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TECHNICAL/VOCATIONAL SECONDARY EDUCATION PLANNING IN IRAQ

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To my Father.. To my Mother,

whom I owe a lot more than I can ever be able to
repay for their love, care, support and patience.

Contents

INTRODUCTION	1
1 TECHNICAL/VOCATIONAL EDUCATION DEBATE AND THE IRAQI EXPERIENCE	39
1.1 The Controversy of the 1960s	43
1.2 Technical and Vocational Education and Its Forms	45
1.3 The Current Debate	47
1.4 Patterns of Vocational Education	51
1.4.1 Parallel Vocationalised systems:	52
1.4.2 Diversification of the Whole Formal Educational System:	53
1.4.3 Vocationalising Components of a Core Curriculum:	54
1.4.4 Establishing Non-Formal Systems:	55
1.5 The Iraqi Experience of Technical and Vocational Education	58

2	IRAQ: COUNTRY, SOCIETY AND ECONOMY	64
2.1	The Country's Geography and Topography	65
2.2	Demographic Characteristics of the Iraqi Population	66
2.2.1	Population Growth:	67
2.2.2	Population Structure	72
2.2.3	Population Settlements and Uneven distribution of the Inhabitants	75
2.3	The Economic Situation of Iraq	76
2.4	Economic Development Planning	77
2.4.1	Oil Resources	79
2.4.2	Agriculture	82
2.4.3	Industry	85
2.5	Iraqi National Workforce	88
2.5.1	The Educational Status of the Population and the Labour Market	93
2.5.2	Problems facing the Iraqi Labour Market	100
2.6	Conclusion	101
3	AN ANALYSIS OF THE EXISTING IRAQI EDUCATION SYSTEM	106
3.1	The Nature of Education in Iraq	106
3.2	Principles	108

3.3	Aims and Priorities of Education	110
3.4	The System of Administration	113
3.5	Education Financing	118
3.6	Curricula	122
3.7	The Examination System	126
3.8	The Educational Ladder	129
3.8.1	Pre-school Education	131
3.8.2	Primary Education	133
3.9	Secondary Education	139
3.9.1	Vocational Secondary Education	143
3.9.2	Higher Education	144
3.9.2.1	University Education	144
3.9.2.2	Higher Technical Institutes	145
3.9.3	Graduate Study	146
3.10	Teacher Training	148
3.11	Development and Growth of Non-Formal Education	153
3.11.1	Adult Literacy Education	154
3.11.2	Accelerated Education Schools	158
3.11.3	Special Centres	159
3.11.4	Education for Rural Development	160
3.11.5	Special Education Classes	160
3.12	Problems and Difficulties of the Education System	161

3.13	Conclusion	163
4	TECHNICAL/VOCATIONAL EDUCATION ANTECEDENTS IN IRAQ	171
4.1	Technical/Vocational Education prior to 1534	174
4.2	Technical/Vocational Education during the Ottoman Period 1534-1914:	176
4.3	Technical/Vocational Education under British Rule and Mandate (1914-1932):	178
4.4	Technical/Vocational Education during The Independent Iraq 1932-1958	182
4.5	Technical/Vocational Education during the Republican Era 1958-1968	192
4.5.1	The Iraqi Petroleum Company Training Scheme	195
4.5.2	The Iraqi Railway Apprentice School	196
4.6	Conclusion	197
5	EVALUATION OF THE CURRENT TECHNICAL/VOCATIONAL SECONDARY EDUCATION SYSTEM IN IRAQ	202

5.1	Stated Aims of Technical/Vocational Secondary Education in Iraq	204
5.2	Selection	208
5.3	Technical/Vocational Secondary Education Administration	210
5.4	Technical/Vocational Secondary Education Finance	215
5.5	Curricula and Programmes of Study	218
5.6	Students	226
5.7	Teaching and Training Staff	229
5.8	Male/Female Contribution	236
5.9	The Built Environment	241
5.10	Equipment and Materials	244
5.11	Educational Guidance	245
5.12	Technical/Vocational Secondary Education Problems in Iraq	247
5.12.1	The Social Attitude to Manual Work	249
5.12.2	Technical/Vocational Secondary Education in relation to Development Needs	250

5.12.3	Technical/Vocational Secondary Education and the Labour Market	251
5.12.4	Students' Attitudes Towards Technical/Vocational Secondary Education	252
5.12.5	Insufficient Number of Well-Qualified Teaching and Training Staff	254
5.12.6	Poor Design of Technical/Vocational Secondary Education School Curricula	256
5.13	Conclusion	258
6	SUMMARY, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH	265
6.1	Summary	265
6.2	Purpose of the Study	267
6.3	Methods of Study	268
6.4	Summary of Findings	268
6.5	Conclusions	269
6.6	Implications	273
6.7	Suggestions for Further Research	275

BIBLIOGRAPHY	275
Appendix 1	299
UNESCO's Revised Recommendation concerning Technical & Vocational Education	299
Appendix 2	322
English Glossary	322
Appendix 3	340
Arabic Glossary	340

LIST OF TABLES

Table 2.1	Iraq's Physiographic Regions and their Mean Annual Rainfall	67
Table 2.2	Population Growth in Iraq over the period 1947-1987	69
Table 2.3	Demographic Indicators in Iraq for the periods 1973-1975 and 1980-1985	70
Table 2.4	Density of Population in Iraqi Provinces in 1977	72
Table 2.5	Oil Revenues in Arab Member States of OPEC for the period between 1973-1984 (millions of U.S. dollars)	81
Table 2.6	The Middle East Agricultural Imports 1983-1985 (millions of U.S. dollars)	85
Table 2.7	Iraq's Gross Domestic Product in 1976 (US \$ million at current prices)	89
Table 2.8	Iraqi Employment by Economic Sector: 1968 and 1977(thousands)	90
Table 2.9	Economically Active People by Economic Sector and Sex in 1977	92
Table 2.10	Literacy Rates of National Populations in Major Arab Countries in 1970 & 1980	94
Table 2.11	Educational Attainment of the Population of Iraq in 1977 in rural/urban areas (aged 10+)	95
Table 2.12	School Enrolments in Iraq (1984/1985)	98
Table 3.1	Recurrent National and Educational Budget for the period 1968-1985 in Iraqi Dinars	122
Table 3.2	The Daily Programme of Pre-school Education in Iraq since the Academic Year 1981-82	134
Table 3.3	Development and Growth of Iraqi Pre-School Education during the period 1968-1985 in Selected Years	135
Table 3.4	Weekly Time Table for Primary Schools in Iraq in 1984-85	139
Table 3.5	Primary Education Provision in Iraq during the period of 1971-72 to 1984-85	141
Table 3.6	Intermediate Secondary School Curriculum in Iraq in 1984/1985	143

Table 3.7	Academic Preparatory Secondary School Curriculum in Iraq in 1984/1985	144
Table 3.8	The Number of Iraqi Students in Britain for the period between 1980-1984	149
Table 3.9	The Study Plan for Teacher Training Institutes (Second Year/General Section)	152
Table 3.10	Time Ceiling for Eradication of Illiteracy amongst target groups 1978-1980	157
Table 4.1	Technical School Enrolments in Iraq (1920/21-1931/32)	182
Table 4.2	The Weekly Study Programme of the Baghdad Commercial Secondary School in 1945/1946	189
Table 4.3	Number of Students in Technical/Vocational Institutions in Iraq 1939/1940-1957/1958	191
Table 4.4	Technical/Vocational Education & National Education Expenditure in Iraq during the period (1951-1958)	193
Table 4.5	Growth in the number of students, teachers and schools at the secondary stage in Iraq (1957/58-1967/68)	195
Table 5.1	Vocational Secondary Education Budget by Type of Education for Selected Years in Iraqi Dinars	218
Table 5.2	The Study Plan for Veterinary Agricultural Education in Iraq in 1984/1985	221
Table 5.3	The Study Plan for Technical/Vocational Industrial Secondary Education in Iraq in 1984/1985	222
Table 5.4	The Study Plan for Technical/Vocational Commercial Secondary Education in Iraq in 1984/1985	223
Table 5.5	Electronics Secondary Electrical Technical School Curriculum in Iraq in 1979/80	225
Table 5.6	Number of Students in Technical/Vocational Secondary Schools in Iraq in Selected Years	227
Table 5.7	Growth in the Number of Students in both General Academic & Technical/Vocational Secondary Schools in Iraq during the period 1973/74 to 1984/85	228
Table 5.8	Number of Students in Iraqi Post-Secondary	233

Technical Institutes in 1983/84 by sex and
type of Institute

Table 5.9	The Growth in the Number of Technical/Vocational Secondary Education Teaching Staff 1973/74-1984/85	235
Table 5.10	Number of Technical/Vocational Secondary Education Teachers in Iraq in 1984/85 and their qualifications	236
Table 5.11	Number of Male and Female Students in Technical/Vocational Secondary Schools in Iraq between 1973/74-1984/85	238
Table 5.12	Number and Proportion of Male/Female Students in each Type of Technical/Vocational School 1980/81 & 1984/85	240
Table 5.13	Females' Contribution to the Iraqi Technical/Vocational Secondary Education Teaching Staff 1980/81 & 1984/85	240
Table 5.14	The Status of Iraqi Technical/Vocational Secondary School Buildings in 1984/85	243
Table 5.15	The Number of Students in Technical/Vocational Schools & Secondary Academic Schools in Arab Gulf Countries	253

LIST OF DIAGRAMS

Diagram 2.1	Population Pyramid in Iraq (1980)	75
Diagram 3.1	Organisational Structure of the Ministry of Education in Iraq	117
Diagram 3.2	Organisational Structure of the Ministry of Higher Education and Scientific Research in Iraq	119
Diagram 3.3	National Machinery for the Development and Preparation of Curricula in Iraq	126
Diagram 3.4	The Educational Ladder in Iraq: according to Age and Grade	132
Diagram 4.1	The Iraqi Secular Schooling System During the Ottoman Era	178
Diagram 5.1	The Administrative Structure of the Foundation for Vocational Secondary Education in Iraq	213

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Abstract

The United Nations Educational, Scientific and Cultural Organisation (UNESCO) has proposed that economic growth in developing countries can best be achieved through a good delivery of technical/vocational education targeted to the specific needs of the country and its economy.

In Iraq, the state regards technical/vocational education within the secondary system of education as the main source of the middle-rank skilled labour needed to satisfy the requirements of the economy. This study analyses the development of technical/vocational secondary education policies in Iraq. It seeks to examine this system in relation to the country's geopolitical, economic, social and cultural circumstances.

The first chapter considers the arguments for and against technical and vocational education.

The second chapter is concerned with Iraq's geopolitical position and examines the structure of its society. It will also examine the evolution and development of the Iraqi economy, with the main focus on the period after 1968.

The third chapter is an analysis of the existing Iraqi educational system, including principles, aims and priorities, levels of education and quantitative growth, education finance and administration, curriculum and examination system.

The fourth chapter reviews the nature of and growing need for technical and vocational education throughout the history of the country.

The fifth chapter evaluates the existing system of technical and vocational education by firstly, examining its characteristics and then the problems facing it.

Implications for planning and the reform of technical and vocational education in Iraq emerge from the conclusions and suggestions which constitute the final part.

INTRODUCTION

- Statement of the Problem and its Importance
- Aims of the Study
- Significance of the study and the Need for it
- Limitations of the Study
- Sources of Data
- Structure of the Study
- Definitions of Terms Used

INTRODUCTION

Although learning in a general sense begins with birth (or before birth) and continues throughout most of the lifetime various definitions can be found for the word 'education'. Education has been defined by Hills as "a process of learning aimed at equipping people with knowledge and skills"¹.

Lawrence Cremin has defined education as "purposeful activities directed toward learning"².

However, according to UNESCO, education is seen as "organised and sustained instruction designed to communicate a combination of knowledge, skills and understanding valuable for all the activities of life"³.

Hughes in his book "Education: Some Fundamental Problems" has offered two definitions of education. First, a broad one comprising all the impacts to which the person is continually subjected by the surrounding social, physical and biological environments. Education is also defined in the narrower sense of the specific organized influences from the teachers in schools and places of further education. Hence, many responses are given to the question of the definition of education due to its nature in involving everyone who touches the person's life in many ways and also due to their point of view, their interest and their knowledge⁴.

In most societies education has two major tasks, passing knowledge from one generation to the next and providing people, especially young ones, with skills which qualify them to

examine, identify and thus question. It is also widely accepted that there are particular general areas of knowledge and skills that everyone should have, including literacy and numeracy. However, beyond that and because of the immensity of human knowledge specialisation is imperative⁵.

From these views and for the purpose of this study we take the suggestion that education is a process of learning targetted at equipping people (especially young ones) with knowledge and skills.

Education will here be defined to include all types of schooling and training programmes. Thus, schooling is only a part of education and what is learned at school is both more and less than planned discipline⁶.

Furthermore, whatever else may be, the symbol of a successful schooling system should be both the utilization of skills gained in the schools and the learning power which is important not only for the development of individual skills at the post-school stage but also for adapting to changes in individual situations. Utility, versatility and learning become very important in a world of change to both individual career progress and economic development in a society in large.⁷

The dualism concerning education versus training is so complicated that no clear line can be made between them. Traditionally, education has been used to refer to intellectual activities taking place in a school frame, whilst training has been referred to other (usually) manual activities often taking place in a nonschool context. However, these traditional

differentiations have lost their credibility since all types of technical and vocational setting for work roles involve physical and mental development.

Some have argued that education deals to a high degree with knowledge acquisition whilst training deals mainly with knowledge application⁸.

Hence, factors of both could be found within one learning system. Thomas & Page distinguish between education and training by describing education as "the total process developing human ability and behaviour" and describing training as "a systematic practice in the performance of a skill"⁹.

Thus, it is possible to argue that training is different from education because it is primarily a modifying process aimed at preparing people for jobs, assisting them to improve their performance and utilise their potentials to the full¹⁰.

Although vocational education has existed from the time when parents first taught their children the skills of the hunting and gathering bands of primitive days, the vocational education movement did not become a reality until the late 19th century¹¹.

It was only in the 19th century that the development and growth of industrial enterprises and formal schooling for vocations became a reality. This brought a new era of human existence, altering both the structure of society and the organization of the education system.

"In an era characterized by rapid technological change, urbanization and shifts in the sectoral and occupational distribution of the labour force, the skills of the fathers do not meet the needs of the sons" ¹²

For the above reasons education and training have become increasingly specialized on the one hand and on the other hand the content of education has become increasingly general to put the emphasis on literary rather than on specific occupational skills. Hence, by the turn of the century, attempts were made at technical and vocational education in advanced countries: for example in England by the Board of Trade, in France by the Ministry of Agriculture and in Germany through its secondary educational system to include technical subjects. Education at the secondary stage was directed mainly at preparing students for university entrance rather than preparing them for employment upon leaving school.

Vocational education can be defined as "education that is oriented towards employment, or that makes people more employable in one group of occupations than another" ¹³.

Unlike general education, vocational education is referred to as a single point of reference: work. Since vocational education derives its objectives from the world of work, in principle changes in this world should bring about changes in vocational education. However, in practice this relationship is not that simple.

Vocational education or training as the process of preparing people for the world of work can be interpreted broadly or narrowly. In broad terms, "all education is vocational in so far as it encourages qualities, attitudes, knowledge,

understanding and competences which are the necessary foundation for employment". On the other hand in its narrowest sense, vocational education "refers to training for a specific vocational area"¹⁴.

Distinctions have been made between vocational education and vocational training. Whilst vocational education is provided as a part of the country's educational system in schools, colleges and universities; vocational training is regarded as preparation for work provided for and in industry¹⁵.

The vocationalization concept and the dilemma about whether to vocationalize or not to vocationalize has existed for a long time, especially in developing countries. The origin of all attempts to vocationalise education in both developed and developing countries derives from these two reasons:

First, any economy requires a certain type of technical/vocational skills to operate efficiently, and unless such skills are available, the country and its productivity will fall behind technologically and economically.

Second, to prevent the economy from the backwardness which resulted from the above ill effects, technical and vocational education should be expanded to enhance the supply of workers in the crucial jobs¹⁶.

In a developing country such as India for example, the attempt to vocationalise education goes back to the Wood's Despatch era (1854) when there was a cry for the introduction of occupational schooling. These arguments have been advanced in favour of

vocationalization during both the pre-independence period in developing countries and since. The colonial rulers referred to them as measures "to stabilize traditional agricultural life and to curb educational over-production, the tendency of individuals from rural areas to continue in school past the capacity of labour markets to absorb them". In addition, during the period since independence arguments in favour of vocational education in developing countries have been advanced and supported by leaders such as Gandhi, Mao and Nyerere¹⁷.

Vocational education has had a strong support from leading social scientists like Thomas Balogh who stated as his argument: "As a purposive factor for rural socio-economic prosperity and progress, education must be technical, vocational and democratic"¹⁸.

The objectives and position of technical and vocational education were stated in paragraph 7 of the recommendation adopted by the General Conference of the United Nations Educational, Scientific and Cultural Organisation (UNESCO) in 1962:

"Technical and vocational education should be an integral part of an overall system of education and, as such, due consideration should be given to its cultural content. It should do more than train an individual for a given occupation by providing the persons concerned with the necessary skills and theoretical knowledge; it should also, in conjunction with general education, provide for the development of personality and character and foster the capacity for understanding, judgement, self-expression and adaptation to varying environments. To this end, the cultural content of technical and vocational education should be set at such a level that the inevitable specialization in technical and vocational education does not stifle broader interests"¹⁹.

Vocational education was believed to solve the educational problems in the developing economies which could be achieved by diversifying the secondary education curriculum. This presumption was based on the following relatively untested hypotheses²⁰:

1. Occupational differentiation in the developing economies needs secondary school graduates with different skills to form links between differentiation of education and educational diversification. Thus, diversified secondary education leads to a closer relationship between school and work.
2. Vocational education contributes to the goal of economic progress by: a.minimizing unemployment through employment in pre-vocational specialization and self-employment fields; b. engendering a higher propensity for labour force participation at the end of secondary schooling; and c.improving productivity to correspond with higher graduate earning results.
3. Vocational education is also regarded as a means of promoting equity with a rural bias to serve the needs of relatively poor people as well as the answer to enrolment problems by providing a more interesting job-relevant curriculum and hence stop students from dropping-out without occupational skills.

However, as the evidence from the experience of economies reveals that not all these hypotheses were true, Foster in (1965) and Blaug (1973) have rejected the vocational school myth

and called it "vocational school fallacy". They argued that vocationalization cannot be a remedy for educated unemployment: "it cannot prepare students for specific occupations and reduce mismatches between education and the labour market; academic streams promise higher wages than vocational streams; accordingly demand for vocational education may not exist, and Say's law that supply creates its own demand may not work"²¹.

Moreover, Blaug has argued that vocational education may create "a sense of second class citizenship among both teachers and taught which militates against effective learning"²².

Despite the clear and strong arguments of both Foster, Blaug and others the vocationalisation issue refuses to die and international organisations such as UNESCO and the World Bank have played a main role in reviving and furthering the issue of vocationalisation. In 1974 a revised recommendation on technical and vocational education was issued by UNESCO which regarded technical and vocational education as an integral part of general education, a way of preparing for an occupational field, and as a means to lift the barriers between levels and areas of education, between education and employment and between school and society²³.

The World bank has attacked the traditional academic school curricula for being excessively theoretical and insufficiently responsive to attitudes, manual, social and leadership skills. It has called for increased vocationalization of academic schools curricula and has invested 20% of its total lending budget in diversified secondary schools of education during the last 30 years²⁴.

Today, the extension of technical and vocational subjects and the increasingly higher degrees of specialization required by industry, have brought about various problems which are met characteristically by each country according to its traditional belief and practice. Among those problems are:

First, the problem of the relationship between occupational training and general education. In other words how much general education and of what kind should the trainee have?

The second problem is how soon specialisation should begin?

The third problem is social. How to persuade the right people to take up technical work?

Finally, there is also the problem arising from the rapidly changing needs of the world of work in employing new and more complicated techniques in the industry²⁵.

Today, after a series of evaluations in both advanced and developing countries about technical and vocational education the knowledge is extensive and the evidence is strong in showing that: "vocational education is expensive; ..the incremental social benefits of vocational education may well not out-weigh the costs; .. vocational graduates do not always follow the career for which they were trained; ..it is impossible to predict the number of vocational graduates needed by the economy; ..substitution possibilities between vocational and other skills are high; ..vocational education is more efficient and successful when provided near the place of employment; ..and finally vocational education is more efficient and adequate when privately financed"²⁶.

Despite all the above arguments against vocational education the call for it is strong as Grubb, (1985) has stated in his article "The Convergence of Educational System and the role of Vocationalism" because:

"it appeals to many groups, especially in its more general forms. It gains support from students in search of jobs; businesses in search of trained workers; educators in search of students and an important social function; and politicians in search of popular reforms that appear to address social and economic problems. The power of vocationalism also comes from its ability to serve several contradictory roles of education simultaneously. It promises to reward individual students while still addressing more collective goals like unemployment and national development, and to use public resources in support of collective goals while still mobilizing them for the private ends of businesses and individual students. It can prepare students for an increasingly differentiated set of occupations while still allowing a common core of knowledge and values. It promises equality of opportunity through education within unequal societies where the pressures to reproduce inequality are even greater. Given a continuing dualism in thinking to serve simultaneously the 'hand' and the 'mind', the practical and the abstract, the vocational and the academic"₂₇.

As a matter of fact few have argued to stop providing vocational training. Earlier critics like Foster, (1965), Blaug, (1973) together with recent researchers like Psacharopoulos and Loxley have realized the importance of vocational training but they all argued that it should be provided outside the formal education system, in other words employment based.

However, whether vocational education is provided within the formal institutions or outside them it requires careful planning. Hence, successful vocational education requires the following conditions:²⁸

First, because vocational education can be costly to run, sufficient resources should be provided. If not, what the vocational schools will provide would be neither

vocational nor general.

Second, vocational school teachers should be well trained teachers with experience in industry.

Thirdly, the equipment of the vocational schools should be relevant to the economy in question, that means neither out-moded nor too advanced.

Finally, vocational education ought not to promote inequalities within the educational system. This may lead to a need to establish a connection with higher education.

However, despite the above unified broad requirements and objectives that have to be met for the successful development of technical and vocational education in any country, the national frameworks for policy, planning and administration of technical and vocational education vary from one country to another. It varies from those which have been in force for over 50 years to others which have not had their first or second birthday. UNESCO's comparative study of policy, planning and management in technical and vocational education has stated that:

"the structure in place for policy-making, planning and administration in technical and vocational education .. vary greatly in type and complexity from country to country, depending on the levels of development, the size of the country, whether its general governmental structure is centralized or follows a federal pattern, and the historical development of its educational system"²⁹.

Thus, according to UNESCO the criteria to be used in examining any technical and vocational education system in any specific country involves the study of the system in relation to the country's own historical, social, economic, cultural and

geographical needs and its relevancy to that particular country. In other words UNESCO's criteria to judge any technical and vocational education system in any specific country is: "do they or will they work, do they or will they hold up for this particular country and society"³⁰.

In the light of the evidence from the International Organisations, especially the 1974 revised recommendations of UNESCO concerning technical and vocational education, and individual researchers concerning technical and vocational education, this study examines in detail technical and vocational education and training within the Iraqi system of secondary education and its relevance to the development of the country's society and economy. The study seeks to find an answer to the question of "To what extent does the existing system of technical/vocational secondary education satisfy the distinctive requirements of Iraq as a developing country".

Statement of the Problem and its Importance

Iraq is a country in a hurry to industrialise and develop itself. Since the Republican era, in 1958, successive governments have stressed the role of rapid industrial growth. An ambitious process of rapid economic development in the fields of industrial development, infrastructure and agriculture is taking place now. The massive development programmes are partly due to the increased revenues from the oil industry since 1972³¹ and partly due to the government of 1968's priority in promoting the comprehensive development of the life of the nation, where planning and policy development are mainly the functions of the

central national government³². The need for skilled workers is a concomitant of the development strategy which requires an adequate supply of technically trained personnel to sustain an efficient execution of its programmes³³. However, this process of development has been hindered by a variety of factors, one of which is the inadequate supply of technical skills in terms of the quantity and the quality required by the economy.

Iraq, one of the developing countries rich with natural resources, especially oil and water, is now concerned with exploiting its natural resources and developing its human resources. The country needs to be developed in many areas including the social, economic and educational, and it has experienced unprecedented educational developments during the last two and a half decades. The ambitious development plans are considered to depend largely on educational development. Oil revenues have fuelled a frenzy of economic growth and the country has experienced intense socio-political and economic change³⁴.

Although the growth and change has been unrivalled, serious questions about the process of economic development in the country are arising due to several related factors: insufficient raw materials, shortage of skilled labour and lack of technical expertise. The outcome of training personnel for industrial and agricultural sectors have not matched the country's rapid economic growth since the 1970s. Moreover the government has realised that to achieve the goals of the development plans requires sufficient and efficient personnel which could only be achieved through the education system³⁵.

Despite rapid national growth, the country is still suffering from a shortage of skilled labour. It is suggested by Garrett & Farghaly (1987) that the key to economic development is technical and vocational education of the indigenous manpower resources and that this can best be achieved through a good delivery of technical and vocational education targeted to the specific needs of the country and its economy³⁶.

Technical and vocational schools within the secondary system of education have been regarded as the main source of skilled labour for the requirements of the economy in the country.

Technical and Vocational education within the secondary system of education in Iraq covers three group of schools, namely: industrial, agricultural and commercial. Intermediate school graduates who pass the National Baccalaureate Examination are eligible to join this type of education for 3 years duration. Those who successfully pass the Ministerial Examinations held in the final year of their study are awarded a certificate equivalent to the preparatory school certificate³⁷.

The main objectives of these technical and vocational schools in Iraq are to prepare middle-rank skilled labour to satisfy the needs of the National Development Plan and skilled workers for the labour market³⁸. This implies that status differences will be maintained and that the ideal of equal status between technical/vocational and academic secondary graduates will not be achieved.

The technological advance and rapid changes in human demands have made the education system in Iraq as elsewhere become a fundamental and important element in the execution of national development plans and this puts tremendous responsibilities on the technical and vocational education sector to respond to national economic plans both quantitatively and qualitatively.

As all the studies show, in Iraq and many other developing countries, the emphasis on human resources has become a principal element in achieving socio-economic development. The need for middle-rank skilled workers is recognised by almost all the studies of economic development in the Arab States. Since 1968 more importance has been attached to technical and vocational education in development plans in Iraq. More research and studies are needed in all aspects of this type of education in Iraq to provide the policymakers and practitioners with the knowledge and information necessary to fulfil the urgent job of industrialising the country. The researcher believes that this evaluation study of the existing technical and vocational education and training system in Iraq will provide the policymakers with such information for the future development of the system in the country. The most recent studies which identified the growing demand for scientifically-oriented personnel to meet the requirements are Khasawinih in his study of "The science policy in the Arab World"³⁹; Al-Abed on "The educational technology in the Arab World";⁴⁰ and the study conducted recently by UNESCO on technical and vocational education in the Arab Gulf Countries⁴¹.

