nations have imported the American idea of the community college to help them as they face new problems of modernization and growth. In many instances, the adoption of community college system in developing countries may help to strengthen them economically and to achieve a certain degree of success. It was found from the review of literature that the two-year college skills most needed, and in short supply in the developing countries, are: automobile mechanics, diesel mechanics, machinery and equipment maintenance and repair, secretarial and business, data processing, engineering technology, medical laboratory technicians, x-ray technology, and fire science.

The establishment of a modest, flexible, but growth-oriented, comprehensive community college system in many of the newer countries overseas, in this case the United Arab Emirates, could well complement and facilitate the rapid modernization and growth which they seek.

The Procedure

A survey of opinions was employed to test business, industry, and high school seniors' support for the idea of a community college development in the U.A.E. The survey population that was approached were leaders in business and industry, and high school seniors in the U.A.E.

The survey of opinions was conducted by a questionnaire that was adopted and modified from the questionnaire used by Evans and Neagley (1973) in their book, Planning and Developing Innovative Community Colleges. The instrument consists of two parts: Part I is the business-industry survey, and Part II is the high school students' survey. (See Appendix C, The Instruments.)

For the business and industry samples, a list of banks and factories was obtained from the Chamber of Commerce in the U.A.E. For the business sample, 10 presidents of banks were randomly selected from the list of 20 banks. For the industry sample, 10 presidents of factories were randomly selected from a list of 20 industrial factories. The presidents of banks and industries were interviewed by the writer.

On the targeted student population, a list of high schools was obtained from the Ministry of Education in the U.A.E. The writer selected four high schools which have the highest enrollments. Fifty high school seniors were selected from each high school. Two hundred copies of the survey questionnaire in Arabic language were administered, through high school principals in the U.A.E., to high school students.

The methods for analyzing the data were selected according to the research questions and the characteristics of the data gathered in the survey. Frequency distribution and percentages were used to report the data on both samples. The data obtained from the questionnaire and interviews were supplemented by additional comments from the respondents.

Discussion of the Findings

Responses for Questions 1, 2, 3, 5, 6-A, and 7-A in Part I of the questionnaire revealed the following results: (a) total number of employees in 10 banks was 2,369 persons, about 15% of the work force in banking; (b) a total number of employees in 10 industries was 2,825 persons, about 8% of the work force in industries; (c) 50% of business employees and 41.5% of industries employees were reported to be engaged in work which requires more than high school training but not necessarily a college degree; (d) a total of 75% of leaders in business and industries indicated an increased future employment for people with more than high school training; (e) a total of 100% of leaders in business and industries indicated that there would be opportunities for employment for people with 2 years of technical or semiprofessional training.

It was evident from the analysis of the responses that there were interests for training programs such as those offered by a community college. Items which were cited most frequently by business and industries were: (a) bookkeeping and accounting, (b) management development, (c) business management, and (d) secretarial and clerical practice. These findings agree with what Singer (1969) found to be most needed skills and in short supply in developing countries. Sixty percent of business and industry reported that their employees are spending a significant portion of their time at less than college graduate level work (see Table 13). This could imply that some of the employees are underemployed and could be

replaced by employees with 2 years of training beyond high school.

The results of high school seniors survey revealed mixed opinions about the community college. They support the idea and some are willing to attend if one was established. There was a good deal of uncertainty among students when they were asked to give their reasons for not attending a community college; 50% said that they were not sure of future plans. If a student enters a curriculum in automotive technology or nursing or law enforcement, specialization begins early in the student's life. However, in the usual lower-division transfer curriculum students can engage in academic exploration, and the pressures for decision making are not as early or insistent. Fifty-five percent of students gave more attention to a technical training program, only 12% showed a desire for a terminal professional program. This indicates that high school students are supporting the community college only for the convenience of having it near their home and they are interested in an academic transfer program more than occupational education. This raises the question of future enrollment for the proposed college.

The responses to the question of occupations in which high school seniors are most interested shows that fields such as engineering, medicine, accounting, aviation, and petroleum engineering were the most desired. What this might tend to indicate is that high school students were interested in a university parallel transfer program which is one of the basic functions of the community college.

Despite the limitations imposed by the educational needs of high school students, leaders of business and industry in the U.A.E. indicated their support for the idea of community college development.

Conclusions and Implications

Based on the findings of this study and supportive data, probable conclusions can be stated for business, industries, and high school students. In addition, the conclusions indicate further research suggestions. Several important conclusions were reached:

1. A growing interest in technical level training beyond high school was expressed by leaders in almost all areas of business and industries in this study.

2. There is evidence of sufficient interest among high school seniors for attending the community college for the purpose of transfer credit courses, but not in terminal professional programs. This interest varied from a high of 55% interest in a technical training program to a low of 12% interest in a terminal professional program.

3. There is evidence that many high school seniors are interested in a community college because it is close to home and a place to spend a few years in a transfer program.

Although there was support for the community college idea by business, industries, and high school seniors, the expectations varied among the two groups. From business and industries various needs were identified, such needs as severe shortage of skilled and regular supply of the required manpower and insufficiency of

technical and vocational programs in the U.A.E., many of which can most appropriately be conducted by community colleges. High school seniors have expressed their desires to attend the community colleges, but their interest was mainly in technical training and liberal arts program for transfer to a four-year college. The majority of 91% prefer to be a full-time day student. This may imply that the proposed community colleges cannot rely or expect their student body to come from high schools only. Other student population targets should include the following:

1. Students preparing to transfer to a four-year college.
2. Those needing preparation for job entry.
3. Older persons having interests in utilization of leisure time or skill improvement.
4. Unemployed individuals.
5. Business and industry employees.

Based on the above conclusions of the study, the two-year community college as an institution of higher education is found to be supported as postsecondary institutions in the U.A.E. but with the limitation previously stated.

These community colleges can provide innumerable benefits in resolving the major problem facing government, business, and industry in the U.A.E. in regard to middle level manpower needs. It is an institution that can make it possible for the U.A.E. to educate the many as well as the few in needed skills. Community colleges can extend and broaden equality of educational opportunity beyond the secondary school to people in the U.A.E. These colleges,

through occupational or postsecondary vocational-technical education programs, can meet the manpower training requirements of the U.A.E.'s rapidly expanding and growing economy. They can also relieve enrollment pressures on the U.A.E. University in the future. Business and industry in the U.A.E. identified very strongly the need for more vocational-technical educational institutions and programs more than academic-oriented educational institutions and programs.

Recommendations for Further Research

In the opinion of the investigator, further research remains to be done in regard to planning a community college educational system for the U.A.E. Johnson (1964) noted that the task of starting a community college is complex and difficult. The establishment process involves philosophy and finance, personnel and plant, curriculum and community. Evans and Neagley (1973) noted that since by definition the public community college grows out of the basic community it will ultimately serve, the people in the area must be convinced of the need to develop and support their own college before it can become a reality. And so a needs study was the purpose of this study as the first step in possibly organizing a new community college. Other components of community college study must be done, areas such as regional population projections for areas to be served by potential community college in the U.A.E. The population growth of an area is one of the prime predictions in assessing the need for a comprehensive community college. A minimum population must also

be assured to provide a stable student body for the operation of a new college. Another component of a community college study which must be done is a regional resources and development survey. This survey can be compiled from information that should be available from the Emirate government, the Ministry of Planning, and the Chamber of Commerce in the U.A.E. The character of the Emirate (state) and its major developmental trends should be noted, such as significant changes in land use from residential, business, and industrial applications.

Further studies should be undertaken to determine why high school seniors are interested in academic programs rather than occupational programs.