Whilst Khasawinih traced back many of the political, economic, social and cultural problems which face Arab Countries to the inadequacies of their prevailing education system, Al-Abed has criticized the higher education system in these countries for neither meeting the needs of comprehensive development nor the demands of modern society.

The study conducted by UNESCO on technical and vocational education in the Arab Gulf Countries (including Iraq) has concluded that the present realities of these countries indicate a wide gap between the requirements of growing industries and the capacities of this type of education (technical and vocational) in their systems of education. In other words technical and vocational education and the training system are not capable of producing the skilled work-force that is required by the development plans and the industry in these countries. Such scarcities have been dramatic in the industry in Iraq and graduates in Art and Humanities subjects have experienced difficulties in finding appropriate employment. This has raised the alarm and caused concern by the government⁴².

To fill this gap in the shortage of skilled labour, most of these Gulf countries rely on expatriate workers in the operation and implementation of the economic projects in the country. Statistical information about these countries reveals that in most of the Gulf Cooperation Council member states, expatriate skilled workers constitute ^{at most} 57% of the total work-force. This can be explained in the light of the low ratios of students enrolled in technical and vocational education compared to those in general secondary education which

gives a clear indication of the need for the expansion of the technical and vocational education systems, as these are regarded as the main source of skilled labour needed for economic development programmes in these countries⁴³.

Lack of student interest in this type of education in the Arab Countries in general, and in Iraq in particular, has been alleged to result not only in lower ratios of students in technical and vocational schools compared to general secondary schools but also in lack of enthusiasm and weak academic standards amongst graduates⁴⁴.

Furthermore, throughout the history of Iraq, there have been continuing efforts to make the education system serve the requirements of the economy more effectively.

The first attempt to vocationalise education in the country was made by the Turks when they were rulers of the country from the mid-16th century to the end of World War 1. They tried to provide skilled workers to meet the demands of military forces and shipping companies in the country. However, the first main attempt to introduce vocational education in Iraq was made in the 1920s, soon after the Iraqis took over the Ministry of Education from the British invaders and passed an Education Act (1929) to divide secondary education into two streams, secondary general (academic) and secondary vocational which included (commercial, industrial and agricultural) courses⁴⁵.

The outcomes of these efforts were emphasised by the Political Report of 1974, which also criticised the education system for not being able to cope with the development and growth of the

economy and called upon the government to tackle the technical and vocational education problem urgently in order to satisfy the needs of the economy for skilled labour. The Report stated that:⁴⁶

"..We must also urgently tackle the problem of technical education whose inadequacies jeopardise the National Development Plan and the proper functioning of production and services in the country. What has been done in this domain falls far short of requirements. Each year, schools and universities produce thousands of students whose training cannot be effectively used in industrial or agricultural projects or in those of the expanding public services. The government has to find employment for them in organisations which are already overstaffed.. The revolution has not yet developed an educational system of its own".

The 1982 Political Report also emphasised the need for skilled workers and praised the progress that had been achieved during the period between the 1974 Political Report and the 1982 Political Report by the Arab Ba'th Socialist Party in the field of technical and vocational education. The 1982 Political Report stated:⁴⁷

"Vocational education has made considerable progress so as to meet the country's growing needs for middle cadres required for development and great expansion in various projects".

UNESCO's third comparative study in 1984, "Trends and Issues in Technical and Vocational Education", reviewed the educational systems of most countries of the world and stated that⁴⁸:

"Over the last decade, many countries have undertaken reforms of their educational systems .. in the late 1970s most countries instituted new legislation and embarked on wide-ranging structural changes in their educational systems to give a larger place to technical and vocational education and training at all levels. These reforms are designed not only to meet development or manpower needs, but also to democratise education in such away as to broaden opportunities for all to develop their capacities to the full, both in individual terms and in terms of their role in society and the working world".

Torsten Husen has also provided a brief examination of the Iraqi education system in his "International Encyclopedia of Education", stating that⁴⁹:

"In the 1970s, Iraq's educational system witnessed far-reaching changes effecting a major expansion in the availability of educational facilities and enrolments .. The form, content, and development of the Iraqi educational system have been shaped by the interrelation of three paramount factors: first, the economy and the requirements of the work-force structure; second, the population structure and the constraints it imposes on the development of education; and third, the developmental goals of the state".

He concluded that although the recent Iraqi experience strongly suggests that the country has overcome the traditional educational problems which exist in developing countries, such as low enrolment ratios among children and women as well as the education imbalance between rural and urban areas, there is a need for coordination between workforce and educational planning for technical and vocational education.

However, the shift in policy is one thing and the reality is another. Whilst most of the changes in the education system since at least 1974 have been in response to the agenda set by the needs of the economy and based on the expansion of technical and vocational education in the country, an investigation of the success of the present system is needed. That is what this study seeks to find out. Its central theme is to find out the place of technical and vocational education in the Iraqi education system and to examine whether the existing system of technical and vocational education is capable of handling the growing needs of skilled workers and middle level cadres to meet the requirements of economic development plans in the country or not.

Aims of the Study

The main aim of this study is to find an answer to the question of "To what extent does the existing system of technical/vocational secondary education satisfy the distinctive requirements of Iraq as a developing country".

The study focuses upon the formal in-school education and training provided by the system of technical and vocational education in Iraq at the secondary stage which has been given more priority in recent years and regarded as the main source for skilled labour to meet the requirements of the expanding Iraqi economy and industry. Its main objectives are to examine critically the following factors:

1. The debate on technical-vocational education and its application to a developing country like Iraq.
2. An analysis of the existing Iraqi education system.
3. Analysis of the existing structure of technical/vocational secondary education: Objectives, Selection, Syllabuses, Administration (Finance by government and government control), Programmes, Teachers and Male/Female Enrolment .
4. Examining the degree of priority which has been given to technical and vocational education on the national level and what remains to be done.

This will be done by asking the following questions:

1. What is the nature of the Iraqi system of education?
2. What is the nature of technical and vocational education in Iraq and what factors have influenced its development?
3. How integrated is the system of technical/vocational secondary education in the overall structure of the country's education system?
4. How much priority has been given to technical and vocational education on national level?

5. What are the main problems facing technical and vocational education in Iraq?

Significance of the Study and the Need for it

The context of education in the developed countries of the western world has been faced by a vocationalisation debate, which regards education as being concerned with the preparation of young people for occupational fields in the labour market⁵⁰.

The concept of education and its relation to employment is more complicated in developing countries⁵¹.

The impact of modern technology is difficult to estimate and describe as it covers most the material environment we live in, the instrument of our daily work, the food we eat and sometimes the air we breathe. All of these have^{been} affected by technical development. Hugh Warren, 1967, in his study of vocational and technical education for UNESCO, has stated that:

"a nation's economic well-being, its standard of living, its potential growth and security, all depend very greatly on the efficiency of its system of technical education and training and on the amount of effort and finance the nation is willing to devote to it. Technical education is far from being the only factor in a nation's economic growth, but it is certainly an essential component"⁵².

A study of the effects of modern technology in Iraq is not an easy task and to a certain extent the effects are difficult to estimate. The Iraqi government recognised the need for modernising the country through industrialisation of the economy. The growth and development of new industrial projects in Iraq, together with the expansion in the industrial, commercial and agricultural sectors of the economy, demanded an

adequate supply of skilled labour. One of the critical problems that the country's economy must solve, is the lack of trained and skilled labour, engineers, technicians and administrators.

A quick look at the school statistics reveal that there has been a tremendous expansion of educational facilities since 1968 at all levels of education starting from pre-school education through the university stage. At the same time there has been a rather moderate growth in the structure of the labour market and its prospects in the country⁵³.

Iraq has experienced and implemented different economic development programmes and strategies under different political regimes during the period between 1950 to the present time, starting from a simple form of planning to a highly centralised one in allocating the country's economic and human resources⁵⁴.

The past 2-3 decades have been a period of rapid, far-reaching and unprecedented educational change in Iraq. The changes extend over the whole of the educational system, from pre-schools to universities.

However, as Jorge Padua in his research study for the International Institute for Educational Planning (IIEP) of UNESCO on "Education, Industrialisation and Technical Progress in Mexico", has argued that:

"Every educational system develops human resources, all of them socialize and indoctrinate. The problem is in deciding what type and style of education to adopt; what purpose it shall serve; how different styles shall be combined for different social groups"⁵⁵.

One of the chief elements for achieving socio-economic development of any country in the world is the adequate supply of technically qualified manpower at all levels. Also as the technological change spreads to every aspect of the society, the need for more trained and skilled workers is imperative. For the future prospects of the country, education and training must be linked strongly to economic realities, and more attention should be given to labour market structure in the country.

In Iraq, as in many other developing countries, the emphasis on human resources development has been vital. Since 1968, the government has given more attention to technical and vocational education and training within the formal school system and considered it as the main source for training technically skilled manpower for the implementation of national economic development plans^{5 6}.

Infact, many political leaders, economic planners and educators in many countries have considered the development of technical and vocational education as the keystone of an educational system best adapted to the individual and the society. Progress in the expansion of technical and vocational education recently has been made not only to meet skilled manpower needs but also in terms of broad reform directed towards making education as a whole responsive to social and economic development needs of the country.

Technical and vocational education and training has been regarded by Psacharopoulous as the type of education which could make a significant contribution to the country's development programmes in providing the skilled work-force required to

implement these programmes. He stated that:

"Vocational education can make an important contribution to development, if provided efficiently and equitably. Today we know more about how to achieve this goal than we did 30 years ago. What may still remain difficult is the dissemination of methodological approaches and empirical results to those who make policy decisions regarding vocational education"⁵⁷.

Technical/vocational education within the secondary system of education in Iraq is regarded by the state as the main source for providing middle-rank skilled labour for the requirements of the economy.

This study will provide valuable information on this type of education in Iraq on the basis of detailed examination of the existing system of technical/vocational secondary education in the country.

The significance of the study comes from the fact that it seeks to examine the technical/vocational secondary education system in Iraq, in relation to the country's historical, geopolitical, economic, social and cultural circumstances.

Limitations of the Study

Although the study debates the technical and vocational education and training in relation to the experience of technical and vocational education in other developed and developing countries of the world, guided by the 1974 revised recommendations of UNESCO concerning technical and vocational education, its scope is limited to formal technical and vocational education and training in Iraq within the secondary school system of education.

The study examines the technical/vocational secondary education system in a specific country, Iraq, and the concentration of the research will be focused on the period between 1968-1981 with the intention of throwing some light on the new political, economic and social experiments that the country has seen since 1958.

The study is further limited to the statistics and information published by the Iraqi national authorities (and their interpretation) and provided by the government to International organisations such as The United Nations Educational, Scientific and Cultural Organisation (UNESCO), International Institute for Educational Planning (IIEP) and International Labour Organisation (ILO).

Sources of Data

The nature of this policy-orientated research requires analysis of the following secondary sources:

1. Correspondence and a visit to the headquarters of UNESCO and IIEP in Paris in May 1988. Copies of reports, surveys and research studies related to Iraq's social, economic and educational developments published by UNESCO and IIEP and other international organisations were obtained.
2. Interviews with: Ta Ngoc Chau, Director of the International Institute for Educational Planning (IIEP); John Hall, Chief of publications unit of IIEP; Habib Hajjar and Bikas Sanyal, two training and research fellows of IIEP; Akram Bayati, an Iraqi educationalist working for the UNESCO; and Lawrence

Saha, a visiting professor to IIEP. I also had lengthy discussions with the following educationalists: Patricia Broadfoot, current president of British Educational Research Association (BERA); and Raymond Ryba, senior lecturer in the department of education at Manchester university.

3. Statistical information, studies, reports, surveys and bulletins published by the Ministries of Education, Planning, and Culture and Information in Iraq.
4. Resources such as books, reports, journals, theses and bulletins available from the University of Salford Library, University of Manchester John Rylands Library and the Institute of Education, University of London Library.
5. Information obtained through the procedures of inter-library loan from the University of Salford.

An alternative research project would have involved the collection of primary source material of an ethnographic nature. For example observation and/or interviews in one or more educational institutions in Iraq. Findings from such primary sources would be less generalisable than those emanating from this research project and, in any case, the researcher already has personal experience of teaching within the Iraqi system of education.

Structure of the Study

The study is an attempt to analyse the development of technical/vocational secondary education in a specific country

(Iraq), and follows a sequence, moving from theoretical debate through discription and analysis to evaluation and finally policy implications (regarding the reform of technical/vocational secondary education in Iraq). It is divided into an introduction, five chapters and a conclusion.

The first chapter debates the arguments for and against technical and vocational education.

The second chapter has the title "Iraq: country, society and economy", is concerned with Iraq's geopolitical position and examines the structure of its society. The chapter will also examine the evolution and development of the Iraqi economy, with the main focus on the period after 1968.

The third chapter is an analysis of the existing Iraqi educational system, including principles, aims and priorities, levels of education and quantitative growth, education finance and administration, curriculum and examination system.

The fourth chapter reviews the nature and the growing need for technical and vocational education throughout the history of the country.

The fifth chapter evaluates the existing system of technical and vocational education by firstly, examining the characteristics of technical/vocational secondary education in Iraq: objectives, selection, administration, finance, curricula, teaching and training staff and male/female enrolment. Secondly, it explores the problems facing technical/vocational secondary education in Iraq.

In the concluding chapter (six) implications for the planning and reform of technical and vocational education in Iraq will be considered in view of the findings emerging from the evaluative part of this study.

DEFINITIONS OF TERMS USED^{5 8}

APPRENTICESHIP: lengthy training, usually taking place within an enterprise and governed by a written or verbal contract of apprenticeship which sets out the mutual responsibilities of the parties concerned - the apprentice and usually the employer who takes on an obligation to provide "initial training" in a specific occupation subject to apprenticeship.

CURRICULUM: a complete theoretical and practical programme provided in an educational system and generally arranged to achieve, within a given period, educational objectives corresponding to different levels of knowledge or qualification.

EDUCATION: all activities concerned with the development of an individual's intellectual abilities, knowledge, skills and personality to the highest level possible, in order that the person may play a valuable role in society. More precisely, education may be described as activity undertaken in a systematic fashion to transmit theoretical and practical knowledge.

EDUCATIONAL ADMINISTRATION: administration and financial services acting at all levels of responsibility in the execution of educational policies.

EDUCATION SYSTEM: the total structural organisation through

which the population is provided with all types and levels of education.

FORMAL EDUCATION SYSTEM: the traditional education system which begins with primary education and ends with higher education. "Formal education " usually refers to a rather rigid structure with specific consecutive stages corresponding to set age-groups.

NON-FORMAL EDUCATION: education undertaken outside the formal education system, either regularly or intermittently. Informal education may be seen as an alternative way of attaining educational or professional qualifications.

EMPLOYMENT: all paid work carried out either for an employer or on ones own account (i.e. self-employed).

EVALUATION: appraisal of the quality and effectiveness of all aspects of education, in terms of defined or desired objectives.

GUIDANCE: the process by which individuals are aided in their choice of education or career. This requires an analysis of their interests, skills, and potential achievement, information regarding the implications of various possible choices, and a realistic appraisal of the available opportunities.

EDUCATIONAL GUIDANCE: guidance available to young people and adults through a qualified staff set up specially to advise on their choice of educational programme in the light of their individual abilities and ambitions.

VOCATIONAL GUIDANCE: assistance given to an individual in the form of information about educational, training and employment

opportunities, and advice on career planning. It comprises evaluation of an individual's skills using standard tests, the supply of information about opportunities, and activities connected with placement and follow-up. Vocational guidance programmes may be available in schools, vocational training centres and enterprises, and may also be made available to specific groups of people.

JOB: a particular function or a specific task.

LABOUR MARKET: the process relating supply and demand for labour.

OCCUPATION: any type of work, manual or not, undertaken on behalf of an employer or ones self, in order to earn a living. The terms "trade", "craft" and "artisan" usually refer to manual work, while the term "occupation" has wider connotations. Occupations requiring the acquisition of skills through a period of training are usually referred to as "recognised trades" or "apprenticeable occupations".

OFF-THE-JOB TRAINING: training given by the firm but carried out outside the place of work or in a part of the premises specially equipped for training purposes.

ON-THE-JOB TRAINING: training given in a place of work in which the normal tasks of production serve as instruction and practical exercises.

PRIMARY EDUCATION: formal education usually commencing at about six years of age and lasting between five and eight years, and providing basic education. Basic education (literacy and

numeracy) for adults may sometimes be described as primary education.

PROFESSIONAL SKILLS: the skills required for professional qualifications and the practising of a specific occupation.

SECONDARY EDUCATION: post-primary formal education, of which the duration can vary from five to eight years, according to the length of primary education. Primary and secondary education together usually last for ten to twelve years, varying according to the stage of secondary schooling at which different options are offered (classical, technical, etc.). A diploma is usually awarded for accomplishment at secondary level, and its acquisition may be a condition of entry into higher education. Secondary education is usually divided into two stages:

LOWER SECONDARY EDUCATION: the early (usually three) years of secondary education, during which a common course is provided. Some systems introduce streaming at the start of this stage, but as a result of the extension of the duration of compulsory education, the recent trend is towards postponing streaming until the second stage.

UPPER SECONDARY EDUCATION: the later (usually three) years of secondary education, in which different courses are introduced, in a variety of structures. This stage of secondary education can be divided into streams, or retain a core curriculum with options relating to the chosen orientation.

TECHNICAL AND VOCATIONAL EDUCATION: a term used in a broad sense to describe the educational process when it includes not only general education but also technological study and

education in the skills and knowledge required for certain occupations. In pursuing these broad aims, technical and vocational education can be distinguished from "vocational training" which essentially provides for the acquisition of practical skills and specific knowledge necessary for a given occupation.

TECHNICAL EDUCATION: education which aims to produce middle-rank personnel for technical services and management at upper secondary and lower tertiary levels, and engineers and technologists at university level. This type of education incorporates general education, technical, theoretical and scientific studies, and the acquisition of practical skills, varying according to the educational level and the type of personnel being trained.

VOCATIONAL EDUCATION: education which aims to give the basic levels of qualification necessary for one occupation or a group of occupations. Vocational education is usually found in upper secondary level education, and provides general instruction, training in basic skills required by the occupation to be followed, and theoretical studies. The relative importance of the various elements varies, but the accent is usually placed on practical training. In the context of long-term education, the following three phases are apparent:

TECHNICAL AND VOCATIONAL ASPECTS OF GENERAL EDUCATION: those elements of general education which aim to familiarise pupils with certain aspects of technology and to make them appreciate the role of technology in modern life, and to facilitate the development of basic skills using tools and materials. There is

an additional function, of guidance in choice of future educational courses and occupation, but training for specific jobs is not given. It is generally provided at lower secondary level, but can also be introduced at the end of primary level and continue to the end of secondary level.

GENERAL TECHNICAL AND VOCATIONAL INITIATION: other terms which appear occasionally in international documents and reflect special usage in particular countries, e.g. "industrial arts", "polytechnical education", "technical orientation", "elementary technology". "Pre-vocational education" has also been used to describe occupational orientation and practical skill training given at lower secondary level. This term should not, however, be used as a substitute for the above expressions, as it does not correspond to the aims or components of the technical and vocational aspects of general education.

TECHNICAL AND VOCATIONAL EDUCATION AS CONTINUING EDUCATION: all types of technical and vocational education allowing an adult to improve skills and qualifications in relation to his or her occupation, to reach higher education and qualification levels in order to achieve promotion or a different occupation.

TECHNICAL AND VOCATIONAL EDUCATION AS PREPARATION FOR AN OCCUPATION: all types of technical and vocational education enabling students to acquire the necessary technical knowledge and skills for occupations. This differs from "technical and vocational training", which usually has a more practical emphasis and is more specialized. Technical and vocational education is provided within mainstream education, but may also include practical training in the course of employment. It is

designed to allow the acquisition of general knowledge and practical skills for a specific type of employment, but, because of its basic nature, does not prepare the individual for a particular function in a specific occupation, for which specialized training and job experience are necessary.

FULL-TIME TECHNICAL AND VOCATIONAL EDUCATION: technical and vocational education courses requiring students to be present on a full-time basis in accordance with the weekly timetables set by the educational establishments providing the education.

POST-SECONDARY TECHNICAL INSTITUTIONS: establishments providing courses of technical education at lower tertiary level, aimed at the creation of high grade technicians for industry.

TECHNICIAN: a person whose job demands skills and knowledge more practical than those of an engineer, scientist or technologist, yet more theoretical than those of a skilled tradesman. A technician's training will have reached at least to upper secondary level, and may include tertiary, with the attainment of a diploma or degree. Technicians may be divided into "junior" and "higher" ranks, though the distinction is far from clear-cut.

TRAINING: activities providing the means of acquiring knowledge, attitudes and skills needed to work in a specific occupation, or to carry out a given function in the course of employment.

RETRAINING: training providing the opportunity to acquire the knowledge and skills needed for a different occupation from the one for which the individual was initially trained. A course of

"basic training" may be followed by a course of "specialization".

UPDATING: training to bring workers up to date with recent innovations in their field, such as new processes, materials and equipment.

WORKER: anyone carrying out a job, either manual or non-manual, employee or self-employed, at any level of qualification.

SKILLED WORKER: a worker who is fully qualified for his or her employment in a recognised occupation or skilled trade. The terms "tradesman", "journeyman" and craftsman" are often used interchangeably.

IRAQI DINAR (I.D.): The national official currency of the Republic of Iraq. One Iraqi Dinar is equal to #2.09 or to \$3.21 American Dollars on Monday 11/9/1989 (The Rafidain Bank, London).

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CHAPTER 1

- 1 TECHNICAL/VOCATIONAL EDUCATION DEBATE AND THE IRAQI EXPERIENCE
- 1.1 The Controversy of the 1960s
- 1.2 Technical and Vocational Education and its Forms
- 1.3 The Current Debate
- 1.4 Patterns of Vocational Education
- 1.4.1 Parallel Vocationalised Systems
- 1.4.2 Diversification of the Whole Formal Education System
- 1.4.3 Vocationalising Components of a Core Curriculum
- 1.4.4 Establishing Non-Formal Systems
- 1.5 The Iraqi Experience of Technical and Vocational Education

1 TECHNICAL/VOCATIONAL EDUCATION DEBATE AND THE IRAQI EXPERIENCE

Although there is some disagreement about the size of progress made towards educational development, Article 26 of the United Nations Declaration of Human Rights of 1948 which declared education to be a basic human right was to have far reaching consequences for the shape of educational development all over the world. Most of the countries of Asia and Africa who gained their independence during the 1950s and 1960s have embarked upon the process of economic and educational development. During the last three decades there has been unprecedented expansion of educational systems accompanied by higher quantitative growth of enrolments in formal education than any other time in history¹.

However, Coombs has talked about education in crisis for the past 2 decades and in recent years he suggested "that there is now a crisis of defence in education itself"². The World Bank, while recognising the educational progress of the past few decades, has nevertheless argued that:

"Despite these impressive achievements and to a certain extent because of them, education continues to face problems that complicate further development..."³.

Nevertheless, from the mid 1950s, and for the period since, educational investment was seen as "a source and inspirer of economic growth and as a significant factor in the development process", regarding education not only as a basic human need but also as an accelerator of the pace of economic development by producing trained manpower through human resources development and developing attitudes of modernisation⁴. It was also believed that educated people would produce more and would

adjust to demands for new skills.

In a social context, it was thought that better education would lead to a decrease in population growth, that is because educated women would marry later and would want fewer children. It was also believed that there would be greater equality of opportunity, greater equality of income and a fairer power distribution. Education was also seen as a weapon to bring about a sense of national identity and would inculcate new attitudes and values towards nation building, that is in political terms. Moreover, educational expansion as a whole and at secondary and tertiary levels in particular was seen as a means of rapidly producing indigenous administrators, in teaching posts and key administrator posts. In Iraq and many other Arab States, the expansion at secondary stage of education is also seen as a means of producing middle-rank skilled labour who could replace expatriate staff⁵.

Education expansion has also been viewed by many political leaders of the newly independent countries as an easy path to solve many social and political ills of the society in preference to addressing some of the problems occurring within their societies⁶.

Expansion of formal schooling was enormous in less developed countries in the late 1950s/early 1960s because they were nations in hurry to develop/industrialise and there was little time to investigate critically the role and type of education most suited to their socio-economic development needs, and thus most countries simply expanded the existing education patterns left by the former colonial rulers⁷.

Iraq is one of these developing countries which has gained its independence in 1932 and established a monarchy which stayed in a very close relation with its former colonial ruler (Britain). The new government in 1958 came to power after overthrowing the monarchy and declaring the real political independence of Iraq, has devoted its attention to the development of education and the expansion of formal schooling at all levels of education. It was only after 1968 that the government reviewed and critically examined the role of education and the education system of the country, setting-up aims and objectives for each educational stage according to the socialist perspective of the ruling party in order to cope with the economic, social, political and cultural needs of the Iraqi society⁸.

Pressures for expansion of formal schooling were not only internal political pressures, arising from expectations and aspirations of both parents and young children in many countries, the growing impact of mass communications and demands for social justice but were also the result of research surveys and international conferences who favoured expansion. The UNESCO regional plans of Karachi (1960), Addis Ababa (1961), Santiago (1962) and Tripoli (1965) had a profound impact on educational developments in the Third World. However, Watson (1981) has stated in regard to the Karachi (1960) plan that:⁹

"Its importance lies less in the fact that it was the forerunner of other regional plans, as in its impact on the shape of educational development throughout Asia, for its emphasis on quantitative expansion, especially at primary level, and its belief in the importance of education for economic development was to have profound influence on government thinking in the region during the 2 subsequent decades".

The 1961 Washington Conference on Economic Growth and Investment in Education had not only recognised education as a significant force in building a nation but also regarded it as a keystone for economic growth¹⁰

Among the Research Surveys which lent weight to the clamour for formal schooling expansion was the study by Harbison and Myers (1964) of 75 countries at different stages of development, who found in their study that Human Resources Development was crucial for economic development and modernisation¹¹.

Inkeles & Holsinger in 1960 have also found "education to be the most powerful factor in making men 'modern'"¹².

Others like Schultz (1961), Denison (1962) and Bowman (1980) showed not only the direct interrelation between Gross National Product (GNP) and Per Capita Income and education provision throughout the world but showed that stages of education, occupation and income were also closely interrelated¹³.

However, this period of rapid expansion in formal schooling has caused concern from theorists like Balogh (1964), Anderson (1965), Foster (1965) and Coombs (1968) who passed warnings that the direction of educational development was creating problems as much as solving them. They were concerned about regional and sexual inequalities (educational opportunities for urban rather than rural areas and for boys rather than girls); the low quality standard of teaching; the small impact of schooling on social and political change and above all there was a concern at the speed of population growth and social and economic change¹⁴. This controversy of the 1970s has led to addressing non-formal

education and rural development, the changing role of teachers, the purpose of schooling, equity and regional disparities, dependency and Neocolonialism and women's education. The most important feature of the 1970s which was related closely to the above was the reassessment of the purpose of schooling for life outside school, for employment, for development-mindedness which has been the concern of International Organisations like the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and The World Bank for at least the past 2 decades.