Several specific questions might be answered by further study:

Why do only 12% of high school seniors in the U.A.E. choose a terminal professional program, such as nursing, lab technician, and dental and medical technician as shown in this study (see Table 20).

Should the community college rely upon school students for its student population, or should it look for other segments of the population? Older students, senior citizens, sons and daughters of administrators and diplomats in the U.A.E., and students from other countries in the region are a target for the community college population.

APPENDICES

Appendix A

Questions and Answers Concerning Community Colleges

What Is a Community College?

A community college is a comprehensive two-year institution of higher education devoted to serving educational needs of the community in which it is located. Some of the several abridged characteristics of a community college include:

- Free tuition to students.
- Location within commuting distance of the students.
- Multiple curriculum offerings.
- Local initiative or federal control, and responsibility.
- State financial and technical assistance to the schools.

A community college is not a truncated university. As an open system, it survives by maintaining regular contact and very free, easy communication with the community and its needs. It also has specific duties to accomplish in the nation.

Why Were Community Colleges Established First of All?

Community colleges were initiated in the United States and are a product of the 20th century. They have flourished because:

1. Many young people have been denied access into the walls of restricted universities and, as a result, never had a chance to explore their respective individual talents and full humanity.
2. There was a desire to establish an opportunity for short courses and 2-year terminal programs of post-high school education.
3. There was a desire to extend upward the public secondary school to include a program of education similar to the first 2

years of a university college.

4. There was a need to train skilled workers and technicians for jobs in or near local communities.

5. There was an urgent need for a community institution where adults, regardless of age, could attend to improve themselves and their community through a carefully planned, suitable course of study.

6. It has been found to be less expensive to offer the first 2 years of university college work in a community college than in a four-year university college.

Who Would Attend the Community College?

1. Those who wish to prepare themselves to enter the more common occupations in the community.

2. Those who wish to complete their general education before entering employment.

3. Already employed youth or adults who feel the need for further education in order to upgrade their positions or for a greater understanding of the society in which they live.

4. Those who wish to continue in four-year university colleges or professional schools.

5. The youth and adults who desire vocational and educational guidance.

What Broad Courses Are Offered in Community Colleges?

1. Preparatory education. A three-year senior high school program for those who come from junior high school. The content would be condensed curriculum of an accredited senior high school. Students who graduate from this program may apply for vocational, technical, academic, general, or adult education programs, as they wish.

Appendix B

Certified Letter of Introduction



113
Western Michigan University
Kalamazoo, Michigan 49008

*College of Education
Department of
Educational Leadership*

July 2, 1982

United Arab Emirates
Ministry of Education and Youth
P.O. Box 3692

Dear Sirs:

This is to certify that Mr. Hussain M. Joma, a doctoral student majoring in administration of higher education in the Department of Educational Leadership at Western Michigan University, has completed all his doctoral courses successfully and completed his comprehensive examination. His dissertation committee has approved the following topic for his study: "A Need Analysis Study for the establishment of a Community College Educational System in the United Arab Emirates."

Hussain has reached the point where he is required to collect his data.

Hussain will gather the data in regards to the following:

1. Business - industry survey to determine personnel needs of local business and industry in the United Arab Emirates.
2. To determine the plans and/or expectations on the part of high school seniors to support a community college to be established in the United Arab Emirates.

Sincerely,

Richard E. Munsterman, Ph.D.
Associate Professor
Committee Chairperson

REM:c

Appendix C

Survey Instrument

QUESTIONNAIRE
(PART I)

Business-Industry Survey

Name of Establishment or Firm _____
Kind of Business _____ Person Reporting _____

This survey is being made to help determine the need for a community college in the United Arab Emirates. Its purpose is to secure information on the requirements of business, industry, and community services for trained people and the type of training that will best prepare them for these positions. You may rest assured that the information you give us will be confidential. Neither your firm nor specific information regarding it will be identified in any way in the reports. Your cooperation in answering this questionnaire is greatly appreciated.