1.1 The Controversy of the 1960s

The question of the desirability of providing technical/vocational education has been debated more than any other form of education all over the world. In controversies concerning the relationship between the provision of formal education and the economic growth in 1960s, it was one of the important issues in this debate.

The United Nations Committee on Information from Non-Self Governing Territories has stated in 1960 that one of the main priorities of education in economically developing regions should be "the creation of a fully integrated system of agricultural education within the general framework of technical and vocational education"¹⁵.

The British Economist Thomas Balogh has sharpened this controversy by his published observations on the Conference of African Ministers of Education in 1961. He stated that: "The school must provide the nucleus of modern agriculture within the villages" which should play a key role in raising the standard

of living of those who work in this sector. He regarded the African Education Systems at that time as an obstacle to rural development in Africa for reasons of not training people for agriculture and also accusing academic schools of being the main determinant of hostile attitudes to the practice of rural agriculture. Balogh's views were based on the fact that most Africans were dependent on agriculture (between 80 and 95% of the total population). Thus, he called for the development of large scale technical and agricultural programmes within the schools as an essential need in African education¹⁶.

Many more publications dealing with education and economic development followed to give high priority to schemes for agriculture, vocational and technical education other than the academic types of education. In fact during the period since arguments in support of technical and vocational education and educational reforms have been advanced to gain the support of many distinguished political leaders such as Gandhi, Mao and Nyerere¹⁷.

As a consequence, many countries have given the policy and planning of technical and vocational education a distinguished importance in both national educational development policy and the development policy as a whole. The origin of all these attempts to vocationalise education in both developing and developed countries is derived from the following two reasons:

Firstly, any economy requires a certain type of technical/vocational skills to operate efficiently, and unless such skills are available, the country and its productivity will fall behind technologically and

economically.

Secondly, to prevent the economy from backwardness which resulted from the above ill effects, technical and vocational education should be expanded to enhance the supply of workers in the crucial jobs¹⁸.

Furthermore, the development of technical and vocational form of education has been considered by many countries in the world as the keystone of an educational system best adopted to the individual and the society. Thus, the recent progress in this form of education has been made not only to meet skilled manpower requirements but also in terms of broader reform targeted to making education as a whole more responsive to social and economic development needs¹⁹.

1.2 Technical and Vocational Education and Its Forms

Although the most common form of technical and vocational education in the world is known as technical education and provided by polytechnical institutes, it has many other names in different countries. For instance, in the United States is simply called vocational education, in England and Wales is known as further education and in Colombia as SENA to which related programmes exist in many more South American Countries. In Iraq it is known as vocational education at the secondary stage and as technical education at the post-secondary. Leaving the name aside, there seem to be three main characteristics of vocational education:

Firstly, technical and vocational programmes are supposed to serve people who are trying to enter the work force at a level above that of the unskilled.

Secondly, normally the jobs that those people are being prepared for do not require university or baccalaureate degrees from the applicants.

Thirdly, it usually includes a period of training offered in publicly administered forms of instruction and distinguishes vocational education from on-the-job training programmes which are employment based and come under the complete control of employers²⁰.

In discussing technical and vocational education and the issue of vocationalisation, one faces the question of definition. Bacchus referred to the term vocationalisation as "efforts by schools to include in their curriculum those 'practical' subjects which are likely to generate among the students some basic knowledge, skills and dispositions that might prepare them to think of becoming skilled workers or to enter other manual occupations". Injecting the curriculum at the secondary stage of education as part of a programme of general education is regarded as the main element in the process of vocationalising education²¹.

Countries of the world are different in their vocationalisation form which takes place in their schools. Technical and Vocational Education, however, has been defined by the UNESCO's 1974 revised recommendations concerning technical and vocational education as "a comprehensive term referring to those aspects of

the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life"²². Moreover, others has called for the separation of industrial or technical with vocational which they think should be decided according to the labour market status and not on curricular basis²³.

Planning of technical and vocational education have two main forms. The first form of planning is to make sure that the technical and vocational system is meeting the needs of economy for skilled manpower, that is to overcome shortages and surpluses of certain skills in the work force. This form is economic in nature. The second form which is social in nature is related to improving access to jobs for disadvantaged people and to decrease sex stereotyping in the occupational structure. The latter is a relatively new form in planning for technical and vocational education²⁴.

There is now a major debate on technical and vocational education in mainstream secondary schools, in separate schools, employment based or on the form of apprenticeships. However, this study is concerned mainly with technical and vocational education within the secondary stage of education in a specific country Iraq.

1.3 The Current Debate

The question of preparing young children for the labour market in a changing economic, social and political situation is receiving greater attention from development planners, national

policy-makers, international organisations, economists and all other people who are concerned with education and human resource development. In developing countries a closer link between education and the world of work is regarded as a major objective of educational development. This has been as a consequence of either the shortage of skilled labour for the achievement of development and industrial programmes or due to the problem of the educated unemployed or as a consequence of both.

Although the solutions and strategies to solve the problem of the shortage of skilled labour and the problem of the educated unemployed have varied from one country to the other, the powerful intuitive logic behind the diversification of secondary education or technical and vocational education in both developed and developing countries stayed the same and are due to the following reasons:

1. To operate efficiently any economy requires a certain type of technical and vocational skills and unless such skills are available, the country and its productivity will fall behind technologically and economically.
2. Technical/vocational education should be expanded to enhance the supply of workers in crucial jobs in order to prevent the economy from backwardness which has resulted from the above ill-effects²⁵.

Abel Ishumi in his article "Vocational Training as an Educational and Development Strategy: Conceptual and Practical Issues", has concluded that vocational training strategies as a way to prepare a nation's lower and middle-rank manpower

resources for tasks of more efficient resource deployment in the economy, production and job performance are varied from one country to the other. He stated that:

".. actual practice in articulating this commonly felt need of vocational training has varied in focus and strategy with different countries largely on account of differential social, demographic and economic pressures they face as well as because of the individual national philosophical and cultural orientations they subscribe to"²⁶.

Wilms, 1987, has proposed a clear separation between vocational training, conducted by competent and market-sensitive trainers on the one hand and public school education on the other hand which he thinks should be left to the pursuit of intellectual development that society could draw on in the future. He regards the indiscriminate investment of resources into general academic schools ~~with the aim of producing~~ vocationally trained, job-entry individuals as both 'myopic and wasteful'. He stated that:

"The demand for entry-level training, unlike the demand for education, is determined by changing market-forces. And the market for job skills is changing quickly and unpredictably.. At the same time, the supply of jobs and the demand for labour will also continue to fluctuate rapidly and unpredictably"²⁷.

Wilms' proposition to delink vocational training from public schools is based on the fact that schools are ill-equipped for the needed entry-level vocational training not only because of their institutional tradition and protectionism but also because schools are organised to resist change. This argument makes sense in countries of poor economy and limited national income to make technical/vocational education programmes directly responsive to the economy with flexibility towards changing labour market conditions and income-generating²⁸.

However, as Keith Wymer argues, the distinction between education and training has no relevance to people's needs as non-vocational education is as relevant as vocational training in specific skills because it "encourages self-awareness, builds confidence and provides the opportunity to work with others"²⁹. Furthermore, he argues that education is not confined to schools and colleges only and goes ^{on} to define education as "a process through which people grow, develop, and learn to cope with life". He argues against the Thatcher government's approach to education, which ^{has} regarded education as a matter of overcoming a series of hurdles by passing examinations, and not recognising people's learning experiences in communities ~~as~~ as education or training but as leisure ~~and~~ of little relevance. He has also alleged that the government has swept away the approach to education for life for 75% of the people in the country and replaced it with a strategy to provide training for the benefit of employers and the economy³⁰.

George Chryssides has rejected the "vocationalism" ideas after tracing their roots to the Protestant Work Ethic and has been reinforced by arguments that the financial supporters of education (industry, the government and society) have the right to determine students' curricula. He argued on the basis of the fact that only 15% of the person's life is actually spent in paid employment and, therefore, the remaining 85% of one's life should also be taken into account by educational systems. He has also argued on the grounds of the unemployment situation in Britain (the figure of nearly 3 million unemployed people), that the problems facing the educational system are obvious ⁱⁿ that:

Firstly, there is no need for training student for a degree or vocational qualification when they are no longer passports to employment.

Secondly, the problem of how to respond to the situation in which a student has to choose between continuing education or getting a job. He recalls an occasion when a student with an outstanding ability in a first class honours degree had to abandon the prospect of his education and accept a job as a chef³¹.

Despite all the above arguments against the diversification of secondary education and the earlier critic^{isms} of Philip Foster and others, the vocationalisation dilemma and the call for technical/vocational education is still strong especially in developing countries, which led Psacharopoulos, 1987, to say that: "because of the inherently logical and simplistic appeal, vocationalism will be with us for years to come, and more countries will attempt, in vain, to tune their formal education system to the world of work"³².

Margaret Peil's review of Timmons's book "Education, Industrialisation and Selection" concluded^{with} the following remarks concerning vocationalism:

"On the whole, it is occupational structure which must set the pace for the educational system, not the other way around, and tinkering with education is unprofitable if the links to employment are ignored. There are many pitfalls to vocationalising education, but technical education does attract large numbers of students away from more academic courses if it is demonstrably relevant to economically rewarding employment"³³.

1.4 Patterns of Vocational Education

Despite the common purpose of technical/vocational education worldwide, its provision has not followed the same pattern for all countries. There are four principal approaches to diversified secondary schools:

1.4.1 Parallel Vocationalised systems:

These are schooling structures established parallel to the traditional academic schools to provide certain vocational subjects such as agriculture in agricultural schools, technical design or business enterprising in industrial/technical schools and commerce schools and other similiar vocational schools. These schools are attempted by most of the developing countries which are "directed towards creation of manpower for socio-economic growth, in situations where lower-level school graduates cannot be absorbed at higher levels in the system and, thus, where the need is to produce employable workers with intermediate skills"³⁴.

These parallel vocational school systems can be useful as training institutions to satisfy the country's needs for middle-rank manpower requirements, once they have been provided with necessary equipment and facilities. However, the main practical problem of such parallel systems is that they are often regarded as second-choice institutions for less capable students and Blaug, 1973 has argued that it will create second class citizens³⁵.

The parallel diversified systems are found in developed countries like Germany, Austria, Britain and The United States of America. The comprehensive school system of Britain and elsewhere is "a ramification of the original 'common school' concept reacting against the selective eleven-plus examinations designed to sieve out the best for higher as opposed to technical and further education"³⁶.

1.4.2 Diversification of the Whole Formal Educational System:

Some countries have chosen the diversification of the whole formal educational system and have made efforts to reorganise and in some cases restructure the whole national educational system towards a vocational direction. At the primary level the school curriculum has been set in order to combine the theoretical academic learning process of the classroom with practical field work of agriculture and/or certain trades and crafts. At the secondary stage of education the diversification has reached a stage of organising schools to teach certain designed subjects. Examples of the diversification of the total system can be found in some socialist countries such as China, Cuba and in Nyerere's reforms of education in Tanzania³⁷. The diversification of the total system in these countries have been made to achieve overall ideological objectives by reorientating student attitudes to both society and work through changes in the structure of their educational systems.

In Iraq, the formal schooling system at the secondary stage has been diversified to include three main group of vocational schools beside the general academic secondary schools, namely:

agricultural, industrial and commercial.

The philosophy behind the whole-system diversification argument is to integrate education with work and give students a taste of the outside schooling world in order to orientate their attitudes towards the society they live in, the community they belong to and the world of work they join in after school³⁸.

The current Technical and Vocational Education Initiative (TVEI) in Britain is regarded as a case in point by which the central government (Department of Education and Science) attempts to shift the pedagogy and curriculum responsibility of 14-18 year old young children from the traditional grammar schools to the comprehensive which bridges the gap between the two tracks of elitist and secondary modern³⁹.

The problems associated with the whole-system diversification are the problems of maintaining a balanced curriculum between education and production. There are also the problems arising from the high cost of running these programmes as compared to not only general academic schools but also genuine vocational schools⁴⁰.

1.4.3 Vocationalising Components of a Core Curriculum:

Some countries have taken the approach of making one or a group of vocational subject as a norm component of their compulsory school curriculum equal in significance to other core components of the school curriculum. Although this approach does not claim to be vocational, emphasising as it does production of job skills, but it is considered rather as pre-vocational with the intention

of encouraging attitudes and skills useful for school leavers to enter employment⁴¹.

This approach which has been described as "a double-edged strategy", in looking after students' academic abilities and encouraging their vocational aptitudes through a vocational/academic school core curriculum, has been attempted by Sri Lanka and some Indian States. Whilst Sri Lanka has tried the approach through the introduction of pre-vocational subjects such as industrial arts the Indian states have tried the approach through the introduction of technical subjects and intermediate crafts into the curriculum of higher schools and colleges⁴².

1.4.4 Establishing Non-Formal Systems:

Specific non-formal low-cost vocational centres have been set up by some countries to provide unemployed youths and in particular primary school leavers with vocational training and work experiences. These non-formal centres are out-of-school programmes designed to equip the youths in these countries with pre-employment-entry to the jobs. Examples of these non-formal institutions are Swaneng Hill School and Youth Brigades in Botswana since 1965, Production Schools in Panama, Village Polytechnics in Kenya since 1971 and Barrio High Schools in the Philippines⁴³.

The non-formal institutions of Botswana, Kenya and the Philippines share the following stated aims:

Firstly, to form an alternative non-formal vocational system in

providing vocational training to those young people who are unable to find places in either secondary academic or vocational schools.

Secondly, the programmes are set to provide education and training with production to help in contributing some of the costs and make them cheap to run.

Thirdly, to equip young people with skills required to find employment or self-employment in their local rural areas.

Finally, to make the young people's existing values, skills and attitudes into a useful resource in serving their society in general and their local communities in particular⁴⁴.

The establishment of these non-formal systems has its advantages in contributing to ending or at least postponing some of the increased employment problems of developing countries even though it is on a small local scale. It will also be an attempt to democratise educational provision by expanding the human resource development philosophy and practice into being flexible to responding to situational needs and requirements as opposed to conventional school systems. Although the effectiveness and success of these non-formal institutions were dependant on the training duration, the variety of specialisation and enrolment the non-formal approach has faced three main problems:

1. The first problem facing these non-formal institutions is social, that the enrolled youths and their parents still see the institutions as second or some times third best choice to

failure as compared to general academic schools.

2. The second problem lies with the imbalance of the education-production dilemma in favour of production at the expense of the educational components of the programme. For example in Botswana the Youth Brigades devote 20% of its programmes to education compared to 80% to training programmes. In other words the deficiency of the non-formal approach lies with the "balance into more of doing and less of reflective thinking".
3. The third major problem facing these non-formal institutions is related to their costs to allow the attitudes of the society in influencing their progress. Whilst the training-production centres contribute to the cost of running the centre with the production of goods and services they surely depend on the state and the society and their voluntary organisations not only for financial support but also for their material support in finding the market for the consumption of these goods⁴⁵. Thus, the argument as it has been addressed by Bray and others elsewhere is:

"Unless such skills were in demand, and unless the goods which such skills might help to produce could find markets, skill training (in such non-formal centres) could not begin to create conditions necessary for local employment"⁴⁶.

The four above mentioned forms of vocational provision reviewed above, show that individual countries see education and its functions differently, which is also influenced by the society's pressure and real needs. The experience of all of these patterns or most of them in one individual country is evidence that each pattern has some merit or advantage, even though it

could create its own problems at an earlier or later stage.

Moreover, Psacharopoulos and Loxley have pointed out that the programmes of industrial/technical education within the formal schooling system are most likely to be successful in economically developed countries unlike the Third World Countries where the educational imperatives are rather different⁴⁷.

In summary, vocationalisation ~~is~~ ^{which} an old and recurring policy theme ~~has~~ been attempted by many countries of the world and in particular less developed ones to bring about a change in curriculum at the secondary school stage of education. It has recently become an international trend. The most striking feature of this vocationalisation trend in the 1980s is that it "transcends the divide between rich and poor countries and between different political systems"⁴⁸.

Although vocationalisation policies are educational changes in response to economic recession targeted to remedy youth unemployment (school-leavers into jobs or self-employment under conditions of widespread youth unemployment), its critics do not agree, arguing that it does not alleviate depressed economic opportunity, at least in the short run. The main reason behind vocationalisation policies, as Bacchus accepts and sums up, is that "if students were provided with some kind of useful practical or vocational skills relevant to the needs of that society, they would be better equipped to contribute to its economic development"⁴⁹. Therefore, it is as a result of this logical argument and against the several social realities of the developing societies, ^{that} technical and vocational education has

become a type of education to address itself as one of the future solutions.

1.5 The Iraqi Experience of Technical and Vocational Education

Many countries of the world, especially developing ones have constituted technical and vocational education to achieve one or all of the following aims:

1. To help the learners to stimulate the appropriate values and attitudes needed to carry out certain duties, i.e manual mechanical or others.
 2. To provide the learners with certain skills necessary for employment or employability in various types of occupation.
 3. To prevent unemployment of the population on a large scale and possible mass disaffection.
 4. To remove absolute practices and/by upgrading and reorienting the existing job performance levels and skills.
 5. It helps in creating a work ethic among the learners and make them aware of the significance of manual work and practical skill gain.
 6. To encourage youth school leavers to remain in rural areas.
- Thus, provide all sectors of the economy with the needed manpower and skill resources⁵⁰.

The Iraqi experience of technical and vocational education has combined most features of the four diversified patterns of vocational education mentioned before. However, the emphasis in

Iraq is on the provision of vocational schools at the secondary stage of formal education and higher technical Institutes at the post-secondary stage.

The structure of the Iraqi educational system shows that the educational ladder starts with 2 years pre-school education for the 4 and 5 year olds, followed by 6 years primary and three years of Intermediate (lower secondary) education. The preparatory stage of education (higher secondary) comprises the following:

- a. The general secondary school with a duration of three years study. The first year is general for all students who then take either scientific or literary stream.
- b. The vocational secondary schools which include three groups of schools consisting of three years of specialised education in the industrial, agricultural and commercial streams.
- c. The comprehensive school which comprises, besides the general scientific and literary streams, some other vocational streams⁵¹.

At the post-secondary level the development of technical and vocational education is provided by Higher Technical Institutes distributed geographically all over the country offering technical courses of two years. Technical education is the responsibility of the Higher Education Ministry (Foundation of Technical Institutes) whilst the provision of vocational education is the responsibility of the Ministry of Education (Organisation of Vocational Education)⁵².

To examine the degree of success or failure of the Iraqi technical and vocational system as elsewhere, one has to examine the economic and social realities and the dynamics of the economic development process of the country, which is explored in the next chapter of this study.

As technical and vocational education in Iraq is provided mainly within the formal education system in the country, it is important to find out the place of the technical and vocational system within the overall structure of the Iraqi Education System. This is explored in chapter 3.

Chapter 4 is concerned with a review of the nature and the growing need for technical and vocational education throughout the history of Iraq.

The characteristics of technical and vocational education in Iraq together with the problems facing these institutions are explored in chapter 5 of this study.

The final chapter of this study will draw general conclusions for the reform of the existing technical/vocational secondary education in Iraq and the future planning of the system in the country.

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CHAPTER 2

2 IRAQ: COUNTRY, SOCIETY AND ECONOMY

2.1 The Country's Geography and Topography

2.2 Demographic Characteristics of the Iraqi Population

2.2.1 Population Growth

2.2.2 Population Structure

2.2.3 Population Settlements and Uneven Distribution of the Inhabitants

2.3 The Economic Situation of Iraq

2.4 Economic Development Planning

2.4.1 Oil Resources

2.4.2 Agriculture

2.4.3 Industry

2.5 Iraqi National Workforce

2.5.1 The Educational Status of the Population and the Labour Market

2.5.2 Problems Facing the Iraqi Labour Market

2.6 Conclusion

2 IRAQ: COUNTRY, SOCIETY AND ECONOMY

To examine the existing system of technical and vocational education in Iraq or any other country of the world, it is important by way of introduction to consider the country, its society and its economy.

This chapter is an attempt to consider Iraq's geopolitical position and to introduce Iraq from the point of view of the country's geographic, demographic and economic aspects. It will examine the evolution and development of the Iraqi economy, with the focus mainly on the period after 1968.

Technical and vocational education objectives vary considerably throughout the world due to tradition and social, economic and political structures of each country, as well as the country's stage of development¹. In looking at technical and vocational education in Iraq, it is important to study these historical, geographical, socio-economic and cultural factors which affect or contribute to the development of education as a whole and to the development of technical and vocational education in particular.

2.1 The Country's Geography and Topography

The Republic of Iraq, the cradle of ancient civilization, is situated in south-west Asia, bordered on the north by Turkey; on the east by Iran; on the west by Syria and Jordan; and on the south by Kuwait, Saudi Arabia and the Arabian Gulf. Iraq has a total land area of 438,446 square kilometers and occupies a central geographical position in the Middle East². Due to its

geographical location, Iraq has been a bridge between the three continents of Asia, Africa and Europe, and between the Indian Ocean and Mediterranean, being the shortest land route between Europe and South-East Asia³.

Iraq's physiography comprises of three main regions. First, the mountainous region of Kurdistan in the north and northeast of the country adjacent to Turkey and Iran, representing 21% of the country's whole land. The second physiographic region is the central fertile flat land known as Lower Mesopotamia, either side of the Tigris and Euphrates. The third physiographic region is the southern lowland, including the 'Desert Plateau', great marshes and small lakes⁴.

The country was formerly known as Mesopotamia, a Greek word meaning 'the land between the two rivers'. The supply of water from the two main rivers Tigris and Euphrates, originating from the mountainous regions of Turkey, have given the country a relative advantage of potentially cultivable land. The length of the River Tigris is 1,718 km. of which 1,418 are in Iraq. The Euphrates is 2,300km. long, of which only 1,213km. are in Iraq⁵. The two rivers converge at Karmat Ali in the south of the country to form the Shatt Al-Arab which flows into the Arabian Gulf. Lower Mesopotamia is the most suitable part of the country for agriculture, and has an area of 90,000 square kilometres out of the total of 120,000sq.km. suitable for agriculture. However, at present, only two-thirds of Iraq's cultivable land is actually farmed⁶.

Iraq comes in the southern part of the North Temperate zone between latitudes 29,5-37,25 and longitudes 38,45-45,48'. The country is regarded as a semi-arid land. Except for the mountainous areas of the north and northeast the mean annual rainfall is too low and it varies from one part of the country to another. Whilst the mean annual rainfall reaches 1000mm. in the mountainous regions, it does not exceed 150mm. in the Desert Plateau southern lowland. Table 2.1 shows Iraq's physiographic regions and their mean annual rainfall:

Table 2.1 Iraq's Physiographic Regions and their Mean Annual Rainfall

Region	Approximate Area (square kilometer)	Mean Annual Rainfall (mm.)
-----	-----	-----
Mountain	26,000	600-1000
Upper Plains of Foothills	65,000	300-500
Lower Mesopotamia	90,000	100-200
Desert Plateau	265,000	50-150
-----	-----	-----

Source: UNESCO, 1976, National Science and Technology Policies in the Arab States, Paris, p. 77.

With the population over 15 million people in 1984, Iraq has four main assets: people, water, cultivable land and oil. The substantial revenues from oil have enabled the state to carry out a massive programme of development since the mid 1970s, in the areas of agriculture, infrastructure and industrial development.

2.2 Demographic Characteristics of the Iraqi Population

Population has three-fold significance in the study of both the economic development of the country and its education system. The first important factor is on the demand side, that the population growth leads to an increase in the market size and the population structure (sex, age, rural-urban) will alter the pattern. The second significant factor is on the supply side, that an increase in population will lead to increase in the size of the labour force, and the change in the population age structure will affect the quality of the labour supply. Thirdly, the quantitative aspects of population growth and the qualitative aspects of population structure will alter the ratio of human power and needs to natural (arable and mineral) resources of the country⁸.

The general population picture of Iraq shows a rapid increase during the last 4 decades. Its characteristics are high rates of growth, considerable change in the population structure, particularly age structure, and the uneven distribution of population.

2.2.1 Population Growth:

The Ministry of Planning's Annual Abstract of Statistics of 1984 in Iraq give a de facto population of over 15 million people. A quick look at the population censuses of 1947, 1957, 1965, 1977 and 1984 shows that the population of Iraq grew at one of the highest rates in the world. According to the Ministry of Planning in Iraq, the annual population growth has reached 3.4% between 1965 and 1977. Table 2.2 shows population growth and

percentage rate of growth per annum during the period 1947-1984.

Table 2.2 Population Growth in Iraq over the period 1947-1984

Year	Male	Female	Population in thousands				Total	% growth p.a.
			% females to total	Rural	Urban	% rural to total		
1947	2257	2259	46.90	3082	1733	66.99	4816	2.72
1957	3155	3144	49.91	3843	2455	61.02	6299	3.1
1965	4102	3945	49.02	3935	4162	48.60	8047	3.4
1977	6183	5817	48.48	4354	7646	36.28	12000	3.5
1984	7756	7321	48.56	4553	10524	30.20	15077	

- Sources: 1. Iraq, Ministry of Planning, 1975, Statistical Pocket Book, Baghdad.
2. Iraq, Ministry of Plannin, 1977, Statistical Pocket Book, Baghdad.
3. Iraq, Ministry of Planning, 1980, Annual Abstract of Statistics, Baghdad.
4. Iraq, Ministry of Planning, 1984, Annual Abstract of Statistics, Baghdad.

The high growth rate of population is the consequence of a number of factors. It can be explained as the outcome of a rapid rise in the birth rate and a decline in the death rate together with lower infant mortality rate and a higher fertility rate⁹.

The birth rate increase was mainly due to the improvements in health, socio-economic conditions and the rise in the standard of living of the people during the period 1947-1987, which was brought about by successive national governments. The expansion of medical services and facilities which accompanied the process of urbanisation have overcome the spread of infectious diseases such as cholera, smallpox and tuberculosis to result in a

decline in death rates.

There was also a significant decrease in the infant mortality rate, so that more people survived to the marriage age, which means more marriages with a high possibility of children. Life expectancy at birth rose from 56.5 in 1968 to 62.2 in 1977¹⁰. Furthermore, early marriages are encouraged by tradition and religion in the country and also supported most recently by the government¹¹. Table 2.3 shows the basic demographic indicators in Iraq for the periods between 1973-1975 and 1980-1985:

Table 2.3 Demographic Indicators in Iraq for the periods
between 1973-1975 and 1980-1985

Rates (per 1000)	1973-1975			80-85
	Urban	Rural	Total	Total
Crude Birth Rate	39.6	47.0	42.6	44.4
Crude Death Rate	9.1	12.8	10.6	8.7
Natural Increase Rate	30.5	34.3	32.0	35.7
Net Migration Rate	11.2	22.7	...	...
Growth Rate	41.7	11.6	32.0	...
Infant Death Rate	76.3	104.5	88.7	77.1
General Fertility Rate*	182.8	220.8	198.1	205.9
Total Fertility Rate**	6445.6	7841.7	7020.5	...
Gross Reproduction Rate***	3132.7	3943.0	3456.0	...
Average Age of Female at Birth of Children	30.8	31.6	31.2	...
Average Age at Marriage (Females)	20.9	20.3	20.7	...
Crude Marriage Rate	14.2	15.3	14.7	8.5
Crude Divorce Rate	1.7	1.9	1.8	0.1

Sources: 1. Iraq, Ministry of Planning, General Statistical Organisation, 1975, Statistical Pocket Book, p13.

2. United Nations, 1985, Demographic Statistical Yearbook, p 162.

* The number of births per thousand of women at the age between 15 to 49 (child bearing age) in a year.

** The number of births per thousand women of child bearing age.

*** The number of female births born for each thousand women of child bearing age.

Population density is still low and the GNP per capita income was \$1,150 in 1977 to place Iraq as one of the Arab capital-rich countries. Though that population growth has not been a constraint to the country's economic development, in the sense that the country's national income and output have grown faster than population, nevertheless such a high rate of population growth is undesirable. In 1974 the Ministry of Planning in the country suggested that "the expected improvement in the cultural level and the increase in the per capita income would make birth control more widely accepted". As a consequence a decline in the rate of population growth was expected from 1980 to the end of the century¹².

The average density of population has increased with the rapid growth of population. Its average increased from 14.1 people per sq.km. in 1957 to 27.65 in 1984. However, the density of population varies from one part of the country to another. For example, in Baghdad Province, the capital located in the middle of the country, the density is 860.17 people per sq.km., whilst in Muthanna and Anbar Provinces of the south there are only 4.88 and 4.11 people per sq.km. respectively. Table 2.4 shows the population density in the provinces of Iraq in 1984:

Table 2.4 Density of Population in Iraqi Provinces in 1984

Province	Population	Area sq/km.	Density per sq/km
-----	-----	-----	-----
Nineveh	1,324,100	38,430	34.45
Salahaddin	432,222	29,004	14.90
Ta'meem	629,052	9,659	65.13
Diala	677,388	19,292	35.11
Baghdad	4,437,603	5,159	860.17
Anbar	566,229	137,723	4.11
Babylon	719,129	5,238	137.29
Kerbala	321,249	5,034	63.82
Najaf	460,903	27,844	16.55
Qadisiya	499,445	8,507	58.71
Muthanna	248,829	51,029	4.88
Thiqr	711,423	13,626	52.21
Wasit	474,131	17,308	27.39
Maysan	406,411	14,103	28.82
Basrah	1,263,436	19,070	66.25
Kurdistan Area:			
D'hok	318,430	6,120	52.03
Arbil	712,821	14,471	49.26
Sulaimaniya	875,175	15,756	55.55
-----	-----	-----	-----

Source: Iraq, Ministry of Planning, 1984, Annual Abstract of Statistics, Baghdad, Government Press.

Population growth and the desire to increase population is not something acceptable in either developing or developed countries, though is one of the characteristics of population in less developed countries.

None the less, Birks and Sinclair, 1980, in their comparative

study of "Arab Manpower: the crisis of development" have considered Iraq as "the country with the happiest balance of physical and human resources in the Arab world", with its oil endowment, largest population of the capital-rich states and large cultivable area. Therefore, they do not see any reason for Iraq to limit the growth of its population¹³.

It is thought that population growth stimulates economic development through extending markets and providing labour at sufficiently low cost. There are also non-economic reasons for increased population growth in Iraq. Those are social, political, cultural and religious¹⁴.

Thus, on the contrary, the rapid population growth could be regarded as an asset to the economic development of the country, as there are no financial restraints on providing health and educational facilities for the increased population. Nor does the population growth affect per capita wealth. The oil exporters are regarded as being capable of achieving growth to assure a rising per capita wealth. That was true for the whole of the 1970s and 1980. However, as the revenues from oil have declined sharply since 1981, and increases in domestic food productions fell far short of the demand, the growth in population should be taken seriously¹⁵.

2.2.2 Population Structure

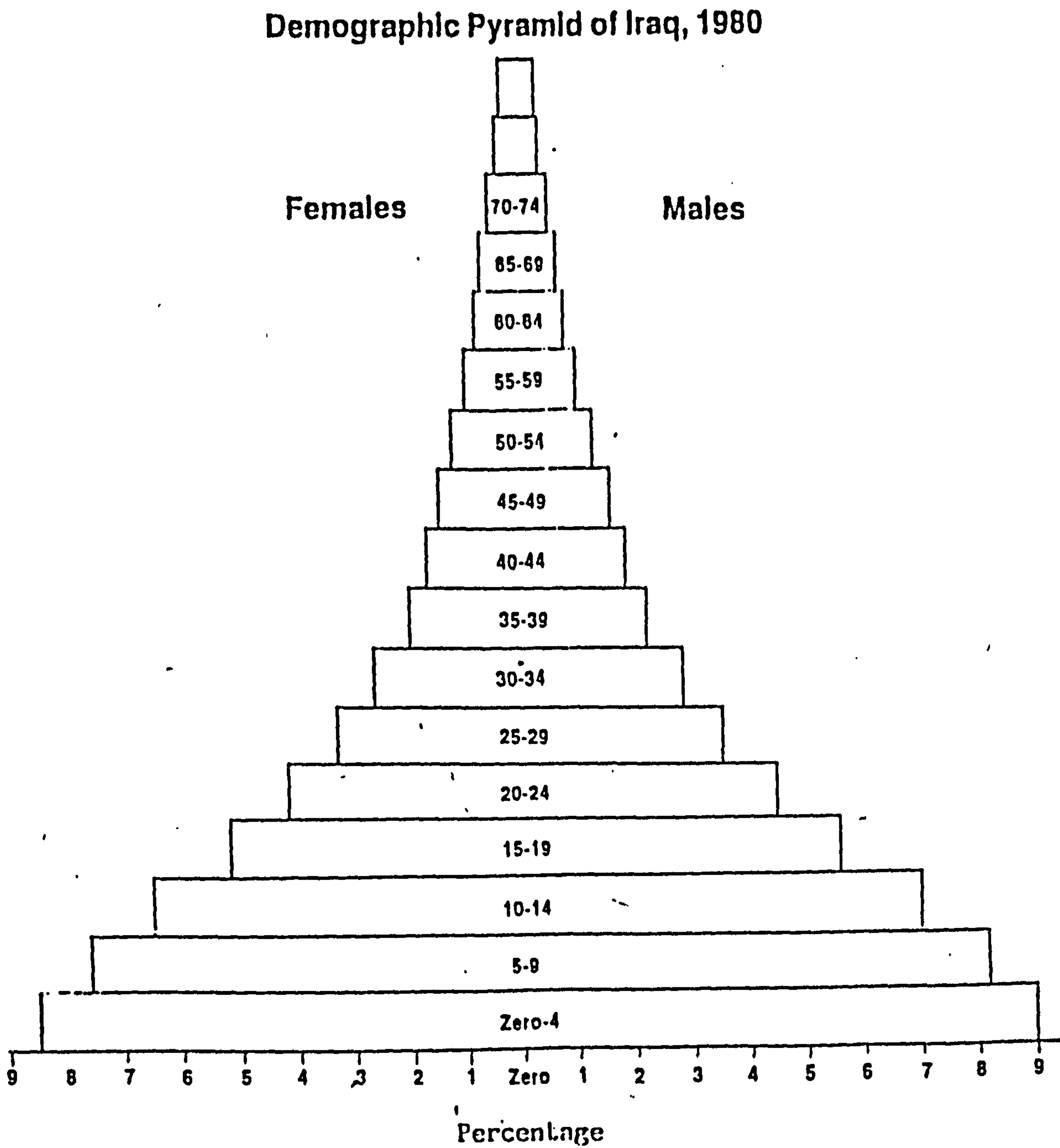
The most striking feature of the Iraqi population is its age structure, with a high proportion of young people. The very youthful nature of the age pyramid makes it difficult to reduce the rate of population growth. The age pyramid, which is

illustrated in diagram 2.1, shows that almost half of the Iraqi population is aged less than 15 years. However, only 38% of the population is aged between 15 and 44 years.

The rise for the age group 0-14 and the population bias toward young people can be explained by the decrease in infant mortality rates and the increase in the birth rate. Iraq's population is predicted to reach 23 million people by the end of this century if the current rate of increase continues, which means a slight further increase in the age group 0-14¹⁶.

The percentage of male/female population shows less significance as they are almost equal. The population pyramid of 1980 shows that the proportion of females was 48.5% of the total population of Iraq.

Diagram 2.1 Population Pyramid in Iraq (1980)



Source: Ministry of Planning (1980) Revolution and Development in Iraq Baghdad p.31

2.2.3 Population Settlements and Uneven distribution of the Inhabitants

One of the most dramatic demographic characteristics of the Iraqi population has been pervasive migration from rural to urban areas. In 1947 two-thirds of the Iraqi population were living in rural areas with nearly half of the labour force involved in agriculture. Today the population in rural areas and villages does not exceed one third of the population, whilst the figures on table 2.2 show a national population growth rate of 3.4% per annum during the period 1965 to 1977, urban areas grew at 5.3% and rural areas at only 0.9% per annum. This suggests that during the long term population growth, there were also changes in the structure and population settlement.

Urbanisation is now widely recognised by the Iraqi government as a problem and the establishment of the urban infrastructure is absorbing large sums. The government has taken note of the shift from villages to the centre of the cities and has given more attention to the development of the rural areas by making public services such as health and education available to every village in the country. The government has also provided the rural areas with electricity and fresh water. It has been estimated that about 1.5 million people have left rural areas between 1965 and 1977 to settle in towns and cities, a high proportion of whom were males aged 20 to 35, which caused a dramatic fall in agricultural employment figures.

There has also been a decline in the percentage of the nomadic component in Iraq's population, their proportion falling from 35% to 5% of the total population during the period 1867-1947¹⁷.

The nomads until recently were isolated from other groups of the population due to the inadequate transport and natural barriers such as harsh marsh lands. They formed self-sufficient communities, remaining outside the main sectors of the national economy. Now they have mainly settled in areas of permanent agriculture as a result of improved communications. The proportion of rural population to the total increased from 41% to 68% during the period of 1867-1930 as a result of the decline in the proportion of the nomadic population. However, this percentage of rural population has declined to 57% in 1947 and has continued to decline under the effects of a sharp rise in the level of urbanisation in the 50s and 60s.

2.3 The Economic Situation of Iraq

Iraq has seen a long chain of foreign domination starting from the Islamic dynasties in the 7th century to the British rule which lasted until 1932. As a consequence, the economy of the country has passed through many stages and been subjected to various socio-political influences. The national economy became mainly dependent on agriculture, thus leaving the growth of the Iraqi economy mainly dependent on improving agricultural production. By 1947, there were 66.69% of the Iraqi population living in rural areas, and nearly half of the labour force were engaged in agriculture¹⁸.

The revolution of 1958 has not only declared the real political independence of Iraq but has also freed Iraqi trade and currency from the sterling area (the currency of the former colonial power, Britain). In addition it has launched an agrarian reform

law, established the Ministry of Planning to take care of the national economy, and nationalised banking, insurance, industrial and commercial sectors.

The new government initiated a second Agrarian Reform Law in 1970 and redistributed the land in favour of the farmers. The government regarded the development of the national economy as important as socio-political development. Its economic development strategy has aimed at:

1. Full utilisation of national resources and the freeing of the Iraqi economy from all types of foreign domination.
2. Building a strong economy to achieve a large increase in national income in order to raise the standard of living for individuals in all areas equally¹⁹.

To this end, the goals and strategies for economic development have been laid down to attain the transformation of the whole structure of the Iraqi national economy.

2.4 Economic Development Planning

Iraq is governed by a supreme council called the Revolutionary Command Council (RCC), which governs the social, economic and political life of the Iraqi nation and is regarded as the highest authority in the country. It is presided over by the President of Iraq. The Planning Board which is based in the Ministry of Planning and includes representatives of other ministries, is regarded as the highest central authority to undertake planning and management of the Iraqi national economy. The basic elements of economic planning are centralised planning

and decentralised implementation.

The goals and strategies of economic development plans are set to develop and industrialise the country. Industrialisation for Iraq meant transforming the country from an underdeveloped agrarian society to a developed agro-industrial society. Long term plans up to the year 2000 have been set, together with a series of 5 year comprehensive plans from which annual plans have been derived for all sectors of the economy²⁰.

Development planning in Iraq has a two fold component, the overall framework of economic development which sets targets and the level of expenditure for each sector of the economy, and the implementation of the framework by the ministries responsible for carrying out day-to-day management of the plan. The experience of Iraq as a capital-rich country and its economic development programmes, shows the importance of human resource capital and other factors as well as physical capital. Whilst increased investment is an important factor for economic growth, the ability of the economy and its structure to absorb the investment, is also necessary. Thus, when a great amount of capital were devoted to the economy in order to accelerate its growth, the following constraints were evident: 1. Insufficient skilled manpower. 2. Inadequate infrastructure, bottlenecks in roads, ports and communication. 3. The problem of absorbing the modern technology into the economy²¹.

Oil has been the key to Iraq's economic development since the assumption of power by a new government in 1968. Iraq's revenues from oil has risen after the nationalisation of oil companies in 1972 to help in building a strong national economy.

2.4.1 Oil Resources

Oil is the most important natural resource of the country. Its significance for Iraq began in 1951 when the equal profit-sharing formula (fifty-fifty) with oil monopolies was applied resulting in the rise in government revenues from oil to 13.3 million Iraqi Dinars in that year compared to 5.7 million I.D. in the previous year.

Iraq became the real owner of its most abundant natural wealth when the government nationalised the operations of Iraqi National Petroleum Company in 1972 and those of other foreign petroleum companies later. Iraq's oil production had risen from 1.9 million barrels a day in 1973 to 3.4 million barrels a day in 1979 ²².

As a result, the revenues from oil exports have risen from 521 million U.S.dollars in 1970 to more than 20 billion U.S. Dollars in 1979²³ and to over 26 billion U.S. Dollars in 1980. However, as table 2.5 shows, Iraq's revenues from oil has declined sharply to 10.4 billion U.S. Dollars in 1981 and continued to decline in 1982 and 1983, thereafter rose again to the figure of 1981 by 1984.

The 1973-80 was a period of dramatic change of the increase in the oil revenues not only for Iraq but for the Arab oil produced countries as a whole.

In 1973, oil prices were quadrupled within months, rising from \$3 to \$11.65 for a barrel. Following the Islamic Revolution in Iran, the price of crude oil reached a peak of \$37 a barrel by mid 1980²⁴. Consequently, oil revenues increased sharply in all

Arab member states of OPEC, from U.S.\$ 12,492 million in 1973 to U.S.\$ 205,607 in 1980 (table 2.5).

Table 2.5 Oil Revenues in Arab member States of OPEC for the period between 1973-1984 (millions of U.S. dollars)

Year	Algeria	Iraq	Kuwait	Libya	Qatar	Saudi Arabia	UAE	Total
1973	988	1843	1735	2223	463	4340	900	12492
1974	3299	5700	6543	5999	1451	22574	5536	51102
1975	3262	7500	6393	5101	1685	25676	6000	55617
1976	3699	8500	6870	7500	2092	30755	7000	66416
1977	4254	9631	7615	8850	1994	36540	9030	77914
1978	4589	10200	7952	8400	2200	32234	8200	73775
1979	7513	21291	16863	15223	3082	57522	12862	134356
1980	12500	26100	17900	22600	4795	102212	19500	205607
1981	10700	10400	14900	15600	4722	113200	18700	188222
1982	8500	9500	9477	14000	3145	76000	16000	136622
1983	9700	8400	9900	11200	3000	46100	12800	101100
1984	9700	10400	10800	10400	4400	43700	13000	102400

Source: Organisation of Petroleum Exporting Countries (OPEC), 1985, OPEC Annual Statistics Bulletin, 1984, Vienna, p 34.

Increased oil revenues in Iraq have been used to achieve two main aims: first, raising the standard of living of the present generation; and second, carrying out a national development strategy in order to ensure the future generation's welfare by diversifying the economy and reducing dependence on oil (an exhaustible resource)²⁵.

Although successive governments have begun to pay considerable attention to widening the base of the Iraqi economy, the economic structure has stayed dependent mainly on oil products. The government has recently begun efforts to remedy this dependent position by shifting from exporting crude oil to refined oil and developing petrochemical and hydrocarbon industries, but this means the economy remains dependent on oil. The country's economic development plans emphasise converting

the oil wealth into other forms of real wealth in agriculture, industry and general socio-economic development in the country. However, as the economic data shows, little has been achieved in this regard and oil revenues have constituted a major source of funding the economic development plans. Oil revenues constituted 82% of the total sum of 13 billion Iraqi Dinars which was invested in the 1976-1980 plan period²⁶.

Although the resources from oil has been one of the several means used by Iraq to carry out its economic development plans, the oil production in itself does not constitute economic development. However, Iraq's possession of oil is different from other oil producing Arab countries because its production is backed on the one hand by other potential resources such as agriculture and other minerals. On the other hand the possession of oil is backed by a relatively reasonable size of population and a relatively large home market.

McLachlan, 1979, in his study of "Iraq: Problems of Regional Development", has stated that: Iraq in spite of her abundant non-oil resources, her economy is becoming more dependent on oil, in other words, oil economy on the model of that of Arab Gulf oil produced countries²⁷.

In March 1983, OPEC carried out the first price reduction in its history and oil prices fell sharply to \$8.25 a barrel by July 1986. As a result, the oil revenues of the Arab member states of OPEC, which had peaked in 1980, fell to U.S.\$ 102,400 million in 1984 (table 2.5).

In Iraq, the oil revenues has fallen from a peak of U.S.\$ 26,100 million in 1980 to U.S.\$ 10,400 million in 1984. Furthermore, the country's involvement in a bitter conflict with its neighbour Iran, has affected the flow of oil, soaked up its revenues and slowed down development projects.

2.4.2 Agriculture

Agriculture is important to almost every country. The significance of Agriculture to Iraq's economy is two-fold: it contributes to the formation of the country's national economy and its products, and it provides the local industry with raw materials. Nearly 30% of Iraq's population still live in rural areas and are dependent on agriculture and raising livestock²⁸.

The abundance of cultivable land and oil, coupled with extensive labour power and water, provide Iraq with its main assets. The total area suitable for agriculture in Iraq is 120,000sq.km., of which only two-thirds is cultivated at present²⁹. The country's main agricultural products are dates, wheat, barley, rice, sugar cane and beet, cotton, tobacco, vegetables and wool. The requirements for the development of land in Iraq include irrigation, drainage and flood control systems. Until oil was found and the (fifty-fifty) share was agreed upon with the oil monopolies, the Iraqi economy was mostly dependent on agriculture, both as a means of livelihood for the population, and as a small earner to foreign exchange through the sale of dates, barley and cotton³⁰.

During the last two decades, the agricultural sector has been made the object of special attention by the government and has witnessed remarkable development. Although the main problem of land in Iraq is salinity of the soil, development has also included the provision of modern farming techniques. It has been estimated that 2 billion Iraqi Dinars will be required to solve the problem of salinity of land in the long run. To this end, the work continues on a third river between the Tigris and Euphrates for drainage and washing the salty land. The developments also include the introduction of the most modern farming techniques, fertilisers and the use of pesticides³¹.

Since 1958, a number of Agrarian Reform Laws have been introduced to combat feudalism and its control over most of the agricultural land, and to redistribute the land in favour of the farmers (the inhabitants of villages). After 1968, agrarian reform reached a new phase, emphasising in the development plans diversification and improvement of the agricultural products through the use of modern technological methods, as well as changing and developing social and economic relationships according to the socialist perspectives of the Arab Ba'th Socialist Party³².

The development of the agricultural sector has been speeded up by high oil revenues and by heavy investment. In the 1970-1974 National Development Plan a sum of 366.2 million Iraqi Dinars was devoted to this sector and a sum of 2.5 billion Iraqi Dinars in the 1976-1980 National Development Plan. However, the agricultural sector has failed to achieve the rate of growth of 7% attained by the national economy during the last two

decades³³.

Michael Pacione in his study "The Geography of the Third World: Progress and Prospect", described agricultural sector throughout the Middle Eastern region as a sector of economy which has received a low priority by planners and government elites. Middle East has changed from being a net food exporter in 1960 to the world's most rapidly growing food deficit area. At present, the Middle East region as a whole imports 60% of the region's wheat requirements and 15-20% of meat supplies³⁴. Table 2.6 shows the total agricultural imports of the Middle East between the period 1983-1985:

Table 2.6 The Middle East Agricultural Imports 1983-85
(million U.S. dollars)

Country	1983	1984	1985
-----	----	----	----
Algeria	2,509	2,570	2,790
Bahrain	242	224	208
Cyprus	204	195	217
Egypt	3,887	4,084	4,257
Iran	3,440	3,670	3,490
Iraq	2,857	3,085	3,040
Israel	924	981	920
Jordan	668	700	685
Kuwait	1,510	1,440	1,285
Lebanon	573	601	640
Libya	1,515	1,525	1,495
Morocco	1,096	1,300	1,230
Oman	381	435	485
Qatar	224	227	218
Saudi Arabia	5,182	5,351	4,900
Syria	878	905	942
Tunisia	516	596	520
Turkey	285	713	550
United Arab Emirates	1,300	1,380	1,240
Yemen Arab Republic	803	809	775
Yemen (PDR)	285	240	280
Total	29,279	31,031	30,167
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Source: Middle East Economic Digest, 7th June 1986, p 32.

Iraq has imported agricultural products value U.S.\$ 2,857

million in 1983, rising to U.S.\$ 3,040 million in 1985 (table 2.6).

Iraq's food deficit growth means that the government have faced difficulties in using the revenues from oil to diversify its economy, and that the development of agriculture and domestic food production fell far short of the demand for better and more nutritious living.

2.4.3 Industry

There is little doubt that a national diversified economy which promotes the individual's prosperity and affects her/his social/cultural progress can only be built through the interactive process between the industrial and agricultural sectors. The development of an agricultural sector can only succeed if it is supported by necessary prerequisites like machinery, equipment, fertiliser, insecticides and improved seeds which could only be supplied through a developed and successful industry³⁵.

Therefore, the government's strong support in Iraq goes to the industrial sector. That is evident from the amount of resources allocated to this sector in national development plans. The development of modern industry is relatively new in Iraq as there was no national industry at the beginning of this century. Consumer goods other than agricultural were either imported from abroad or made in traditional methods depending on local traditional manual skills such as the manufacture of metal and clay utensils, bricks, handwoven textile, carpentry, blacksmithing and others. It was only in the 1950s and after

the establishment of "Development Board", when the government laid down planning for industrial projects. However, little priority was given to this sector compared to the agricultural sector due to the then government's economic belief that Iraq is an agricultural country, thus, allowing the local consumption requirements to be met through imports from abroad³⁶.

The 1958 revolution has changed this image and given the development of industrial sector a leading priority, evident in the 1961 Detailed Economic Plan. However, no attention was given to the development of this sector in a sense that no political or economic measures were taken to save the country's main resource (oil) from the exploitation of multi-national oil monopolies³⁷.

After the assumption of power by the Arab Ba'th Socialist Party in 1968, the industrial sector was given a high priority in the development of the country's economy. Thus, for Iraq, industrialisation meant transforming the country from an under-developed agrarian society to a developed agro-industrial society, allowing the industrial sector not only to play a greater part in the formation of the Iraqi national income but also turning it into a major branch of national industry equipped with modern technology³⁸.

As part of industrialisation process, the national development plans have regarded the ownership of industry as a matter for the public sector and the socialist society. Its main targets were to achieve a balance between the selection of technology and the supply of skilled labour together with employing able workers. The 1976-80 National Development Plan set-up

fundamental aims for the industrialisation process in the country, namely, public ownership of industry, development of oil industry and mineral resources, choosing the appropriate modern technology, creation of export industries for which raw materials are available (like oil, petrochemical, chemical, iron, steel industries and some food products), equal geographical distribution of industry all over the country, and cooperation in the field of industry with Arab Countries³⁹.

None the less, oil has been the key to economic growth of the country since 1973 (nationalisation of oil companies). Crude oil production reached a record of approximately 3.5 million barrels a day in 1980 to put Iraq as OPEC's second largest oil exporter⁴⁰. Also there have been enormous investments in the infrastructure of the oil industry in the country. Table 2.7 shows that the gross domestic product was over 15 billion US dollars in 1976 to which the mining and quarrying sector (including the oil industry) was the largest contributor (54%), and the agricultural sector which employs 31% of the population, was less than 8%.

Table 2.7 Iraq's Gross Domestic Product in 1976
(US \$ million at current prices)

Economic Sector	G.D.P.	%
-----	-----	-----
Agriculture, Forestry and Fishing	1,180	7.6
Mining and quarrying	8,390	54.0
Manufacturing	1,098	7.1
Water and Electricity	75	0.5
Construction	1,203	7.7
Finance and Distribution	1,966	12.7
Community and personal services	1,614	10.4
Total	15,526	100.0
-----	-----	-----

Source: Iraq, Ministry of Planning, Central
Statistical Organisation, 1977,
Baghdad, p 127.

2.5 Iraqi National Workforce

The Iraqi national workforce has gone through enormous employment and structural changes since 1968. Changes in the size and structure of the labour force have occurred. The General Census of 1977 has shown that over 3 million people between the age of 15 to 65 were economically active compared to 2.3 million in 1968⁴¹.

Also the distribution of the labour force structure according to the economic activity field has been changed since World War 2.

Table 2.8 Iraqi Employment by Economic Sector:
1968 and 1977(thousands)

Economic Sector	Total Employed			
	1968		1977	
-----	Number	%	Number	%
-----	-----	-----	-----	-----
Agriculture	1,254	54.0	943.9	31.5
Industry	174	7.5	344.4	11.5
Construction	66	2.8	321.7	10.7
Distribution	280	12.0	177.8	5.9
Personal and community services	550	23.7	1,213.1	40.4
Total	2,324	100.0	3,000.9	100.0

Source: Iraq, Ministry of Planning, 1978, Man: The Object of Revolution, Government Press, Baghdad.

The above table shows that there was an increase of 2.9% per annum in the total number of employed people and a decrease of 3% in the agricultural sector which fell from 54% in 1968 to 31.5% in 1977. This could be explained as the results of both the changing patterns of the Iraqi population structure from being a mainly rural to an urban-based community and the poor performance of the agricultural sector. It also shows that the personal and community service sector absorbs the largest proportion of the Iraqi labour force. This includes workers in both private and public sectors. The number of people employed in the public sector (government employment) is about 620,000, with about 600,000 in the private sector. However, it is the industrial sector (including oil) which the government is most concerned to develop as the economy relies heavily on it.