1. What is your average number of regular employees? _____
2. What percentage of your employees are engaged in work which requires more than high school training but not necessarily a college degree? _____
3. Will the proportion of your employees requiring training beyond high school increase during the next ten years?
_____ Yes _____ No _____ Don't Know
4. Would there be opportunities for employment, in your organization, for people with two years of technical or semi-professional training beyond the high school? _____ Yes _____ No
5. If "Yes," would you check the types of training in the list below which, if offered by a local community college would be of value to your firm or organization.

- _____ 1. Drafting and Photocopying
- _____ 2. Management, Development
- _____ 3. Labor-Management Relations
- _____ 4. Instrumentation and Plant Control
- _____ 5. Laboratory Technician
- _____ 6. Metallurgy
- _____ 7. Business Management
- _____ 8. Agriculture (Economics, Engineering, etc.)
- _____ 9. Building Trades
- _____ 10. Foreign Language
- _____ 11. Economics and Government
- _____ 12. Arabic, English and Speech
- _____ 13. Mathematics
- _____ 14. Literature and History

- _____ 15. Industrial Chemistry
- _____ 16. Inspection and Quality Control
- _____ 17. Engineering Aides
- _____ 18. Mental Hygiene
- _____ 19. Advertising
- _____ 20. Product Design
- _____ 21. Purchasing
- _____ 22. Law Enforcement and Related Occupations
- _____ 23. Photographic Processes
- _____ 24. Applied Science
- _____ 25. Applied Mathematics
- _____ 26. Machine Technology
- _____ 27. Welding
- _____ 28. Retailing--Merchandising
- _____ 29. Plant Protection
- _____ 30. Secretarial
- _____ 31. Clerical Practice
- _____ 32. Business Machines
- _____ 33. Sales Representatives
- _____ 34. Bookkeeping and Accounting
- _____ 35. Air Conditioning and Refrigeration
- _____ 36. Electronics
- _____ 37. Electric Wiring and Motors
- _____ 38. Machine Shop Practice
- _____ 39. Technical Writing and Reporting
- _____ 40. Apprentice Training (Tool and Die, etc.)
- _____ 41. Physics
- _____ 42. Mechanics (auto, diesel)

- 6-A. Are some of your college graduate employees spending a significant portion of their time at less than college graduate level work? _____Yes _____No
- 6-B. If so, could employees having two years of training beyond high school replace some of the college graduates in your organization? _____Yes _____No
- 7-A. Is there an organized training program in your company or organization for less than college graduate level employees? _____Yes _____No
- 7-B. If so, could it be modified _____, or eliminated _____, by programs in a community college?
8. Do existing educational facilities in the area meet the employment needs of your organization for less than college graduate level employees? _____Yes _____No

QUESTIONNAIRE
(PART II)

Community College Survey Questionnaire

This survey of high school students is part of a study to determine the post-high school educational needs of the United Arab Emirates.

DIRECTIONS: 1. Please answer all questions and statements.
DIRECTIONS: 2. Check all answers that apply to you. You may need to check more than one space to answer some of the questions.

I. If a two-year community college were available in the United Arab Emirates and in your hometown, would you be likely to attend? _____ Yes _____ No

II. If you answer "yes" to #I, please answer these questions:

A. Why would you choose to attend the community college?

1. To live at home _____
2. To keep a job while studying _____
3. To be near friends _____
4. To improve scholastic record _____
5. Other (Please explain) _____

B. In what type program would you be most likely to enroll?

1. Liberal arts program for transfer to a four-year college _____
2. Technical training program. Examples: Chemical, mechanical, and electrical technology, etc. _____
3. Terminal professional program. Examples: Nursing, lab technician, dental or medical technician, legal or medical secretary, etc. _____

C. Which type of student would you be?

1. Full-time day student _____
2. Part-time evening student _____
3. Full-time evening student _____

III. Please indicate the occupation in which you are:

- A. Most interested _____
- B. Somewhat interested _____

- IV. If you would not go to college (even if a community college were available), please indicate your reason.
- A. Getting married _____
 - B. Want full-time job _____
 - C. Entering armed forces or police academy _____
 - D. Not sure of future plans _____
 - E. Other (please explain) _____

- V. Do your parents want you to continue your education after high school? _____ Yes _____ No
- VI. A. Have you been accepted for university or some other form of post-high school education for the fall of 1982?
_____ Yes _____ No. If yes, give name of institution.