The general census of 1977 gave a clear picture of employment and structural change in the Iraqi economy and society. It is clear from Table 2.9 that a good proportion of women are working in agriculture besides men (37% of all employment). That means that agricultural production is dependent on women as well as men and this dependency will increase if the shift from rural to urban areas continues (especially the migration of men to centres of industry and cities for employment).

Table 2.9 Economically Active People by Economic Sector and Sex in 1977

Economic Sector	Employment					
	Male		Female		Total	
	Number	%	Number	%	Number	%
Agriculture, Forestry and Fishing	591,066	22.8	352,824	64.9	943,890	30.0
Mining and Quarrying	34,716	1.3	2,119	0.4	36,835	1.2
Manufacturing	235,777	9.1	48,616	8.9	284,395	9.1
Electricity, gas and Water	22,241	0.9	949	0.2	23,190	0.7
Construction	316,560	12.2	5,136	0.9	321,696	10.3
Wholesale & Retail Trade Restaurants and Hotels	207,949	8.0	16,155	3.0	224,104	7.1
Transport, Storage & Communication	172,814	6.7	4,985	0.9	177,799	5.7
Financing, Insurance, Real Estate Business Services	26,023	1.0	5,066	0.9	31,089	1.0
Community, Social & Personal Services	871,879	33.7	86,100	15.8	957,979	30.6
Not Defined	46,258	1.8	11,979	2.2	58,237	1.9
Unemployed	64,278	2.5	10,447	1.9	74,725	2.4
Total Economically Active People	2,589,561	100.0	544,378	100.0	3,133,939	100.0

Source: Iraq, Ministry of Planning, Central Statistical Office, 1978, Annual Abstract of Statistics, Baghdad, Government Press, p37.

Thus, the plan of the new government → focused upon developing the employment of the national workforce in order to ensure its optimum use by redistributing it among the economic sectors in such a way as to achieve economic development targets. The development plans of 1970-1974 and 1976-1980 were comprehensive in tackling the development of the country in economic, social and cultural areas which required an experienced and educated workforce.

The national development plan of 1976-1980 defined the strategic factors of manpower resources development as follows:

1. The realisation of full employment; the creation of work opportunities, thus ensuring the best economic performance.
2. The creation of work opportunities in the country's provinces on a fair geographical basis and in harmony with a balanced distribution of employment to solve the problem of migration towards cities and towns.
3. Allowing effective participation of women in the development process and providing the pre-requisites for their contribution to productive work which means opening nurseries near the centre of work to look after their children during working hours.
4. Employment of technology in harmony with the nature of socialist transformation to achieve national development.
5. Orientating wages in such a way as to ensure income redistribution for the benefit of the poor.
6. Giving priority to vocational education to meet the requirements of the national plans for skilled labour.
7. Strengthening the relationship between the educational institutions and society on the one hand, and orientating education to meet requirements of economic developments and society on the other⁴².

2.5.1 The Educational Status of the Population and the Labour Market

Table 2.10 shows Adult Literacy Rates of national populations in major Arab states in 1970 and 1980. It indicates that the rate in Iraq is rather low compared to some other Arab countries.

Table 2.10 Literacy Rates of National Populations in
Major Arab Countries in 1970 & 1980

State	Adult Literacy Rate (%)	
	1970	1980
Lebanon	62	76
Jordan	42	58
Kuwait	55	63
Tunisia	32	49
Syria	40	55
Bahrain	40	55
Egypt	43	54
Libya	33	58
Algeria	24	42
Saudi Arabia	8	16
Qatar	20	33
Morocco	21	26
Iraq	31	43
Oman	5	17
Sudan	15	22
United Arab Emirates	20	42
Yemen (YAR)	9	17
Yemen (PDRY)	26	39

Source: World Bank, The, 1981, World Bank Development Report, Washington.

The 1977 general census of Iraqi population, which is regarded as the most comprehensive general census in Iraq's history, has also shown a high rate of illiterate people in Iraq, that is 56% of the population. The rate was higher in rural than in urban areas, 77% and 44% respectively as shown in Table 2.11. In other words, education is urban-based and the educational opportunities for rural people are far less than for urban people.

Table 2.11 Educational Attainment of the Iraqi Population
in 1977 in rural/urban areas (aged 10+)

Educational Attainment	Urban	Rural	All Country
-----	-----	-----	-----
Illiterate	44.5	77.0	55.9
Literate	25.8	13.9	21.7
Primary School Certificate	16.4	6.5	12.9
Intermediate School Certificate	5.5	1.3	4.0
Secondary School Certificate	4.6	0.7	3.2
Higher Education Degree	3.2	0.6	2.3
Total	100.0	100.0	100.0
Total number	4,923,407	2,631,845	7,555,252
-----	-----	-----	-----

Source: Iraq, Ministry of Planning, Central Statistical Office,
1978, Annual Abstract of Statistics, Baghdad, p 35.

Considering the high rate of illiterate people in Iraq and the increased revenues from oil, eradicating illiteracy for the age group 15-45 years was given a leading priority by the new socialist government. In 1978, the government launched a comprehensive campaign to open centres of literacy and schools all over the country, including such areas of marshes in the south and mountains in the north which until recently had little communication with other parts of the country. The government has devoted a large budget to the campaign.

The actual expenditures were 36 million, 30 million, and 28 million Iraqi Dinars for the years 1979, 1980 and 1981 respectively. In addition, another 35 million Iraqi Dinars were allocated to cover popular schools' expenditure and the cost of

follow-up activities. According to national authority's data, the total number of illiterate people in the age group 15-45 years is 2,312,630, of which 676,693 are males and the rest 1,535,937 are females. The mass illiteracy campaign was planned to achieve the full eradication of illiteracy amongst the target group in 35 months. The illiterates were organised in temporary classes for two stages. The first was the "fundamental" or basic stage for beginners for a short period of 7 months from which the successful adult moves to the next stage "complementary" or integral. Though the literacy rate has gone up and surpassed many other Arab countries, no official statistics have been published with regard to the detailed success of this campaign. However, to give opportunity to those adults who have completed the two stages of literacy, fundamental and complementary of 7 months each, and to prevent the adults from going back to illiteracy, the government has decided to open popular schools for them⁴³.

The mass illiteracy campaign of December 1978 will be covered in more detail in the next chapter, when the existing system of education in Iraq is analysed.

The 1985 Statistical Yearbook of Education of UNESCO has put the proportion of illiterate people among the age group 15-45, which is regarded as the potential adults for the labour market in Iraq, at 10.7%. The percentage of illiterate females among the age group 15-45 is higher (12.5%) compared to males (9.8%). It is noted that the UNESCO figures were based on estimates made by national authorities in Iraq⁴⁴.

To analyse those figures, the researcher believes that much depends here on what is meant by literacy in the Iraqi government's view. People's views of literacy are different from one group to another and varies from a country to the other.

An HMI Survey of reading capabilities among English 11 year olds which was carried out in 1956 concluded that: 1% of the sample (23 students) were illiterate or semi-illiterate. After they were all interviewed by Her Majesty's Inspectors, they found only two of the 23 students were unable to read "in the same sense in which the ordinary Englishman would be unable to read a word of Arabic"⁴⁵.

On 12th March 1987, the BBC News reported that "one in eight adults is illiterate" in Britain. This was based on the preliminary findings of a Lancaster University Study of which the final report was published in November 1987. The study was based on interviews with 12,543 people aged 23 in 1981. The main question asked was "Since leaving school have you had problems with reading, writing/spelling, or number work/basic maths?" 13% of the sample have said 'Yes'. Of these 13%, 3.7% said they had problems with reading and writing/spelling, 5.9% had problems with writing/spelling and the rest were simply bad spellers. However, one of the amazing findings was 9% of those who had difficulties had qualifications of A-level standard. The report summed up its findings by saying: "A large number of those reporting problems did have some competence in literacy and numeracy skills... It is, therefore, both inaccurate and pejorative to refer to adults with basic skills difficulties as

'illiterate',⁴⁶.

To a high proportion of people, illiteracy means the inability to write your own name. In Iraq, literacy is defined as: being able to read, write and add properly in your own language. Thus, by such standards, the proportion of illiteracy in Iraq has been reduced to the above UNESCO published figures for the age group 15-45. However, much depends on how the people want or are required to use their reading and writing skills.

The enrolment of the formal education system in the country has grown dramatically since 1968, including all stages of education and excluding university education. Table 2.12 shows the school enrolment in 1984-85:

Table 2.12 School Enrolments in Iraq (1984/1985)

Stage	Boys	Girls	Total
-----	-----	-----	-----
Pre-school	42058	38754	80812
Primary	1518561	1236326	2754887
Secondary	644145	352926	997071
Vocational	70850	28396	99246
Teacher Training Institutes	6454	14122	20576
Teacher Training Schools	4650	5233	9883
Central Institutes	3481	4272	7753
Fine Art Institutes	1451	650	2101
Total	2201650	1680679	3972329
-----	-----	-----	-----

Source: Iraq, Ministry of Education, General Directorate of Educational Planning, 1986, Development of Education in Iraq during 1983/1984 and 1984/1985, Report submitted to the 40th Session of the International Conference on Education, Government Press, Baghdad, Appendix 13, p 56.

Iraq's education system has produced in the past and it is producing at present trained manpower as elsewhere, but the critical question is what type of manpower and for what?

In 1974, the political report of the Arab Ba'th Socialist Party criticised the education system for not only being unable to cope with the country's social, economic and cultural progress but also producing more graduates in Arts and Social Sciences than was relevant for the economic prosperity of the country.

The Report stated:

"Each year, schools and universities produce thousands of students whose training can not be effectively used in industrial or agricultural projects or in those of the expanding public services. The government has to find employment for them in organisations which are already over-staffed"⁴⁷.

Shortages of skilled workers have become a critical constraint to economic development and thus, the centre of the government's concern. Consequently, emphasis in the planning of education by the Ministry of Education has been shifted from theoretical (academic) courses on to technical and vocational courses. Also the philosophy of education in Iraq meant educating young people in skills according to the needs of the economy and the Ministry of Education's policies were geared in a direction to satisfy the requirements of the labour market in the future rather than people's demands. Those policies are both costly and difficult to implement.

To this end, the Ministry of Education's plan at the secondary stage of education, is that half of all the pupils be taught vocational courses in vocational streams (agricultural, commercial and industrial) and the other half to be taught

academic courses (general secondary) which leads to higher education (university degree and higher institutes including technical institutes).

In addition, the Ministry of Education has opened hundreds of agricultural, technical and commercial schools and vocational training centres all over the country. Furthermore, other Ministries such as Labour, Industry, Oil and Public Organisations such as Iraqi Telecom and Iraqi Railway have organised employment-based training courses to prepare graduates of schools and universities to satisfy their needs⁴⁸.

Iraq has a large amount of expatriate labour, the exact figures of which remain unknown as they have not been published. In 1983, "The Economist" has estimated the figure to be around 1.5 million foreign workers (skilled and non-skilled) working in the country⁴⁹.

The government's official statement confirms not only the full-employment of all Iraqi nationals but also the country's need for immigrant workers who arrive continuously from Arab countries like Egypt, Morocco and Lebanon and non-Arab countries like the Philippines⁵⁰.

The central government in Iraq which firmly controls and directs the economy of the country has realised the problem of expatriate workers and planned a large increase in the expansion of technical and vocational schools to produce graduates with technical skills required in order to replace those expatriate workers in the future. Much attention is given to the vocational streams of secondary school education which are

regarded as the main source for preparing middle-rank skilled labour in areas of agriculture, commerce and industry. The number of these vocational schools were 202 in 1984/1985 with an enrolment of a total of 99,246 students taught by 5315 qualified teachers and instructors⁵¹.

2.5.2 Problems facing the Iraqi Labour Market

Today Iraq is a vastly different country from what it was at the start of her political independence in 1932. The country has seen a dramatic increase of population and a high rate of economic growth. The country's economy has been growing at an unprecedented pace and employment opportunities are growing together with a change in the structure of labour force from agriculture to industry and services. However, the Iraqi labour market is facing two main interrelated problems:

Firstly, as a result of the continuous shift from rural to urban areas (centres of industry), there has been a growing number of workers in these urban areas surplus to demand. That is because those workers are mainly illiterate and lack the skills needed for employment and the development of Iraqi economy. As a result of the dire need for skilled manpower, training the workers in the Iraqi informal urban sector in skills needed by the modern formal economy has become an urgent need, thus removing constraint from the future economic development of the country.

Secondly, there is the problem of the low educational attainment and the low skill of the work-force. With respect to the previous discussions that there are many illiterate Iraqi people, the task of training them would not be regarded as an easy process. To train and mobilise an unskilled and illiterate workforce to participate in building the modern economy is not only difficult but also expensive and time-consuming⁵².

As a consequence of the above problems, the government has passed laws which not only persuade the Iraqi skilled manpower working abroad to return, but which also offer Iraqi citizenship to workers of other Arab countries who wish to live and work in Iraq.

2.6 Conclusion

Iraq is regarded as the Arab country with the happiest balance of physical and human resources. The experience of Iraq as a capital-rich country and its economic development programmes attaches the importance on human resource development and other geographic, demographic and economic factors besides the physical capital factor.

Iraq depends on only four main assets, i.e. labour power, oil, water and arable land. Oil has been the key to Iraq's economic development since 1950. The Iraqi economy has gone through stages when the country was regarded as being mainly agricultural to being dependent on oil. Today, the country is different from the way it was even before 1968. Oil revenues have been used to industrialise and diversify the Iraqi national

economy to an agro-industrial economy and thus, to reduce dependence on oil.

A great amount of capital from oil revenues has been devoted to certain sectors of the economy in order to accelerate growth, and as a result constraints like insufficient skilled manpower, inadequate infrastructure, congestion on roads, ports and communication together with the problem of transforming the modern technology emerged.

The main characteristics of the Iraqi population are: high rate of population growth, changes in population structure (population bias towards youth) and the uneven distribution of the inhabitants. The existing rapid growth in population is not regarded as a constraint but rather as an asset to the economic development of the country, as there are no financial constraints on providing health and educational facilities for the increased population. Nor does the population growth affect per capita wealth because Iraq, as an oil exporter, is regarded as being capable of achieving growth to assure a rising per capita wealth. That was true for the whole of the 1970s and 1980. However, as the revenues from oil have dropped sharply since 1981, due to the decline in both the flow and the price of oil, and increases in domestic food productions fell far short of the demand, the process of rapid population growth should be taken seriously.

The Iraqi national workforce has gone through enormous employment and structural changes since 1968. Changes in the strength and structure of the labour force have occurred. However, the problem of expatriate workers, though realised by

the government still remains.

The plans for education, and the education system have been geared to suit the economic situation of the country. Half of all pupils at the secondary stage of education are to be taught vocational courses in vocational streams in agricultural, commercial and industrial schools and the other half are to be taught the traditional academic courses in general secondary schools which prepare them for higher education.

The plan for this large increase in the expansion of technical/vocational schools is believed to produce graduates with technical skills required by certain sectors of economy, in order to replace the expatriate labour in the future. Much of the attention is given to the vocational stream of secondary school education which is regarded as the main source for preparing middle-rank, skilled labour that forms a large proportion of the expatriate labour.

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CHAPTER 3

3 AN ANALYSIS OF THE EXISTING IRAQI EDUCATION SYSTEM

- 3.1 The Nature of Education in Iraq
- 3.2 Principles
- 3.3 Aims and Priorities of Education
- 3.4 The System of Administration
- 3.5 Education Financing
- 3.6 Curricula
- 3.7 The Examination System
- 3.8 The Educational Ladder
 - 3.8.1 Pre-school Education
 - 3.8.2 Primary Education
- 3.9 Secondary Education
 - 3.9.1 Vocational Secondary Education
 - 3.9.2 Higher Education
 - 3.9.2.1 University Education
 - 3.9.2.2 Higher Technical Institutes
 - 3.9.3 Graduate Study
- 3.10 Teacher Training
- 3.11 Development and Growth of Non-Formal Education
 - 3.11.1 Adult Literacy Education
 - 3.11.2 Accelerated Education Schools
 - 3.11.3 Special Centres
 - 3.11.4 Education for Rural Development
- 3.12 Problems and Difficulties of the Education System
- 3.13 Conclusion

3 AN ANALYSIS OF THE EXISTING IRAQI EDUCATION SYSTEM

Whilst the Iraqi government is actively engaged in finding the appropriate solutions to the socio-economic problems that confront the country and its society, the educational process has been regarded as an essential element not only for the preparation and training of the working force but also for developing and guiding the community.

In the forefront of the government's educational concerns comes the approach to the establishment of an education system with a sound philosophy and clear-cut objectives for the development of the educational process.

The main aim of this chapter is to analyse the existing education system in Iraq. This will include the general principles, aims and objectives, the system of administration, education financing, and the educational ladder in an attempt to find out the place of technical/vocational secondary education within the system.

The problems and difficulties facing the education system in the country will also be discussed.

3.1 The Nature of Education in Iraq

One of the important steps in analysing the education system in Iraq as anywhere else may be to trace the nature of the existing system and the factors that have been effective in the development and growth of the education system in the country.

Iraq has seen a long chain of foreign domination and the rise and fall of many foreign invaders through its history, though no influence has been greater than that of Islam. The original roots of the education system in the country are derived from traditional Quranic schools. This typical form of Islamic education known as "kuttab" had established its roots in the country long before western intervention. The kuttabs were Islamic institutions attached to mosques and provided religious education of which the Quran was the foundation-stone, being regarded as Allah's eternal word by muslims¹.

These Quranic schools grew rapidly to cover every village in the country. The Ottomans developed a system of education in secular public schools in the mid 19th century. They established free primary schools in each Qadha (administrative sub-division) and opened several modern academic secondary schools, two industrial schools and one civil administration school. The literacy rate among urban people was estimated at 0.5% in 1850, rising to around 5% in 1900².

After the First World War, the Ottoman Empire collapsed and Iraq was occupied by Britain. The education system started to grow, and a number of schools were opened. As the medium of instruction in schools was changed from Turkish to Arabic and there was a shortage of qualified teachers, the foreign invaders asked "mullahs" (the Quranic school teachers) to teach in modern schools. The number of schools in 1920 was 73 (half of the number which had existed in the last year of Ottoman rule). The year 1921 marked the establishment of the formal Iraqi schooling system, when the Ministry of Education was the first to be run

by Iraqis. There were few changes in the government's educational policy during the mandate period which followed and in independent Iraq after 1932. However, the education system in Iraq owed a lot at that time to Egypt, from which curricula, teachers and educational administrators were imported³.

The year 1958 marked the overthrow of the monarchy regime and the establishment of the republic of Iraq. This event had its effects on the Iraqi society as a whole and the education system in particular. However, it was only in 1968, with the assumption of power by the present government, that the structure of the education system changed according to the government's socialist perspective of the Iraqi society and economy.

3.2 Principles

The current education system in Iraq is based on a comprehensive national policy derived from the socialist perspective of the ruling Arab Ba'th Socialist Party (ABSP). The philosophy of the ABSP and its motto in unity, liberty and socialism, are believed to meet the economic, social, political and cultural needs of the Iraqi society. The general principles of education in Iraq which are emphasised and diagnosed in both the Political Report of the 8th Regional Congress of the ABSP in 1974⁴ and the Central Report of the 9th Regional Congress of the ABSP in 1982⁵ are that: Education is provided by the government at all levels, and there are no private schools since providing free education is the responsibility of the state which includes also pre-service and in-service teacher training courses.

The 1970 Interim constitution of Iraq has stated that the state will provide free education for all citizens and at all levels starting from pre-school through to the university. In addition it has affirmed compulsory education at the primary level for the age group 6-11 years and the eradication of illiteracy among the age group 15-45 years⁶.

As a consequence of the above reports, resolutions were passed by the Revolutionary Command Council (RCC), the highest authority in the country, to ensure that the educational policy will meet those broad principles not only in providing free education at all levels but also by making sure that equal educational opportunities are available to all citizens.

The 1974 Political Report has also criticised school programmes for not expressing the ruling party's principles, stating that:

"School programmes on all levels still fall short of expressing the principles of the Arab Ba'th Socialist Party and the socialist and national revolution"⁷.

The Report called for a shake-up in the system of education in the country together with introducing new educational programmes for all educational levels of the education system in the country. It stated that:

"The next 5 years must be devoted to building an educational system compatible with the principles and aims of the Party and Revolution, responsible for inculcating Pan-Arab, socialist and democratic principles in the young and making them able to carry out the social and economic transformation desired by the Party. ...New syllabuses must at once be prepared for every level from nursery school to university, inspired by the principles of the Party and the Revolution and in conformity with the political, economic, social and cultural objectives to be achieved in Iraq and in the Arab homeland"⁸.

As a consequence of the dimensions of the political Report of 1974, a law was passed to draw the lines for the educational policies in Iraq. Law no. 142 of 1974 outlines the principles of the Iraqi educational policy as follows:

1. The government should act immediately on building a new Iraqi educational system which should focus mainly on the principles and objectives of the ABSP. The new system should prepare the future generation with ideals of Arabic nationalism and the Socialist democracy due to the party's motto in unity, freedom and socialism.
2. The educational programmes have to be revised and replaced with new educational programmes at all levels of education in harmony with ABSP principles.
3. The educational development should be accelerated and a special emphasis should be given to science and technology so as to provide the needed personnel for the development of the country.
4. Compulsory education at the primary level should be introduced throughout the country for the age group 6-11 years. In addition, in the coming years a complete eradication of illiteracy for the age group 15-45 years must be achieved.
5. Equal educational opportunities for women should be achieved in order to enable them to contribute their full share and responsibility in building up the Iraqi society and economy⁹.

3.3 Aims and Priorities of Education

Since the general objective of education in Iraq is derived from the socialist perspective of the ruling ABSP, the overall objective of education is defined: "To create a new generation fully believing in God; loyal to his Homeland and his Arab Nation; fully believing in its message and aims of Unity, Liberty and Socialism; adopting scientific thinking, armed with science and moral values, relying on work and self-education, possessing the will to struggle and the power to confront the crucial challenges represented by imperialism, zionism and anti-nationalism, comprehensive of the aspects of cultural development, open-minded to human thought within the framework of originality and modernisation"¹⁰.

The above general objective of education in Iraq refers to complicated and imprecise statements which mainly emphasise aspects related to national and religious aspirations. It also covers human, democratic, socialist, scientific, development construction, innovation, humanity and life long education areas. Thus, detailed specific aims of education had to be laid.

Since the assumption of power by ABSP in 1968 the education system of the country has been under continuous review and criticism. As mentioned before, the 1974 Political Report has explicitly criticised the government for being unable to develop its own education system and called upon the government to act immediately in building a new education system.

As a consequence of this, the government has reviewed the education system and rebuilt its own education system harmonised with the ideas, principles and philosophy of the ruling socialist party. In addition the educational programmes were revised and changed at all levels of education, with special emphasis on reducing the academic bias of education. Great attention was paid to the development of technical/vocational education in order to prepare skilled manpower needed for the planned social, economic and cultural development¹¹.

The Ministry of Education has stated 12 general aims of education in Iraq in its report to the 40th session of the International Conference on Education. They are as follows:

- "1. Consolidating faith in God and his Divine Messages.
2. Belief in human superiority and endeavouring to develop human personality through interaction with the community.
3. Consolidating national unity and social solidarity.
4. Loyalty to Arab Nation, belief in its Unity and endeavouring to achieve it.
5. Establishing the principle of democracy, a focal point of a well-organised life system based on freedom, equality and rendering equal opportunities to all.
6. State supervision on economic life and ensuring mass production and fair distribution.
7. Depending on modern science whether in programmes, content, theory and practice in various fields of life.
8. Considering work as an essential element in man's cultural activity as well as in social progress.
9. Developing will power in man's personality and his abilities for construction and active participation in social solidarity.
10. Holding a cultural stand point characterised by originality which implies preservation of the national identity; on the other hand, and innovation which implies alteration of the present to a better future through development and progress, on the other.

11. Having an open mind to all nations and interacting with the good forces with them as well as consolidating co-operation, brotherhood and understanding among them for the good and peace of mankind which are based on justice equality and common interest.
12. Relying on man's ability for life long education and providing him with opportunities unlimited in time and place."¹².

The Ministry of Education having the sole responsibility and direct control for all short, medium and long term plans for education below the university stage, has laid down specific objectives for each educational stage in Iraq.

The government's main priorities in education are:

1. Achievement of universal primary education for all children of the primary school age.
2. Eradication of illiteracy among the age group 15-45 years.
3. Ensuring free education for all Iraqi citizens.
4. Linking education to national development requirements¹³.

3.4 The System of Administration

The education system in Iraq is a fairly centrally controlled one with responsibility shared by the Ministry of Education and the Ministry of Higher Education and Scientific Research. The Ministry of Education is responsible for pre-primary, primary, secondary (academic and vocational) and pre-service and in-service teacher training. It has direct control over secondary education (general and vocational) and teacher training schools and institutes. It has also direct control and supervision over curriculum, textbooks, examination and school

management. However, it shares the responsibility with the Ministry of Local Affairs agencies at the provincial level in the administration of pre-school education, primary education, fundamental education and literacy programmes. All funds of these programmes are administered at the provincial level by the Directorate General of Education which is responsible to the Ministry of Education for all technical matters concerning all stages of education. Education Law no. 124 has redefined the overall duties of the Ministry of Education in the light of the principles and objectives of the ruling Socialist Party¹⁴.

All long or short term policy decisions concerning each educational stage below university level are made by the Ministry of Education through its Council of Education chaired by the Minister of Education and including as members the Under-Secretary and members of all other national bodies who are concerned with the educational process.

In addition to planning and educational policy making, the Ministry of Education acts as an executive body for carrying out the national policy of education. Diagram 3.1 shows that the Ministry has 11 major departments, each having its own director-general, and each one is concerned with implementing one or more parts of the educational policy process. The Under-Secretary assists the Minister in running day-to-day services and receiving the reports from the directors-general of departments. Also each one of the 11 major departments is responsible for a number of other smaller specialised departments.

There are 19 provincial directors of education acting as the Ministry's agencies in the provinces. The Director-General also has responsibility for liaising between the Ministry of Education and local administrations in the provinces.

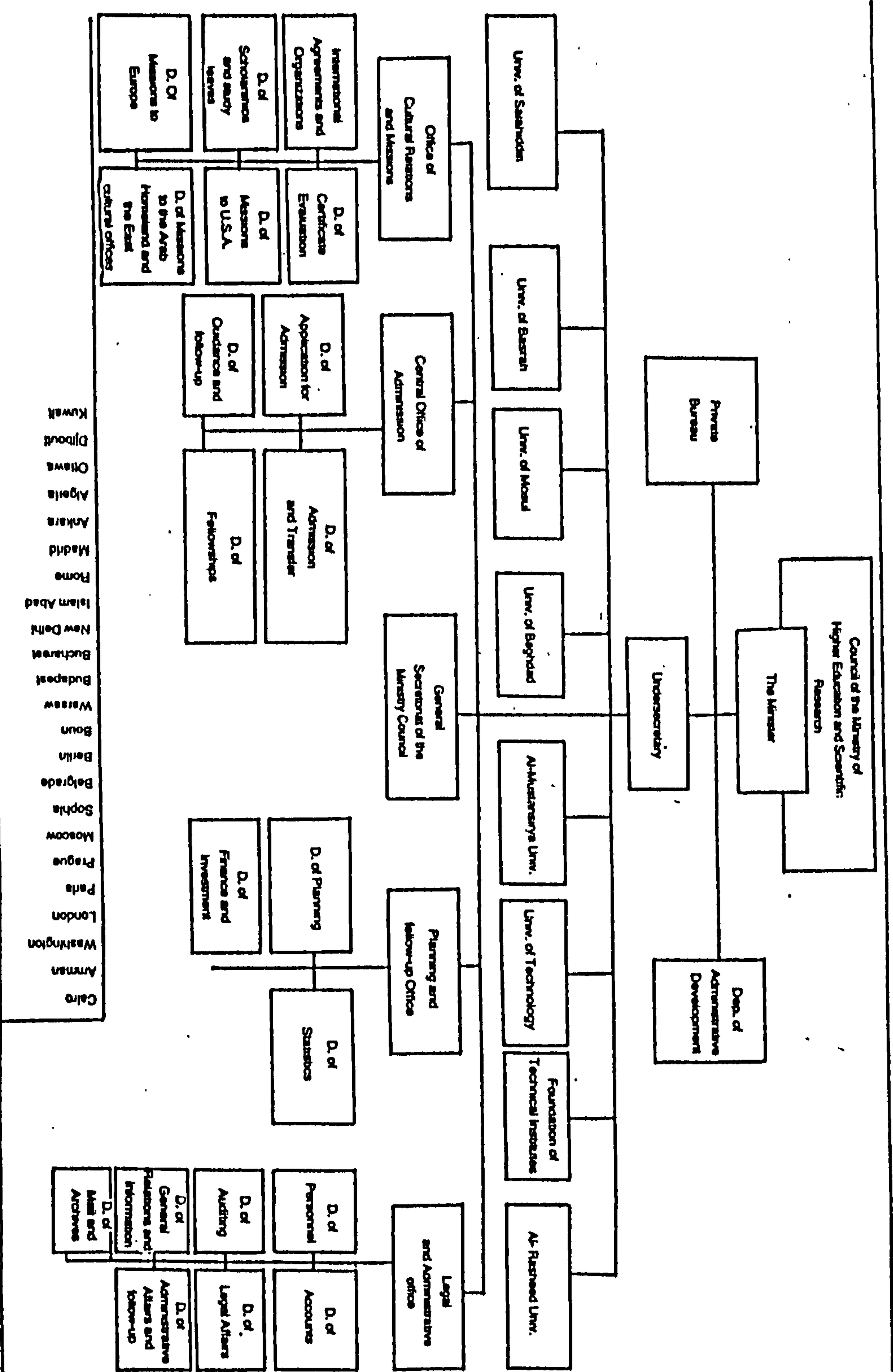
The Foundation of Vocational Education which was established in 1975 to replace the General Directorate of Vocational Education has the responsibility of secondary vocational schools all over the country. The Foundation is headed by a president who is responsible directly to the Ministry of Education. The President of the Foundation of Vocational Education is assisted by a vice-president and directors of the departments of Planning and Follow-up, Students Affairs and Technical Affairs¹⁵.

Higher Education is the responsibility of the Ministry of Higher Education and Scientific Research. Though the universities are autonomous in most of the technical and administrative matters, their authorities are bound to the issued guidelines of the Ministry. In addition the presidents of the seven universities and the leading administrators of technical institutes share the responsibility for making higher educational policy decisions, through the Council of Higher Education and Scientific Research, chaired by the Minister¹⁶.

The organisational structure of the Ministry of Higher Education and Scientific Research in Diagram 3.2 shows that there are 5 major departments each headed by a general directorate and responsible for a number of smaller departments. The Under-Secretary assists the Minister in running the day-to-day affairs and receiving reports from all departments.

Diagram 3.2 Organisational Structure of the Ministry of Higher Education and Scientific Research in Iraq

ORGANIZATIONAL STRUCTURE OF THE MINISTRY OF
HIGHER EDUCATION AND
SCIENTIFIC RESEARCH



Source: Iraq, Ministry of Education. 1986, Development of Education in Iraq during 1983/84 and 1984/85, Baghdad.

The Foundation of Technical Institutes is responsible for providing technical education at the post-secondary level. It has the responsibility of all higher technical institutes in the country¹⁷.

3.5 Education Financing

There is broad agreement that education constitutes a profitable investment in helping to make the most of human resources when provided efficiently. Therefore to analyse the financial aspects of education, one has to consider the question of profitability and quality. This new educational strategy has been proposed in the main working document of the UNESCO Secretariat, aimed at shifting the education system emphasis and increasing education's efficiency and profitability by making it more relevant to the requirements of development ¹⁸. However, time is needed to make an educational contribution to social and economic development of the country and to compensate for the amount of money spent on education.

Financing education is the responsibility of the state in Iraq. The education system is entirely funded from the central government funds. The government finances education of all types and at all levels.

The funds for pre-school and primary school education are provided by local Administrative units in the provinces from the Ministry of Local Affairs budget. Secondary education, both general and vocational, and teacher education funds are provided by the Ministry of Education, together with financing the costs of technical supervision, development of curricula, textbooks

and audio-visual aids for all educational levels below the university level. The Ministry of Higher Education and Scientific Research budget covers the finance of all types of higher education, post-secondary technical education, undergraduate university study and post-graduate studies, as well as the expenses of educational and scientific research studies¹⁹.

Funds are also allocated to education from annual and five-year Development Plan budgets. The funds are spent on two main areas of education:

Firstly, projects for the general improvement and development of the educational process. In 1979-80 the budget covered the areas of in-service teacher training programmes, audio-visual aids, language laboratories, educational equipment and the provision of technical and commercial schools.

Secondly, projects for setting up and maintaining the various educational institutions. The 1979-80 budget paid the cost of constructing new school buildings, new classrooms, maintenance of the educational institutions and setting up centres for training students in vocational schools²⁰.

The period since 1968 has witnessed a growing increase in the amount of funds allocated to the education sector. Table 3.1 shows the recurrent national budget and the figure and percentage of funds allocated from the national budget to education:

Table 3.1 Recurrent National and Educational Budget for the period 1968-1985 in Iraqi Dinars

Year	Recurrent National Budget	Recurrent Educational Budget	% of Ed. Budget from National
1968	218,775,048	51,734,950	23.64
1969	267,959,720	57,199,255	21.35
1970	257,474,430	62,378,787	24.23
1971	332,755,650	68,060,070	20.45
1972	346,898,970	76,834,710	22.14
1973	379,002,280	81,302,650	21.45
1974	657,310,890	124,909,890	19.00
1975	813,876,000	108,220,000	13.30*
1976	1,476,585,000	170,353,000	11.50
1977	1,652,998,040	195,362,060	11.82
1978	1,850,000,000	250,047,820	13.51
1979	2,616,000,000	349,216,829	11.89
1980	3,650,000,000	489,017,480	13.39
1981	5,025,000,000	515,600,000	10.26
1982	6,400,000,000	533,445,000	8.33
1983	8,300,000,000	542,139,000	6.53
1984	8,400,000,000	546,550,000	6.50

Sources: 1. Iraq, Ministry of Education, 1979, Development of Education in Iraq during 1976/77 and 1977/78, Baghdad, p 12.

2. Iraq, Ministry of Planning, 1981, Annual Report of 1981, Baghdad, Ministry of Planning Press, pp 47-48.

3. Abdul-Latif, S., & Others, 1982, Development of Education in Iraq, Iraq, Ministry of Education, publication number 156, Baghdad.

4. Iraq, Ministry of Education, Directorate General of Educational Planning, Statistical Department, 1982, Education in Iraq in Figures, Baghdad, Al-Thweni Press (leaflet).

5. Iraq, Ministry of Education, Directorate General of Educational Planning, 1986, Development of Education in Iraq During 1983/1984 and 1984/1985, A Report submitted to the 40th Session of International Conference on Education, Baghdad, p 11.

* Since 1976, the Iraqi Fiscal Year was changed from first of April to begin on the first of January and end by the end of December. Thus, this budget covered nine months only.

It can be noted from the above table that whilst real recurrent expenditure on education has grown steadily, except for the 1975 budget, the proportion of educational expenditure as a

percentage of the national budget has continued to decline since 1970. Furthermore, the rise in the real recurrent expenditure could be attributed to the high growth rate of population in the country, which had been one of the main factors in the cause of increased school population together with the rising social demand for education.

None the less the increased amount of expenditure on education in Iraq has resulted in expansion at all educational levels. This expenditure provided free education to all citizens at all educational levels.

The huge dimensions of educational programmes in Iraq at all levels requires large expenditure, and the question that raises itself here is : How can Iraq continue to carry out this huge programme, and where will it find the necessary funds?

With regard to the discussions in the previous chapter of Iraq's main dependence on oil resources to implement the country's development programmes, educational programmes are also funded by the central government revenues.

There is no sign of shortfall of funds in implementing the expansion of the education system. The costs of the war with the neighbouring country Iran in the period 1980 to 1988 and the fall in oil prices since 1982 have not affected the steady rise in educational finance. None the less, the country should strive to make more rational use of the funds spent on education by reducing waste and increasing internal and external efficiency of the education system, together with introducing new methods of saving funds in education, one of which could be

in the field of vocational training, that is to explore the introduction of out-of-school, on-the-job apprenticeship type of vocational training which costs less than the formal vocational secondary school education and training.

Technical/vocational education is predominantly manual in nature, thus incurring higher costs per student than academic education which does not have the same need for specialised equipment, workshops and laboratories. The average cost per student in technical institutes was 496 Iraqi Dinars in the academic year 1975/1976. In vocational secondary schools, the average cost per student was 411 Iraqi Dinars in Commercial schools and 679 Iraqi Dinars in Agricultural schools in 1982²¹.

The Ministry of Education's 1986 Report to the 40th Session of the International Conference on Education has given the following percentages for the distribution of the educational budget among the various educational sectors and stages:²²

1. Primary Education and Kindergartens	47.5%
2. Secondary Education and Teacher Training Schools	15.7%
3. Higher Education	25.0%
4. Miscellaneous Credits	9.0%

3.6 Curricula

The Ministry of Education has the sole responsibility for developing the national curricula, textbooks and teaching aids. The mechanism of curricula preparation and development is

supervised by the Directorate General of Curricula and Teaching Aids, which consists of five directorates, one of which is the Directorate of Curricula and Textbooks. The Directorate of Curricula and Textbooks has the duty of preparing and developing the curricula and textbooks of all educational levels below the university level. To carry out its duties of prescribing and developing the curricula, the Directorate has formed National Curriculum Committees (NCCs) for each subject or group of subjects in primary and secondary schools. The Committees include university professors, educational researchers, Inspectors of Education, experienced teachers, teaching staff and some of the staff members of the Directorate General of Curricula and Teaching Aids²³.

The steps which are taken in the process of preparing and developing curricula and textbooks are as follows:

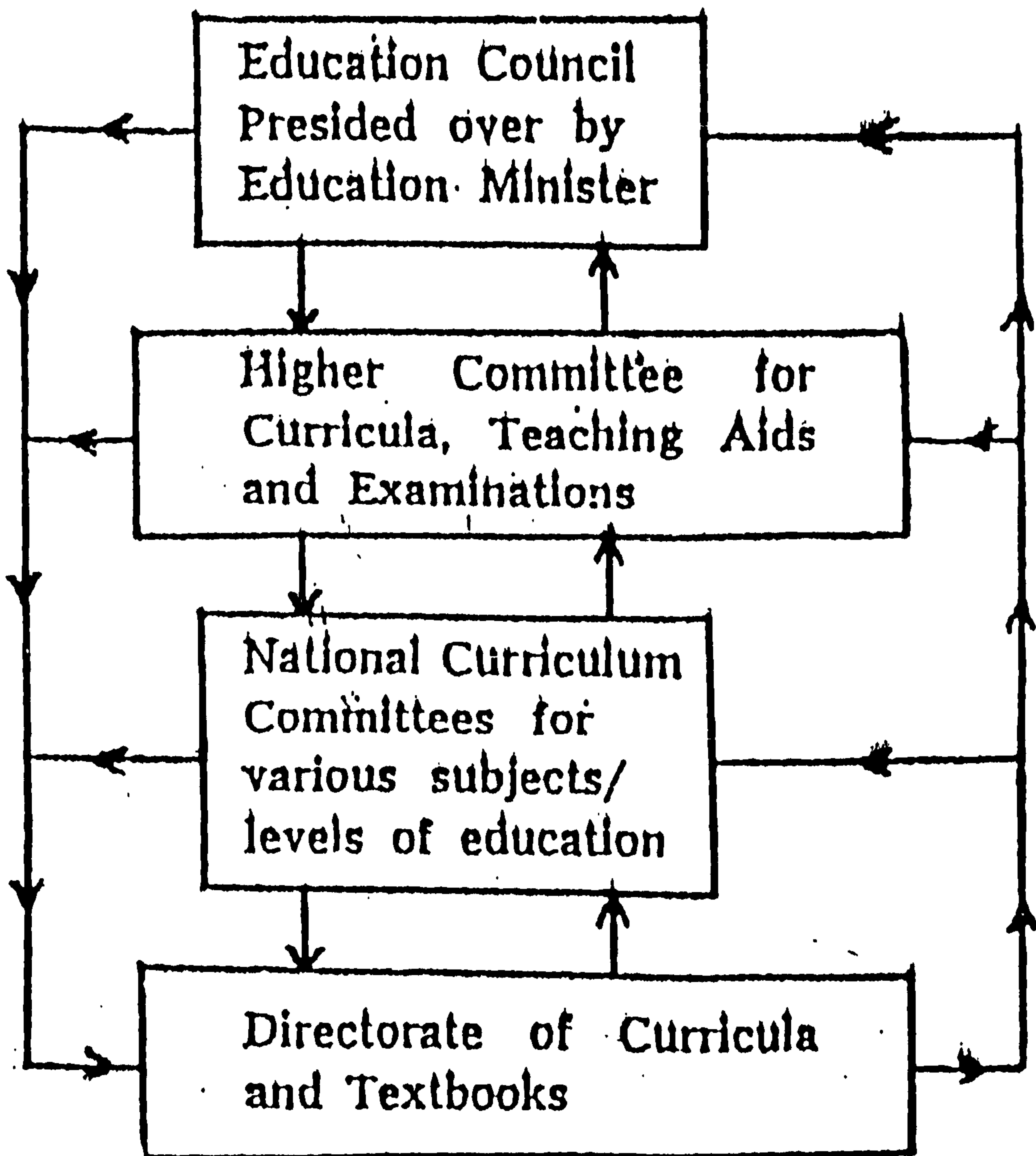
Firstly, identifying the fundamental principles of education as adopted by the Iraqi government and society.

Secondly, drawing up basic curriculum aims for each stage of education so as to help in developing a form of continuous progress in the development of the student's character and personality.

Thirdly, preparing the curriculum and syllabuses for each subject at all levels of education.

Finally, selecting relevant textbooks, teaching aids and other educational activities to ensure the achievement of educational objectives at each stage.

Diagram 3.3 National Machinery for the Development and Preparation of Curricula in Iraq



Source: Iraq, Ministry of Education, 1981, Development of Education in Iraq during 1978/79-1979/80. Baghdad

If satisfied, the Committee submits the draft curricula to the Education Council. However, the final approval of the national curricula, textbooks and educational programmes is given to the Council of Education, which is presided over by the Minister of Education himself, which has to be satisfied on all grounds or it will refer it back to the Higher Committee for clarification²⁴. Diagram 3.3 shows the national machinery for the development and preparation of curricula in Iraq.

The curricula, textbooks and syllabuses drafted are revised by the Higher Committee for Syllabuses and Curricula, Teaching Aids and Examinations which is located in the Ministry of Education and chaired by the Under-Secretary of Education and Technical Affairs²⁵.

The main significant changes which have been made recently in introducing the new national curricula in Iraq are aimed to emphasise the following features:

1. The new national curricula are redesigned on new grounds that are inspired by the socialist perspective, goals and philosophy of the ruling party and its dimensions in achieving the socio-economic changes according to the needs of the national development process.
2. The new national curricula put more emphasis on productive work by spreading manual workshops and technical arts in school curricula. For example, agricultural education has been established as a basic school subject, especially in the rural primary schools. Industrial art workshops at the intermediate stage are another case in point.

3. The new textbooks are revised to keep pace with modern development in the fields of curricula, methods of teaching and relevant activities.
4. The new curricula have given due consideration to the technical aspects and good formatting in preparing textbooks which are taking a new shape, well bound, heavy duty and printed in colour.
5. The new national curricula take into consideration new developments in various school subjects such as : modern and contemporary mathematics, developed sciences and language laboratories, so as to help the students to get the necessary knowledge in formation and skills.
6. The new national curricula have also identified the needs of the Iraqi society and emphasised the provision and expansion of vocational schools at the secondary stage of education on local environment basis to meet the increasing demand for skilled workers. Another major reform of the general secondary education was introduced when comprehensive secondary schools were opened on an experimental basis²⁶.

3.7 The Examination System

Although the modern Iraqi system of education has been developed from an Ottoman Secular System and influenced to a great extent by the British, it is very similiar to the French education system in the sense of being highly centralised and progress through the educational stages are determined by the official baccalaureate examinations.

Examinations are given a considerable importance in Iraq. The examination system and grade-to-grade performance which is illustrated in Diagram 3.4 of the Iraqi educational ladder is decided according to the Ministry of Education Laws and Regulations. Due to the current regulations, promotion of students from one grade to the next are dependent on successful completion of the lower grade. The successful completion of grade means gaining the minimum marks at the final school examinations (internal) or official public examinations (external). The minimum marks to pass each subject in both internal and external examinations is 50%. However, students compete in baccalaureate examinations for higher marks in order to guarantee a place in the academic stream of secondary education, that is the case for examinations at the end of grade 9 (intermediate), or to secure a place in the university or higher institutions as in baccalaureate examinations at the end of grade 12 (secondary academic or vocational)²⁷.

The final school examinations (internal) are held at the end of the grades 1-5, 7-8 and 10-11 for students in their own schools and by their own teachers. The public baccalaureate examinations (external) are held by the Ministry of Education at the end of grades 6, 9 and 12 which mark the end of primary, intermediate and secondary preparatory stages respectively. Both types of examinations whether internal or external are conducted twice a year, at the end of the school year in June and before the start of the coming academic year in September. The examinations are three hour written papers for each subject. In addition to the final examinations, schools hold daily and weekly quizzes, written monthly tests and mid-year examinations.

Generally, the outcome of the final examinations are not affected by those above, however, they may be in some cases in extenuating circumstances²⁸.

The final school examinations are conducted by the schools themselves to which a special committee is setup in each school. The Examination Committee consists of the headteacher, the assistant headteacher and two teachers who are chosen by the teachers themselves. The Committee's duties are: 1. Conducting and supervising the final school examinations. 2. Entering the examination marks of all students in the school register. 3. Announcing the examination results. The final baccalaureate examinations are organised and supervised centrally by the Ministry of Education through its Directorate of Examinations²⁹.

The conditions which decide success or failure in the final examinations are dependent on the pupil's marks in the final examinations. Except for the grades 1, 2 and 3 of primary education which the classteacher decides, the student is regarded to have failed if he/she is unable to obtain 50% of the mark in each subject. However, the student can be regarded to have conditionally passed if he/she fails to achieve 50% in no more than two subjects and providing the failed examinations are passed in the next round (in September). However, if he/she was unable to obtain the 50% marks in the next round of final examinations he/she will be regarded as having failed and will be required to repeat the year. The general conditions of the final examinations regard the student also as having failed when he/she:

"uses or tries to use unfair means at the examination; fails to present himself at the main examination without valid and acceptable reasons; or fails to appear at the supplementary examination for any reason whatsoever"³⁰.

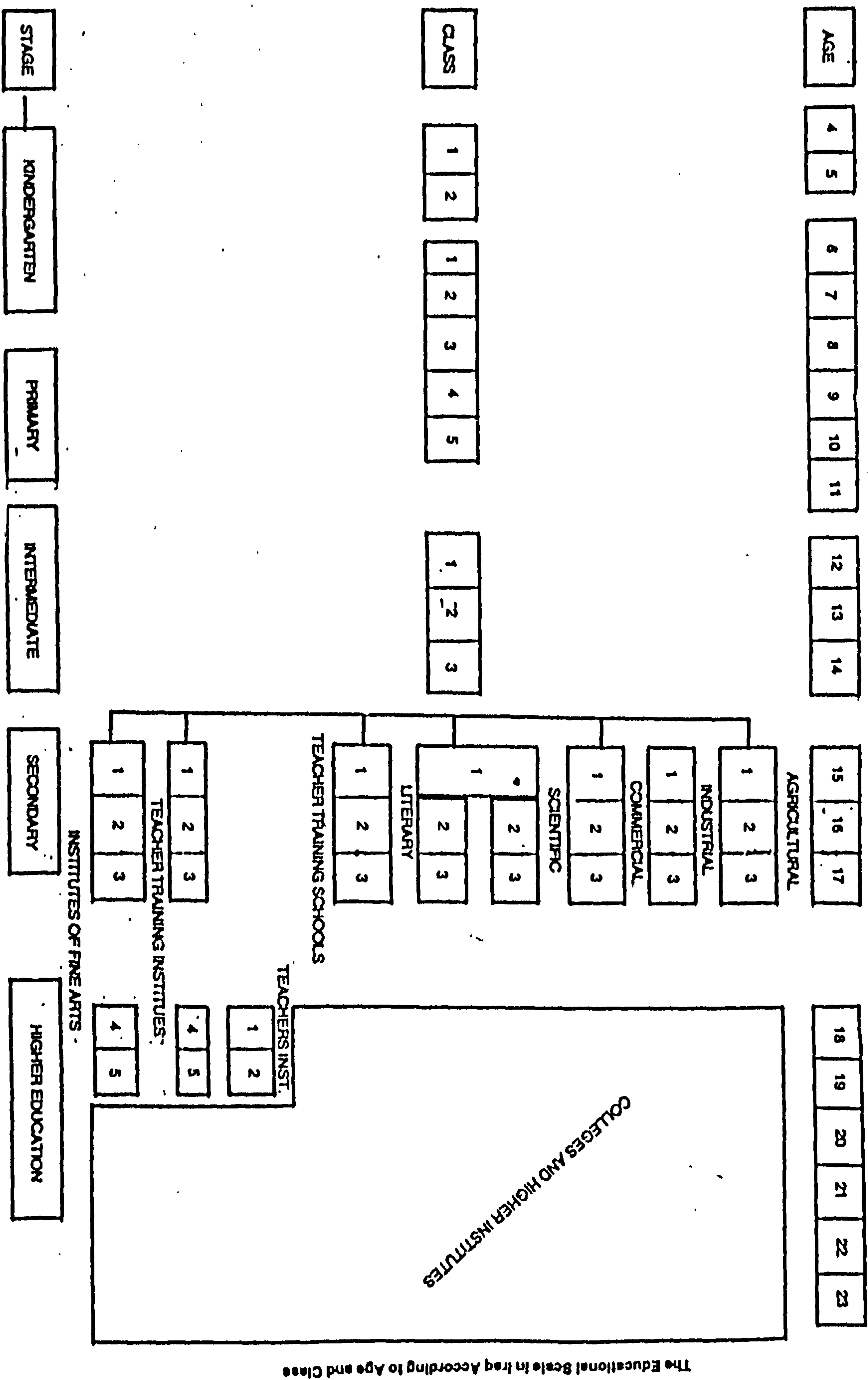
The significance of the public examinations come from the fact that they are not only a means to pass to the next stage but also determine the students' future, that is especially so at the end of secondary academic or vocational stages. Public examinations have been the centre of criticism by many Iraqi educationists for being a source of anxiety not only in students and parents but also in their teachers. The teacher is rewarded when a high percentage of his/her students pass the examinations and punished when a large number of students fail. Thus, it is said, teachers are obliged to prepare their students for written public examinations rather than for real life.

3.8 The Educational Ladder

The educational scales in Iraq are illustrated in Diagram 3.4, according to age and grade (class).

Pre-school education serves the 4-5 years age group. Compulsory education consists of six years of primary education. Secondary education is of two cycles of 3 years each followed by higher education.

Diagram 3.4. The Educational Ladder in Iraq: according to Age and Grade



Source: Iraq, Ministry of Education, 1986. Development of Education in Iraq during 1983/84 and 1984/85, Baghdad.

3.8.1 Pre-school Education

This stage comes at the bottom of the educational ladder. It consists of a two year voluntary schooling which caters for children in the age group 4 to 5 years. The first year is known as "kindergarten" and the second year is called "pre-primary"³¹. The curriculum and textbooks of this stage are centrally designed and prescribed by the Ministry of Education to cater for the children's mental, emotional, physical and psychological areas of development and growth. Their programme of study includes, in addition to indoor and outdoor activities, emphasis on the development of the children's language abilities, together with providing them with social, educational and religious knowledge³². The significance of this stage in the development of the child's personality and future academic success has led to increased attention to pre-school education by the government. In addition to the expansion of the pre-school service, children are provided with a free nutritional programme.

Since the academic year 1981/82 the pre-school curricula in Iraq include 13 textbooks, dealing with the education of children, together with a "Teacher's Guide Book", designed to help pre-school teachers³³.

The curricula aim to develop the skills of language, reading, writing, physical education, art and music in pre-school children through supervised play. They are all well organised and designed to develop the children's abilities in the areas of mental, spiritual, social, physical and language³⁴.

The schedule of the daily programme of pre-school education in Iraq is as follows:

Table 3.2 The Daily Programme of Pre-school Education in Iraq since the Academic Year 1981-82

Time		Activity
From	To	
-----	-----	-----
8.30	9.00	Reception and health inspection of children
9.00	9.30	Free play (out-door and in-door)
9.30	10.00	Language activities and maths
10.00	10.30	Hand washing and food
10.30	11.00	Social, spiritual and life teaching
11.00	11.30	Organised play
11.30	12.00	Art and music teaching
12.00	12.30	Physical education and out-door activities
12.30	1.00	Expressive activities: dances, playing with toys and music
1.00	1.30	Preparing children for departure
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Source: Abdul-Latif, S. & Others, 1982,
Development of Education in Iraq, Ministry of Education,
Publication number 156, Baghdad, p 95.

The above daily programme is used in pre-schools all over Iraq. The programme was extended to 3.00 p.m. in a number of pre-schools as a pilot study to meet the demands of working parents. Furthermore, the Seventh National Educational Conference held in Baghdad in 1981 has recommended opening more pre-schools with extended hours for the children of government officials and workers in urban areas³⁵.