- B. Did you seriously consider one of the colleges or universities located within commuting distance of your home?
_____ Yes _____ No. If yes, which one? _____

If no, why not? _____

Appendix D

U.A.E. Federal Budgets, 1979-1980

UAE Federal Budgets 1979-1980

(Dh)*
Expenditure

Department or Ministry	Current Expenditure	1979 Development	Total	Current Expenditure	1980 Development	Total
President's Office, Protocol, Prime Minister, Deputy Prime Ministers, Ministers of State for Supreme Council and Cabinet Affairs	59,271,000	5,000	59,276,000	78,385,900	6,000,000	84,385,900
Federal National Council	11,629,000	38,000	11,667,000	13,800,000	1,600,000	15,400,000
Audit Department	18,425,000	—	18,425,000	27,479,700	500,000	27,979,700
Defence	3,751,011,000	—	3,751,011,000	4,500,000,000	—	4,500,000,000
Interior	549,248,000	30,384,000	579,632,000	1,224,821,100	157,158,000	1,382,077,100
Justice, Islamic Affairs & Awqaf	121,021,000	13,832,000	134,853,000	160,336,000	3,943,000	199,786,000
Finance & Industry	30,686,000	495,434,000	526,120,000	53,659,700	3,000,000	56,659,700
Planning	15,810,000	22,000	15,832,000	32,425,400	1,600,000	34,025,400
Petroleum & Mineral Resources	16,838,000	2,521,000	19,359,000	18,017,100	800,000	18,817,100
Economy & Trade	8,054,000	—	8,054,000	11,788,800	—	11,788,800
Foreign Affairs	130,298,000	—	130,298,000	177,082,400	75,500,000	252,582,400
Information & Culture	168,207,000	12,349,000	180,556,000	209,945,100	61,650,000	271,595,100
Education & Youth	859,674,000	148,201,000	1,007,875,000	1,081,393,200	306,625,000	1,388,018,200
Health	671,702,000	101,559,000	773,261,000	1,071,627,600	243,050,000	1,314,677,600
Public Works & Housing	39,639,000	83,709,000	123,348,000	53,855,100	352,600,000	406,455,100
Communications	81,314,000	93,443,000	174,757,000	73,216,800	234,423,000	307,639,800
Electricity & Water	156,482,000	58,254,000	214,736,000	291,322,300	244,547,000	535,869,300
Agriculture & Fisheries	55,457,000	47,786,000	103,243,000	79,980,800	170,563,000	250,543,800
Labour & Social Affairs	291,542,000	685,000	292,227,000	307,659,000	3,950,000	311,609,000
Total	7,016,206,000	1,088,000,000	8,104,206,000	9,466,936,000	1,902,964,000	11,369,900,000
Surplus for General Expenditure						
Investments			1,611,487,900	4,602,416,000	—	4,602,416,000
			9,715,693,900			15,972,316,000

*\$1 = Dh 3.6900

Source:

Appendix E

Enrollment of High School Students in Each Emirate in the U.A.E.

Enrollment of High School Students in
Each Emirate in the U.A.E.

Emirate	High school students
Abu Dhabi	2,161
Dubai	1,775
Sharjah	1,754
Ajman	293
Umm al Qiwain	114
Ras al Khaima	697
Fujeira	100
Total	6,894

Source. U.A.E. Ministry of Education and Youth, 1980a, p. 238.

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