The demand for pre-school places is growing fast in Iraq. Accordingly, table 3.3 shows that there has been a sharp increase in the number of enrolled children, during the period since 1968 together with an increase in the number of schools and teachers. The number of schools, teachers and children rose from 133, 620 and 13,857 respectively in 1970/71³⁶ to 549, 4335 and 80,812 in 1984/85³⁷. However, pre-school education is not well integrated into the education system, in the sense that the service is provided on a voluntary basis. Furthermore, the figure of 1984/85 does not exceed 15% of all children of 4 and 5 years of age.

Table 3.3 Development and Growth of Iraqi Pre-School Education during the period 1968-1985 in Selected Years

Academic Year	Children			Teachers	Schools
	Male	Female	Total		
1967/68	..	..	10,216	456	65
1971/72	..	..	13,857	620	133
1980/81	39,936	36,671	76,507	3,235	387
1984/85	42,058	38,754	80,812	4,335	549

- Sources: 1. Mohammad, 1987, The Place of Pre-School Education in the Iraqi Educational System, p 118.
2. Iraq, Ministry of Education, 1982, Annual Report of 1980/81, Baghdad, pp 32-33.
3. Iraq, Ministry of Education, 1986, Development of Education in Iraq during 1983/84 and 1984/85, Baghdad, pp 56-58.

3.8.2 Primary Education

There is a general agreement in Iraq that the primary education stage is the keystone of basic general education on which the

individual's future education relies. The primary school stage is of six years duration, covering the age group 6-11 (The reader is referred to Diagram 3.4 of the Iraqi Educational Ladder). The stage was made available to all Iraqi children (male and female) by the Ministry of Education Public Law number 57 of 1940, following Mathew & Akrawi's project for compulsory primary education in 1937³⁸.

Successive governments in Iraq have made attempts to spread elementary education among primary school age children. In 1952 an attempt was made by the then Iraqi government to open access to all Iraqi children of the primary school age when a new education Act was passed to emphasise providing free education at the primary school stage. This resulted from the Report of representatives of the World Bank, who visited the country in the same year on the Iraqi government's request and recommended compulsory primary education. That was followed by the visit of the British educationist (Dr. Victor Clark) in 1950 who suggested that compulsory education at the primary stage should be postponed until economic, social and political problems of the country were resolved ³⁹.

As a consequence of the Ministry of Education's efforts, considerable progress has been made in the provision of primary school education. The Ministry's statistics showed an increase in the number of students, teachers and schools to reach the figure of 435,635; 12,876; and 2,104 in 1957-58 respectively⁴⁰.

Though the enrolment figure of 1957/58 is high, the proportion of the primary school age children (6-11) did not exceed 40% of the total age group population in the general census of 1957⁴¹.

After the 1958 revolution, the primary school stage witnessed a rapid quantitative expansion and the number of students, teachers and schools rose to 990,718; 45,201; and 4,907 in 1967-68 respectively⁴². However, as a study by Rasheed has indicated, the figure covered only 55.3% of the primary school age children in the same year and the rest remained outside the schooling system⁴³.

In addition the proportion of female students were very low compared to male children. The percentage of enrolled females to the total enrolment at the primary school stage rose from under 32% in 1957-58 to 39% in 1967-68⁴⁴. The low proportion of females compared to males at this stage were due to a number of socio-economic, religious and traditional factors and attitudes which did not support the education of women⁴⁵.

After the assumption of power to the ABSP in 1968, primary education was given a special attention and compulsory education became one of the priorities of national educational policy in the country. Since then, the Ministry of Education has made many efforts to accomplish compulsory education at the primary stage. The rise in the actual enrolment of children at this stage has surpassed the 1970-75 plan's estimation of 4-5% to reach 7-8% during 1971-74⁴⁶. However, the real attempt was made in the National Education Plan of 1976-80 which called firstly, for the accomplishment of compulsory education in the primary stage by 1980 or before, and secondly, for an increase in the quality of education at this stage⁴⁷.

Accordingly, the Compulsory Education Law number 118 of 1976 was passed which stipulates that: "all children who have attained the age of six years at the beginning of each academic year must attend the primary schools until they attain the age of fifteen years. Parents who do not comply with this will be punished through fines or imprisonment"⁴⁸.

The qualitative and quantitative points which the National Plan of 1976-80 has stressed were:

1. Increasing the proportion of school age children (6 years old) in the first year of primary school stage to 95% of the age group population by 1980 for both sexes.
2. Giving priority to constructing school buildings in rural areas so as to achieve the ultimate aim of generalising education at the primary stage all over the country.
3. Creating positive trends among youngsters towards manual work by introducing more practical courses to this stage.
4. Raising the efficiency of education through: an increase in the number of teaching staff; a decrease in the number of failures; and providing the prerequisites for education at the primary school stage.
5. Solving the problem of over-crowded classes in the centre of cities.
6. Providing housing units for the teaching staff in rural areas, giving the priority to the accommodation of female teachers.

7. Providing an adequate number of teaching staff to face up with the requirements of compulsory education law at this stage⁴⁹.

Table 3.4 Weekly Time Table for Primary Schools
in Iraq in 1984-85

Subject/Year	Number of weekly periods					
	1st	2nd	3rd	4th	5th	6th
Islamic Education & Commentary on Quran	2	2	2	3	3	3
Arabic Language & Writing	11	11	11	11	7	7
English Language	..	..	..	..	4	4
Mathematics	6	6	6	6	5	5
Civics	..	..	..	3	1	1
History	..	..	..	..	2	2
Geography	..	..	..	..	2	2
Life Education	4	4	4	..	..	..
Science & Health Education	..	..	..	3	3	3
Agricultural Education	1	1	1	1	1	1
Art Education	2	2	2	2	1	1
Physical Education	3	3	3	2	2	2
Music & Anthems	1	1	1	1	1	1
Family Education	..	..	..	..	1	1
Total	30	30	30	32	32	32

Source: Iraq, Ministry of Education, 1986,
Development of Education during 1983/84 and 1984/1985,
Baghdad, p 40.

The primary education curriculum aims are to enable the pupils to grasp the fundamental skills of reading, writing and to acquire a basic understanding of science, health, education and

social sciences⁵⁰. Table 3.4 shows the weekly study plan for this stage in 1984-85.

The study plan for rural areas is the same as urban areas, except for devoting two weekly class periods to agricultural education which is taken from the weekly periods of life education in the 1st, 2nd and 3rd classes; and from science and health education in the 4th, 5th and 6th classes. In addition students in both rural and urban areas practice out-of-class activities in sports, arts and manual workshops as well as activities of the vanguards due to an out-off-class schedule to be prepared for this purpose⁵¹.

The medium of instruction in primary schools is Arabic, except for the Kurdistan Autonomous Region in which Kurdish is the medium of instruction in schools. The implementation of Compulsory Education Law in 1978/79 made education at this stage accessible to all school age children on reaching 6 years of age, thus achieving equality of opportunity for all children at this stage. Furthermore, the prime reason for the expansion of primary schools was that the government realised the potential growth of the very young in contributing towards improving future educational, technical and economic growth through their own education⁵².

As a result of those government policies, the primary stage has witnessed a rapid increase in the number of pupils, teachers and schools. The total number of enrolments at this stage has risen from 1,195,530 in 1971-72 taught by 54,302 teachers in 6,006 schools to 2,754,887; 115,642; and 9,897 respectively in 1984-85 (Table 3.5).

Table 3.5 Primary Education Provision in Iraq during
the period of 1971-72 to 1984-85

year	Number of students		Number of Teachers		Number of Schools			
	Total	% Female	Total	% Female	Male	Female	Mixed	Total
71/72	1195530	28.78	54302	33.68	..	..	..	6006
72/73	1297756	29.37	54979	34.32	..	..	..	6269
73/74	1408929	30.16	58455	35.41	..	..	..	6731
74/75	1523955	32.38	57621	37.33	..	..	..	6194
75/76	1776095	33.31	69812	36.61	..	..	..	7595
76/77	1949718	35.46	70663	41.23	2279	907	4979	8165
77/78	2048566	37.35	78060	40.81	2145	907	5335	8387
78/79	2459999	43.04	87122	43.61	1685	1031	7844	10560
79/80	2609182	45.01	92603	45.56	1671	1046	8607	11324
80/81	2613658	46.40	93915	48.46	1757	1072	8446	11275
81/82	..	..	..	..	..	..	..	..
82/83	2620883	..	107479	..	..	..	..	10243
83/84	2702165	45.63	112090	60.57	1422	768	7893	10103
84/85	2754887	44.87	115642	63.41	1369	754	7774	9897

- Sources: 1. Iraq, Ministry of Education, 1979,
Development of Education during 1976/77 and 1977/78,
Baghdad, pp 52-54.
2. Iraq, Ministry of Education, 1981,
Development of Education during 1978/79-1979/80,
Baghdad, pp 49-51.
3. Iraq, Ministry of Education, 1986,
Development of Education during 1983/84 and 1984/1985,
Baghdad, pp 56-58.

3.9 Secondary Education

The secondary stage of education was first established in Iraq by the Ottoman rulers of the country in the mid 19th century, when they developed a secular system of education. The Ottoman system established in addition to free primary schools in each Qadha, a number of academic secondary schools, two secondary industrial schools and one civil administration school⁵³. The provision was developed after the establishment of the modern Iraqi school system in 1921. In 1940 the Law number 57 made provisio for two types of education: secondary academic and secondary vocational. They were both of five years duration and

accepted students who passed the public primary education examinations.

At present secondary education, providing free education for the students of age group 12-18 years, is divided into two successive cycles, "intermediate and preparatory", each of three years duration. The latter, previously of two years duration was increased to three years in 1967⁵⁴.

Admission to the preparatory cycle is based upon success in the Intermediate Baccalaureate Examination in the final year of the intermediate cycle. However, students who fail in the final examination have to repeat the year⁵⁵.

The curriculum of the intermediate cycle aims at developing the abilities of the pupils, widening their understanding and their knowledge together with preparing them for the next educational cycle (preparatory). The academic preparatory cycle aims at fostering students' abilities which have been developed earlier, thus enabling them to reach higher standards of knowledge and skills. Additionally, it aims to widen students' particular fields of study when they specialise in the final two years of the cycle in either scientific or literature to prepare them for the higher education stage⁵⁶.

Table 3.6 shows the secondary education programmes for the intermediate cycle of secondary school education in Iraq in 1984-85:

Table 3.6 Intermediate Secondary School
Curriculum in Iraq in 1984/1985

Subject -----	Years of Study		
	1st ---	2nd ---	3rd ---
Islamic Education & Commentary on Qoran	2	2	2
Arabic Language	6	6	6
English Language	6	5	5
History	2	2	2
Geography	2	2	2
Civics	1	1	1
Principles of Mathematics	5	..	..
Algebra	..	3	3
Geometry	..	2	2
General Science	4	..	..
Chemistry	..	2	2
Biology	..	2	2
Physics	..	2	2
Man & Health	..	..	2
Art Education	2	1	1
Physical Education	2	2	2
Family Education (girls only)	1	1	1
Total per week			
boys	32	32	32
girls	33	33	33

Source: Iraq, Ministry of Education, 1986,
Development of Education in Iraq during 1983/84 and 1984/85,
Baghdad, p 41.

Table 3.7 shows the curriculum of the academic preparatory stream of secondary school education cycle in Iraq as it was in the academic year 1984/1985:

Table 3.7 Academic Preparatory Secondary School
Curriculum in Iraq in 1984/1985

Subject	4th year General	5th year Literary	6th year Literary	5th year Scientific	6th year Scientific
Islamic Education & Commentary on Qoran	2	2	2	2	2
Arabic Language	5	8	8	4	4
Kurdish Language	2	..	..	..	..
English Language	5	6	6	5	5
History	2	3	3	..	..
Geography	2	3	3	..	..
Sociology	..	2	..	..	..
Economics	..	2	2	..	..
Mathematics	3	2	2	6	5
Chemistry	3	..	..	4	4
Physics	3	..	..	4	4
Biology	3	..	..	4	4
Physical Education	1	2	1	2	1
Art Education	1	1	1	1	1
Family Education (girls)	1	1	1	1	1
Health Education (girls)	1	1	1	1	1
Total per week boys	33	31	28	32	30
girls	35	33	29	34	31

Source: Iraq, Ministry of Education, 1986,
Development of Education in Iraq during 1983/84 and 1984/1985,
Baghdad, p 42.

3.9.1 Vocational Secondary Education

In addition to academic preparatory schools, there are also industrial, commercial and agricultural schools, known as vocational secondary education which consists of the same 3 years duration. Admission to these schools is dependent on passing the Baccalaureate Examinations at the end of the intermediate cycle⁵⁷.

The vocational secondary education curriculum aims at preparing skilled and well-trained manpower in commercial, industrial and agricultural fields. As to the curriculum of these schools, all students in vocational secondary schools are taught Arabic, English and religious education. The students in industrial schools are taught basic applied mathematics and science combined with extensive training. In agricultural schools the specialised subjects include farm produce, animal care, dairy farming, farm management and horticulture. The students in commercial schools are taught commercial correspondence, bookkeeping, commercial mathematics and typing together with practical training⁵⁸.

The vocational stream of secondary education has recently been the subject of special attention by the government, being regarded as the main source for preparing the middle-rank skilled manpower required for the implementation of national development plans in the country⁵⁹.

As a result of this special attention there has been a dramatic increase in the number of vocational students, teachers and schools during the last decade rising from 9543, 1117 and 52 in

1971/1972⁶⁰ to 99246, 5315 and 202 respectively in 1984/1985⁶¹.

Females represented only 28.6% of the total number of students in 1984/1985. However, the proportion of female students differ from one type of school to the other. For instance, the percentage of female students in Industrial schools was 5.7% in the academic year 1984/1985 compared with 14.8% in Agricultural schools, and 74% in Commercial schools in the same year. The high percentage of female students in Commercial schools is the result of women's desire to take clerical rather than factory or farm work⁶². Both male and female students have equal access to all types of vocational secondary schools in Iraq.

The status of vocational secondary schools will be covered in a great detail in chapter 5 of this study.

3.9.2 Higher Education

Higher education is of 3-6 years study covering the age group 18-23 years. Higher education stage study is either in technical institutes of two calendar years, leading to "Technical Diploma" or in specialised colleges in the fields of Arts, Sciences, Fine Arts, Medicine, Engineering and so on, leading to B.A. and B.Sc. degrees.

3.9.2.1 University Education

Education at this level produces specialist skilled and expert manpower at the productive and administrative sectors of the developing economy of the country. Higher education in Iraq started in 1908 when the Baghdad Law School was established.

This was followed by the foundation of the Baghdad University in 1956. Today university education in Iraq is provided through the seven universities of Baghdad, Basrah, Mosul, Salahaddin, Al-Mustansiriyah, Al-Rashid and Technology. All Iraqi universities provide the broad disciplines of higher education and are distributed to cover all the geographical regions of the country⁶³.

Each university consists of a number of colleges and each college contains of a number of departments. Admission to the university level requires the "Certificate of Baccalaureate Examination", which are held at the end of preparatory academic or vocational secondary education. In addition the marks obtained in the examination will determine the field of study, that is the college and the department for the student on competitive basis.

In 1982/1983 university education was provided through 46 colleges of the above seven universities in the country. The number of university students at the undergraduate level in the academic year 1982/1983 were 85,573 (33% of them were females) and a teaching staff of 4,624 (17% were females)⁶⁴.

3.9.2.2 Higher Technical Institutes

Technical/vocational education at the post-secondary stage is provided by the Foundation of Technical Institutes of the Ministry of Higher Education and Scientific Research. The Foundation of Technical Institutes was founded in 1972 to provide a two-three year study at the tertiary level through Technical, Agricultural and Administrative higher institutes all

over the country⁶⁵.

The main objectives of these higher technical institutes are to prepare middle level technicians. The institutes offer graduates of 12th grade academic preparatory schools who have passed the stage but are unable to find a place in the universities because of their low marks in the National Baccalaureate Examination. They will also accept graduates of vocational secondary schools in their similiar specialised fields of study.

In 1984 there were 22 higher technical institutes, with an enrolment of 34,277 students (25,196 males and 9,081 females) and a teaching staff of 2,200 together with 1,700 technical instructors⁶⁶. That is compared to 8 higher technical institutes with an enrolment of 5,833 students and 412 teaching staff in 1975/1976⁶⁷.

In addition there are a number of medical institutes throughout the country, supervised by the Ministry of Health through its Foundation of Medical Education and Training. A number of other specialised technical institutes exist in Iraq, namely: Technical Institutes of the Ministries of Oil, Transportation, Industry and Labour⁶⁸.

3.9.3 Graduate Study

Graduate education prepares students for higher specialised diplomas, Masters and Ph.D.s in the fields of science, humanities, education and arts⁶⁹.

Graduate study is available at all the universities in the

country. However, because of the increasing demand for this type of education which surpasses the number of the places available, students are allowed to continue their studies abroad.

Higher education abroad is organised and funded through bilateral agreements with other countries. The Iraqi government's funding enables a number of Iraqi students to receive their undergraduate and postgraduate education elsewhere. The countries chosen by Iraqi students to continue their higher education studies are Britain, France and the Soviet Union. British Universities and Higher Education Institutions are highly regarded for higher education abroad and particularly for postgraduate studies⁷⁰. Table 3.8 shows the number of Iraqi students pursuing their higher education in Britain:

Table 3.8 The Number of Iraqi Students in Britain
for the period between 1980-1984

level	Academic Years of Study			
	1980/81	1981/82	1982/83	1983/84
Postgraduate	1,214	1,156	1,293	985
Undergraduate	90	109	152	142
Polytechnics	257	281	275	278
Other higher Institutions	644	516	539	453
Total	2,205	2,062	2,259	1,858

Source: The British Council, Editorial Section, Central Information Service, 1985, Education Profile: Iraq, London, p 14.

3.10 Teacher Training

In Iraq as elsewhere, the teacher is the corner stone in the success of the educational process, and his/her training is the only efficient way of raising the standard of education. Curle in his book, "Educational Strategy for Developing Countries", 1961, stated that:

"More can be done to raise the standards of education and at less cost through teacher training than any other activity"⁷¹.

There are three main types of pre-service teacher training education institutions in Iraq:

1. Teacher Training Schools of three years study after the intermediate stage. They prepare specialised teachers for pre-school and primary school institutions. Teacher training schools accept students who have successfully passed the Intermediate Baccalaureate Examination of the 9th grade, leading to a certificate of education. There has been a change as from the academic year 1983/1984 from teacher training schools to teacher institutes with courses of 5 years duration. The institute's first three years are dedicated to general subjects and the last two years provide five areas of specialisation. They are: general primary education, kindergarten education, special education, psychology and physical education⁷².

The curriculum of teacher training schools includes general subjects, educational psychology, child psychology, principles of education and methods of teaching. The curriculum of the first three years are dedicated to general

subjects and the last two years provides specialised subjects as well as general subjects. The study plan for each of the above sections in Teacher Training Schools is different from the others in that it provides specialised subjects as well as general subjects.

There were 9,883 students (53% of them female) enrolled in 12 Teacher Training Schools, taught by 328 teachers, in Iraq in 1984-85⁷³.

2. Teacher Training Institutes which offer a two year course, culminating in a Diploma in Education for those who have successfully passed the Preparatory Baccalaureate Examination of the 12th grade. They also prepare teachers for pre-school and primary school education stages in a curriculum similar to Teacher Training Schools curriculum which covers, in addition to general subjects, educational psychology, child psychology and methods of educational research, more intensive specialised training in methods of teaching particular subjects, such as English and physical education.

Table 3.9 shows the Study Plan for the 2nd year/General Section of Teacher Training Institutes:

Table 3.9 The Study Plan for Teacher Training Institutes
 (Second Year/The General Section)

Subject	No. of Hours
Methods of teaching Religious Education	1
Methods of teaching Arabic	4
Methods of teaching English	4
Methods of teaching Sciences	2
Methods of teaching Mathematics	2
Methods of teaching social sciences	2
Educational psychology	2
Administration and Educational Supervision	2
Teaching Aids	2
National and Socialist Education	2
Methods of teaching Music and Anthems	1
Methods of teaching Painting and Sculpture	1
Methods of teaching Physical Education (1 for physical education and 1 for vanguard education)	2
Total	27

Source: Iraq, Ministry of Education, 1986, Development of Education in Iraq during 1983/84 and 1984/1985, Baghdad.

3. Specialised Teacher Training Institutes: In addition to teacher training schools and teacher training institutes, there are specialised teacher training institutes such as the Institute of Fine Arts and the Institute of Special Education. The Institute of Fine Arts provides courses of five years duration, accepting graduates of intermediate schools and training them to be specialised teachers for Art, Music and Drama. The Institute for Special Education offers two years study after the preparatory stage. The graduates

are specialised in teaching slow learners and weak-sighted children, and children with hearing difficulty⁷⁴.

In order to meet the increasing demand for education and especially after the introduction of compulsory primary education and the national comprehensive literacy campaign, there was a rising demand for more primary school teachers. Thus, the Ministry of Education has given considerable attention to the quality and quantity of teacher training schools and institutes.

As far as in-service training for teachers is concerned, the Ministry has given increased attention to training primary and secondary school teachers who are in service. In 1971, the Ministry established the Institute for the Development of English Language Teaching in Iraq (IDELTI), in order to develop the knowledge and skills of teachers of English in primary and secondary schools. Since then, IDELTI has organised courses of six and one month duration for primary and secondary school teachers and Inspectors of English. The Ministry has also established the Institute for the development of Arabic Language Teaching in the country, to take care of the development of Arabic language in primary and secondary stages of education, and to widen the experience of not only the teachers in these stages but also the Primary School Inspectors and Specialised Inspectors of Arabic Language⁷⁵.

In addition various other courses of in-service training have been organised by the Directorate-General of Education in the provinces for all other subjects taught at primary and secondary stages of education every year together with panel discussions,

seminars, lectures and model lessons organised frequently for teachers in their field of specialisation⁷⁶.

Secondary School Teachers

Secondary school teachers are prepared in the following educational institutions:

1. At the universities, which grant students B.A. degrees after four years of study to qualify them for teaching in secondary schools. Colleges of Education in the Universities of Baghdad, Al-Mustansiryah, Al-Mosul, Al-Basrah and Sala-Al-Din are responsible for preparing teachers in sciences, arts, social sciences, education and psychology⁷⁷.
2. The Fine Arts Academy which prepares specialised teachers to teach different fine art subjects at the secondary stage such as plastic art, drama, ceramics and so on⁷⁸.
3. The Colleges of Physical Education in the universities which prepare secondary school teachers to teach physical education at both intermediate and preparatory cycles of secondary education⁷⁹.

Vocational secondary school teachers are prepared ^{for four years} through the following educational institutions ^{from} which the graduates are awarded B.Sc. degrees:

1. Colleges of Agriculture at the university level which prepare teachers for vocational agricultural schools at the secondary stage through their departments of agricultural teachers.

2. Colleges of Administration and Economics in the universities which prepare teachers for Commercial education schools through the department of preparing commercial teachers.
3. The University of Technology which prepares teachers for technical and industrial education for the branches of electricity, mechanics and construction.
4. The Foundation of Technical Institutes which prepares industrial teachers for practical subjects. Graduates of technical institutes are awarded "technical diploma" and are qualified to train students on practical subjects in the workshops and laboratories in both academic and vocational secondary schools after a study duration of two calendar years⁸⁰.

3.11 Development and Growth of Non-Formal Education

The formal education system in Iraq has not provided education to all Iraqi citizens of all age groups and there are for instance some disadvantaged and deprived population groups who are not covered by the facilities of the formal Iraqi education system. Thus, the government's goal of broadening access to education and learning needs of adults and youth had to be met by non-formal education programmes.

The following educational programmes are examples of the government's concern at broadening equal educational opportunity access for all children and all population groups. The programmes are mostly non-formal in nature and approach which are organised parallel to the formal schooling system:

3.11.1 Adult Literacy Education

Iraq has suffered from the social problem of mass illiteracy for a long time. Since the country's independence in 1932 successive governments have realised that illiteracy is one of the dangerous social problems which prevent the development of the country. They have made attempts to deal with the problem that was widespread among the masses, especially the farmers, the workers and women with a rate over 50%⁸¹. However, the real attempt to eradicate illiteracy was made by the new government in 1978 when Law number 92 was passed which inaugurated the Comprehensive National Campaign for the eradication of illiteracy. That was the result of the Political Report of the 8th Congress of the Arab Ba'th Socialist Party in 1974 which stated that:

"The illiteracy of vast sectors of the population, especially in rural areas, is one of the most formidable obstacles to the political, economic and social progress of our country. .. The fight to eradicate illiteracy is therefore an essential part of our work.. the struggle against illiteracy has as yet hardly begun. It has not yet reached the level of a national campaign needed to end the problem"⁸².

According to this Law, which applies to the whole country, all those aged between 15-45 years who cannot read and write are eligible to join literacy classes. On the first of December 1978 Literacy centres were opened all over the country as a part of a National Campaign backed by massive radio, press and television coverage, headed by the president of the country and involved all national, professional and local government sectors.

The total number of illiterate people in the age group 15-45 years was 2,312,630 at the beginning of the campaign in 1978, of which 676,693 were males and the rest 1,535,937 were females. The ultimate goal of the National Campaign was to eradicate illiteracy among all Iraqis within the age group 15-45 years by enabling them to be literate and "reach the cultural standard" through:

"The acquisition of the 3Rs; application of these skills to develop their cultural, social and economic life; the development of the citizen's self-confidence, and nationalist, socialist and humanitarian concepts of work and life; and the provision of means to promote self-development in such a way that enables the citizen to continue education, to develop abilities and attitudes which enable him/her to contribute constructively to society"⁸³.

The Comprehensive National Campaign for the Eradication of Illiteracy -- laid down a plan to achieve the full eradication of illiteracy amongst the target group (15-45) in a period of 35 months as is shown in the following table:

Table 3.10 Time Ceiling for Eradication of Illiteracy amongst target groups 1978-1980

Enrolments	Rate of Absorbtion	
	Males	Females
1/12/1978 (First Batch)	50%	25%
1/7/1979 (Second Batch)	50%	25%
1/2/1980 (Third Batch)	...	25%
1/9/1980 (Fourth Batch)	...	25%

Source: Sulyman, K.H., Organising A Mass Literacy Campaign: The Case of Iraq, in UNESCO, International Institute for Educational Planning, 1985, Issues in Planning and Implementing National Literacy Programmes, Paris, p99.

The enrolment in literacy centres surpassed the above planned rates, and there were 1,986,136 learners enrolled in literacy centres by July 1979 (that is 83% of the total target group 15-45 years). In addition, the campaign has adopted a follow-up approach and opened "Popular Schools" for those who have successfully passed the fundamental and complementary stages of literacy. Graduates of literacy centres were accepted in the 4th year of these popular schools and had the opportunity to obtain the sixth primary school certificate⁸⁴.

Primary and secondary school teachers as well as government officials and students in the final year of teachers Institutes and colleges of Education were provided with necessary cognitive and psychological education training to teach adults in these literacy centres. To this end, the "Central Institute for Training Literacy Leaderships" was founded in Baghdad, to provide training to teachers, supervisors, technical cadres and administrators required by the campaign. It has provided training for 77,444 teachers, 993 supervisors, a large number of armed forces, literacy cadres and a considerable number of technical and administrative personnel both locally and centrally⁸⁵.

Standard textbooks for both basic and integral stages were prepared by special committees set-up by the Curricula Department at the Campaign's executive body. The prepared textbooks were as follows:

- "1. A unified reading primer for all basic stage learners.

2. Integral stage reading primers for workers, farmers, women and the armed forces.
3. Arithmetic (unified) primers for basic and integral stages.
4. General culture textbook for both levels (for teachers only).
5. Reading and arithmetic teachers' guidebooks"⁸⁶.

The campaign's plan, estimated the total cost per learner at 26.77 Iraqi Dinars (that is a budget of 66,951,000 Iraqi Dinars), to be funded from the National Development Plan's Budget of the country. However, for the years 1979, 1980 and 1981 the actual expenditures stood at 36 million, 30 million and 28 million Iraqi Dinars respectively. Further 35 million Iraqi Dinars were allocated to cover follow-up activities and popular schools' costs⁸⁷.

The campaign has helped in raising the literacy rate in the country which surpassed most other Arab Countries and broadened the objectives of compulsory literacy to include the concept of continuing education in popular schools for learners who have finished the two stages of literacy. Though the campaign has resulted in graduating a large number of learners to the stage of primary schools and a considerable number of them are now attending other stages of learning within the formal schooling system, no official statistics have been published in regard to the detailed success of the campaign. The Statistical Yearbook of Education of UNESCO has put the proportion of illiterate people among the age group 15-45 at 10.7% (12.5% of females compared to 9.8% of males). That is a sharp decline from 56% of illiterate people in 1977 as a result of the campaign. However, it is worth mentioning that the UNESCO figures were based on

estimates made by national authorities in Iraq⁸⁸.

3.11.2 Accelerated Education Schools

As the Ministry of Education started enforcement of the Compulsory Education Law number 118 of 1976, all children of the age group 6-10 were enrolled at primary schools. Moreover, as the Ministry put into force the Law number 92 of National Campaign for Compulsory literacy in 1978, it organised literacy centers for the age group 15-45 years. Neither of the above two laws has covered the group of children in the age range of 10-15 years who have missed schooling and can not be accepted in primary schools as they have passed the legal age of nine years. The Ministry of Education has established special primary schools for them known as "Accelerated Education Schools".

Though the idea of these schools first came about when a study seminar was held in March 1970, an Accelerated Education Committee was not established until 1975. This Committee together with several other sub-committees which were also formed were given the task of opening such schools, providing for their management, adapting the primary school curriculum and setting a four-year duration study for them⁸⁹.

Children between the age of 10-15 who had not already enrolled in primary schools and could not join literacy centers because they do not fall into the age group 15-45, were admitted to those Accelerated Education Schools. They were taught the primary school curriculum in special courses organised for them in four years. Their school curriculum and programmes of study covered both practical and theoretical subjects which aim at

"providing the illiterates with an adequate knowledge of theoretical, vocational, industrial, agricultural and home economic studies in order to make responsible citizens out of them, respecting manual work and appreciating collective work, besides enabling them to carry on further study in the other stages of learning, if they desire so"⁹⁰.

The number of students enrolled in accelerated education schools rose from 1,921 in the academic year 1977/78 to 10,632 in the academic year 1978/79 to cover all urban centres in the country. In addition a number of accelerated education classes were opened in areas of greater need and were attached to primary schools⁹¹.

Parvez, 1982, in his Assignment Report of Pilot Experimental Project for An Integrated Approach to Education for Rural Development in Iraq: Planning for Pre-Vocational Education, has noted the provision of 4-year primary course for the benefit of older adolescents in some schools in the Ghalibia area, where the project centre was located. However, other than accelerated education classes, he saw no extension activities or community service programmes offered by the school system⁹².

3.11.3 Special Centres

In addition to accelerated education schools a number of special centres have been set-up throughout the country to provide basic education to girls who are 12 to 14 years old and with little or no previous education. The programme of these special centres includes basic literacy skills and elementary arithmetic together with training in home economics and home nursing.

Furthermore, the government has already set-up centres, providing job oriented vocational training to girls⁹³.

3.11.4 Education for Rural Development

The Ministry of Education in cooperation with UNESCO has established a Pilot Experimental Project in an integrated approach to education for rural development. The overall aim of the project is to "prepare poly-valent programmes which are fully integrated into the development needs of rural areas"⁹⁴. The programmes also involve the development of new methods to prepare children, young people and adults for wider participation in community life, thus, making effective contributions to the economic, social and cultural development of Iraq.

3.11.5 Special Education Classes

Though the area of special education falls within the responsibility and administration of the Ministry of Labour and Social Affairs, the Ministry of Education has also established special educational classes and attached them to primary schools. The special educational classes of the Ministry of Education cater for children of slow learning, slight mental retardation, behaviour problems, hearing problems, speech difficulties, short sightedness and children with walking difficulties⁹⁵.

Since 1970 when the Ministry of Education has opened a special education section in the Directorate General of Pre-School and Primary Education as illustrated in Figure of the structural

organisation of the Ministry, the section has all the responsibility of providing such education. The section's responsibilities include, not only the administration and curriculum preparation for those mentally and physically handicapped children but also setting-up plans for the expansion of special education classes. The section is also responsible for providing educational materials, equipment and trained teachers for the existing institutions which include one school for deaf and mute, one centre for the blind and two schools for the mentally retarded children⁹⁶.

The experiment of special education classes was applied by the Ministry of Education to the whole country in the academic year 1979/80, aiming to achieve a balanced growth in the children's social, corporal, mental and psychological aspects. As a result, the number of children in these special classes rose to 605 in 1980, accommodated in 74 classes⁹⁷.

3.12 Problems and Difficulties of the Education System

The experience of the Arab Ba'th Socialist Party's education policy in Iraq outlined above suggests strongly that the education system has overcome the traditional educational problems which most of the developing countries face. Such problems are: the low proportion of women in education; imbalance of education between rural and urban areas; and low enrolment ratios among children. The proportion of female students currently stand at 47%, 32% and 30% for primary, secondary and higher education respectively⁹⁸.

Compulsory primary education and national comprehensive literacy campaign are not only contributing to the resolution of the above mentioned traditional problems but also demand the setting up of new educational priorities for the education system. However, this is not to suggest that the education system is not facing any problems.

Despite the rapid development and growth of education in Iraq at all levels the following are the main problems which face the education system in Iraq at present:

1. The education system does not produce sufficient qualified manpower for the development and growth of the country, especially in the field of science and technology in regard to teaching, training or administrative and technical offices.
2. Shortage of school buildings to accommodate the increased number of students at all levels of education under the university level together with shortages in school furniture and teaching equipment.
3. Drop-out, failure and absenteeism problems of some students at all educational stages.
4. The slow pace of developing the relationship between school, society and home⁹⁹.

The Ministry of Education has recognised these difficulties and endeavours to solve them through a comprehensive plan for innovation and reform throughout the whole educational system. As the country suffers from a severe shortage of indigenous

skilled manpower and technical staff, there has been a pressing need for expanding technical/vocational education to overcome this shortage.

In recent years in Iraq, as in the majority of Arab countries a trend has been developed to introduce manual education as a component of general education. Since the academic year 1986/1987 Iraq has introduced practical and technological components into primary and intermediate school curricula as part of the attempt to vocationalise the education system, in order to help students in developing technical tendencies and aptitudes¹⁰⁰.

As a consequence of the special attention which has been given to technical/vocational education which is believed to play a vital role in the implementation and acceleration of national economic development plans in the country, a number of problems have risen. The most important problems facing technical/vocational education in Iraq are as follows:

- "1. Lack of student interest in this type of education.
2. Insufficiency of local teaching staff.
3. Social outlook upon manual education"¹⁰¹.

3.13 Conclusion

The existing system of education in Iraq is the result of a long chain of historical processes. Its origins are rooted in the typical form of religious Quranic schools "kuttab" and goes back to the educational system which was introduced by the Ottoman

rulers in the mid 19th century. It has also been influenced a great deal by the British during the period from the First World War to 1958, and by Egypt who assisted in providing curricular, teachers and educational management in the early stages of the modern Iraqi state. However, the framework of the modern educational system has developed more after 1968, when education was given a leading priority, regarded not only as one of the major public services besides health, but also as the means to prepare the potential manpower required for the economic, social, cultural and political development of the country.

The current Iraqi education system is based on comprehensive national policy principles derived from the socialist perspective of the ruling Arab Ba'th Socialist Party and its motto in "unity, liberty and socialism" which are believed to cope with economic, social, political and cultural needs of the Iraqi society. The general objectives of education in Iraq covers a wide range of aspects related to national and religious aspirations and covers human, democratic, socialist, scientific, development, constructional, innovation, humanity and life long education areas. Its priorities are: achieving universal primary education for all the primary school age children, and eradicating illiteracy among the age group 15-45 years.

The education system is centralised under the authorities of both the Ministry of Education and the Ministry of Higher Education and Scientific Research. The education system is entirely funded from the central government funds which finances education of all types and at all levels, starting from pre-school education and through to the university level.

The educational ladder in Iraq includes: pre-school education for 2 years covering age group 4-5 years; primary education for 6 years, covering age group 6-11 years; secondary academic or vocational for 6 years, covering the age group 12-17 years and higher education for 2-6 years, covering age groups 18-23 years. The educational stages are terminated by national baccalaureate examinations. The primary stage is compulsory and terminated with the primary school certificate which enables students to move to the next stage (the intermediate cycle of secondary education) and thereafter to the preparatory cycle of secondary academic or vocational education.

The examination system is one of the areas least affected by change. As a basic rule students promotion to the next grade in the educational ladder is determined by school examinations, and their promotion to the next educational stage is determined by their performance in national baccalaureate examinations which are organised by the Ministry of Education. National examinations in Iraq are used as a tool not only to ensure uniformity of educational standards across the country but also as the main method of selecting students for higher education.

In addition to the formal education system, there are a number of non-formal education programmes in Iraq. They are namely, Adult Literacy Education for the age group 15-45 years; Accelerated Education Schools for the children of age range 10-15 years who are not attending the formal educational schools and a number of other special centres which provide special education classes to deprived sectors of population in rural and urban areas throughout the country.

Since 1968, the education system has grown and developed very rapidly at all levels which reflects the importance attached by the authorities to the process of human resources development. The process is viewed economically as the accumulation of human capital required for the economic development process of the country and involves the increase of knowledge, skills and capacities of all members of the Iraqi society. However, the education system is still facing a number of problems. One of which is its inability to cope with the development and growth of the country by producing the qualified and trained manpower required. As a consequence of the rapid quantitative growth in the school population at all levels, there is inadequacy in school buildings.

Special attention has been given to technical/vocational education which is believed to play a vital role in the implementation and acceleration of national economic development plans in the country. However, technical/vocational education in itself is facing a number of severe problems related both to the structural reality of the Iraqi society and the organisational requirements of technical/vocational institutions.

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CHAPTER 4

4 TECHNICAL/VOCATIONAL EDUCATION ANTECEDENTS IN IRAQ

- 4.1 Technical/Vocational Education prior to 1534
- 4.2 Technical/Vocational Education during the Ottoman Period 1534-1914
- 4.3 Technical/Vocational Education under British Rule and Mandate 1914-1932
- 4.4 Technical/Vocational Education during the Independent Iraq 1932-1958
- 4.5 Technical/Vocational Education during the Republican Era 1958-1968
 - 4.5.1 The Iraqi Petroleum Company Scheme
 - 4.5.2 The Iraqi Railway Apprentice School
- 4.6 Conclusion

4 TECHNICAL/VOCATIONAL EDUCATION ANTECEDENTS IN IRAQ

Contemporary technical/vocational education in Iraq, as elsewhere is influenced by the country's own specific social, economic, cultural, political and historical features which have served as the antecedents to the development of its framework.

The aim of this chapter is to explore types of technical/vocational education developed throughout the history of the country, in order to trace the development of the current provision of technical/vocational education in Iraq. This will include Technical/Vocational Education prior to 1534, Technical/Vocational Education during the Ottoman Period (1534-1914), Technical/Vocational Education under British Rule and Mandate (1914-1932), Technical/Vocational Education in Independent Iraq (1932-1958) and Technical/Vocational Education during the Republican Era between 1958-1968.

4.1 Technical/Vocational Education prior to 1534

The ancient Iraq known as Mesopotamia (The Land between the Rivers), witnessed the first education system in the world during the time of Hamorabi. During the period between 1792-1750 B.C. Hamorabi established the first formal school with a clear curriculum and programmes of study and with professional teachers. The school was founded in the ancient town of "Saba'" south of the capital Baghdad¹.

Thereafter the country saw the rise and fall of many foreign invaders. However, no influence has been greater and longer than that of Islam which reached the country within a decade of

the Prophet Mohammed's death, that is in 641 A.D.².

Since 641 A.D. when Islam became the dominant religion in the country, it has established its roots in the society and controlled all areas of life in one way or the other. The word "Islam" in itself means submission and a muslim, is a person who submits himself to the Islamic Law (Sharia), which is contained in both the Holy Quran and the Hadith (sayings of the prophet). Thus, whilst Islam was the way of life for muslims, the Quran which is regarded as Allah's eternal word by muslims, was the foundation stone of muslim education³.

Iraq, as all Islamic countries, saw education in a religious and moral light. The educational aspect of Islamic religion was born with the delivery of the first verse of the Holy Quran delivered by Angel Gabriel to the prophet Mohammed who said:

"Read, in the name of thy Lord who created, created man of congealed blood, read, thou for thy Lord is the most beneficent, who hath taught man that which is knoweth not"⁴.

In addition, there are many more verses in the Quran which are related to education, For example another verse stated: "Are those who know equal with those who know not", and "God will exalt those who believe among you and those who have knowledge, to high degrees"⁵.

The Holy Quran is not only the source of authority in the Islamic religion or the Islamic society. The Prophetic tradition and hadiths (sayings of the Prophet) have long been regarded as a completion to the Quran. In regard to education, the Prophet himself has emphasised the related Quranic verses and developed the idea of education in a number of significant

ways. He considered learning as an essential part of being a muslim and stated that "Quest for learning is a duty incumbent upon every muslim, male or female"⁶, and that teaching with no reward is a duty of the learned muslim, "The best among you is one who learns the Quran and then cares to teach it"⁷.

In addition he developed Islamic education by praising the learned and those who were still learning in his hadiths (sayings): "Learned people constitute the next class to the Prophets"; "Valueless is muslim who is not a teacher or a student"; and "Teachers and students are the people and the rest are rabble"⁸.

Furthermore, the Prophet's high regard for learning could be explained by his decision in freeing the war captives of the Al-Badr Battle, the first battle in the history of Islam, on condition that each of them taught 10 muslim children reading and writing⁹.

The Prophet's successors (Caliph^s) followed his path and showed their high regard for education and teaching. The second Caliph to the Prophet, Omer Bin Al-Khattab, went further than that of reading and writing the Holy Quran when he asked all muslims to teach their children swimming, archery, horse-riding and appreciation of poetry¹⁰.

As far as technical/vocational education and training is concerned, it was simply non-existent in the form known today. However, in Iraq as elsewhere skilled workers and craftsmen were prepared and trained through traditional forms of apprenticeships. Craftsmen and small tradesmen have trained

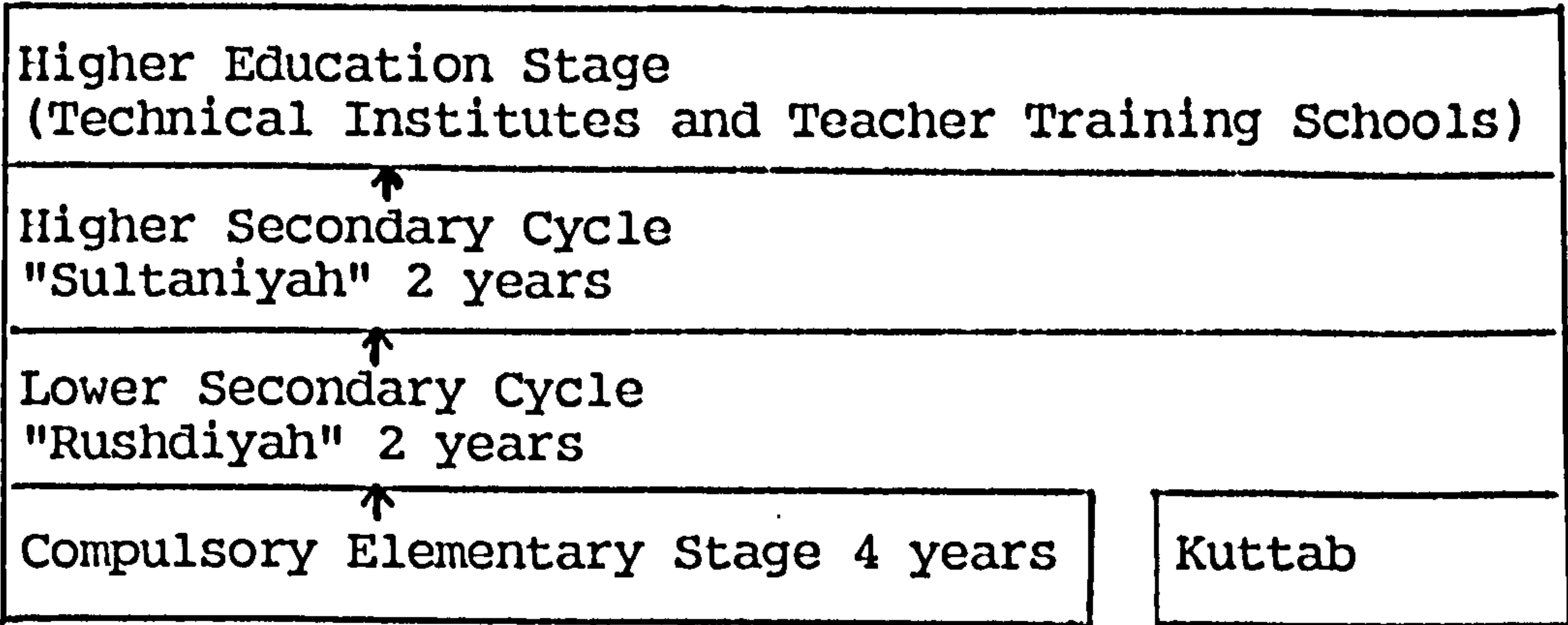
the labour where apprentices have acquired their skills on the spot after they mastered for themselves the "tricks of the trade" watching their masters. The duration of training was dependent on local social customs and/or the master's decision. Trainees have not only received no wages but also their parents were expected to pay the craftsman for the favour of teaching their children a trade, either in cash or in favour¹¹.

4.2 Technical/Vocational Education during the Ottoman Period 1534-1914:

Kuttab*, the typical form of Islamic education, which was introduced during the time of the second successor to the prophet, Caliph Omer bin Al-Khattab, was highly developed during the Ottoman Era¹². The number of kuttabs increased and spread widely into nearly every village in the country performing semi-religious functions. The Kuttab remained the only form of education during the 16th and 17th century through to the mid 19th century.

In 1869, the Ottomans introduced a secular schooling system for all parts of the Empire including Iraq. The schooling system was divided into 4 years elementary (primary), followed by another 4 years of secondary leading to higher technical schools and teacher training. The four years of the elementary education stage was compulsory for all children. The secondary stage was in 2 cycles, the lower secondary known as "Rushdiyyah" for two years followed by another two years of higher secondary education known as "Sultaniyah". Diagram 4.1 shows the secular schooling system during the Ottoman Era:

Diagram 4.1 The Iraqi Secular Schooling System During the Ottoman Era



The Ottomans provided each Qhdha (administrative sub-division) with a free primary school and opened several secondary schools. However, higher education was scarce and it was only provided in Turkey. The educational opportunities for higher education were limited to the members of armed forces and the hierarchy of the government personnel and their children. Otherwise there was no more than basic education with an emphasis on military education and training¹³.

In addition Iraq had secondary schools for boys in the cities of Baghdad, Mosul, Basrah, Kirkuk and Sulaymaniyah where students were prepared for advanced studies in Istanbul. Most of those students who went to Istanbul enrolled in the Military College and few entered the colleges of Medicine, Law or Civil Administation¹⁴.

The schooling system adopted a new curriculum including in addition to the Quranic and Arabic subjects history, arithmetic, geography and hygiene, but it was far from being universal and was urban based. Thus, the Quranic schools were the only form of education provided in rural areas and villages of the country. By 1913, there were 160 elementary schools in Iraq

with an enrolment of 6,656 students and 4 secondary schools with an enrolment of 818 (three academic and one vocational) and a higher school of Law¹⁵. In addition the number of kuttab institutions reached 300 all over the country by the First World War¹⁶.

The first public technical/vocational school in Iraq was established in 1870 in Baghdad by Midhat Pasha, the then Ottoman governor of Iraq, followed by another technical school in Kirkuk. The schools were part of the secular schooling system that was established in 1869. The main aim of these schools were to equip students with skills required for employment. The Baghdad school enrolled 140 students, mainly orphans and children of poor families at the beginning. This number was dropped to 40 later and jumped to 130 in 1900. However, as industry was still in its infancy in Iraq, the demand for industrial skilled workers was not great nor was there appreciation of the need for preparation of such skilled workers; the tendency was to train skilled workers on the old apprenticeship way. The old apprenticeship way relied on illiterate boys as the main source of supply¹⁷.

4.3 Technical/Vocational Education under British Rule and Mandate (1914-1932):

The four centuries of Ottoman rule was ended with the occupation of Iraq by British forces during the First World War.

The education system in Iraq under the British control began with the reopening of the Ottoman schools which had been closed as a result of the collapse of the Ottoman Empire and the

withdrawal of Turkish teachers from the country. The British changed the educational system by adopting a new system of education in the re-opened schools in big cities and large towns. The new system was mainly an adaption of the Egyptian system of education including curricula and methods of teaching. It consisted of 3 stages: primary, secondary and higher education. There were two types of primary schools as in Egypt. The first type was of 4 years elementary course duration and the second was of 6 years which led to secondary education, serving the children of well-to-do parents¹⁸.

There was a wide gap between the two types of primary schools of 4 and 6 years. Whilst the first type served the children of the underprivileged, the second was directed to serve the needs of privileged families.

None the less, there were 35,120 students at the primary education stage taught by 1,325 teachers and accommodated in 314 schools in the academic year 1930/1931¹⁹.

In addition, the Ministry of Education added a new stage to the beginning of the Iraqi educational scale when it opened for the first time two public pre-schools in the cities of Baghdad and Mosul to cater for children of the age range of 4 and 5 years. The Baghdad one was attached to the Teacher Training College²⁰.

Secondary education during this period was reformed. In 1926 a specialisation innovation was introduced which divided the secondary school stage into two cycles of 2 years each. The latter gave the choice of either literature or science to students. That was followed by another major innovation when

the Education Act of 1929 was passed. The Act divided secondary education stage into two streams, general academic schools and vocational schools such as commerce, industry and agriculture based. The Act also extended the duration of secondary education from 4 to 5 years. The first 3 years were lower secondary (Intermediate) whereas the fourth and fifth were higher secondary (Preparatory). The academic secondary schools were biased towards either science or literature, terminating with a national public examinations, permitting successful graduates to move on to the next stage (higher education)²¹.

By the academic year 1930/1931 there were 2082 students in academic secondary education stage taught by 129 teachers and accommodated in 19 schools, compared to 110, 34 and 3 respectively in 1920/1921. There were no improvements in technical and vocational education during this period. Academic secondary education stayed the favourite and the general concept of vocational schools which was inherited from the Ottomans was unchanged. Manual work was regarded as being suitable only for children of poor families who were trained on the old apprenticeship basis (Bazaar Workshops). As a consequence, technical/vocational education lagged behind and the number of such schools stayed the same (one in Baghdad and one in Mosul) with a little improvement in the number of enrolled students, increasing from 80 in the academic year 1920/1921 to 148 in 1930/1931²².

Table 4.1 shows the rise and fall in the number of enrolled students in technical schools during the period 1920/1921-1931/1932. The number of students in technical

schools fall to 60 in the academic year 1926/1927 as intermediate school graduates chose to join academic secondary preparatory schools (literature or science) which led to government white-collar jobs.

Table 4.1 Technical School Enrolments in Iraq
(1920/21-1931/32)

Academic Year	Number of Attendants
-----	-----
1920/1921	80
1921/1922	120
1922/1923	167
1923/1924	210
1924/1925	211
1925/1926	210
1926/1927	60
1927/1928	148
1928/1929	134
1929/1930	148
1930/1931	120
1931/1932	148
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Source: Iraq, Ministry of Education, 1957, Annual Report of 1955/1956, Baghdad, Government Press, p 61.

The British rulers were interested in sending top students abroad and especially to England to pursue their higher education, and there was a qualitative and quantitative expansion in higher education during the period. Among the qualitative aspects of higher education at that period was the emphasis on scientific and technical aspects of higher education. They opened in 1925 an Engineering College followed by an Agricultural one in 1926 and the College of Medicine in 1927. That is beside another two Higher Training Colleges, one for men and another one for women which they were both opened in 1923 under the auspices of the Ministry of Education²³. However, those policies were unsuccessful because of the low social status which was given to manual work and practical

subjects.

It is worth mentioning that during this period the Ministry of Education in the capital Baghdad had direct control over curricula, textbooks, administration and finance, examination system and education and training of the teachers.

In conclusion, the educational process during this period was influenced by the European and American styles of education and was aimed to satisfy the government's needs for civil servants where the school curricula emphasised the academic and theoretical aspects of education. Thus, as a result, the vocational schooling system lagged far behind.

4.4 Technical/Vocational Education during The Independent Iraq 1932-1958

The year 1932 marked the independence of Iraq when the British mandate ended and the country was admitted to the League of Nations as an independent monarchy. The independent state of Iraq was anxious to develop the country's educational system. To this end, the first attempt was made in 1932 when the Ministry of Education made a request to the Columbia University Teachers College to study and investigate the Iraqi educational system and make recommendations for its reform and development. The commission which conducted the enquiry was headed by Dr. Paul Monroe and submitted a report to the Iraqi government known as the Monroe Report. The Report studied the then education system and made recommendations for its improvement. It stated that:

"If the country is to develop properly, opportunities should be provided under a well-proportioned and equitable system of education, by which Iraqis generally can be encouraged to improve their economic and social conditions and to acquire wealth through agriculture, commerce and other independent occupations .. It does appear that the prestige of government employment has been and still is powerful and has a large influence upon the secondary schools .. The secondary schools .. should be made more of a means of giving Iraqi youth confidence in their own powers by preparing them to help in development of the resources of the country"²⁴.

In regard to vocational education, the report made the following comments and suggestions:

1. The report suggested the provision of commercial schools at the secondary stage of education that offer diversified academic and commercial courses.
2. It called for the introduction of another foreign European language (French or German) to the curriculum in addition to English²⁵.

As a result of the Monroe Report, the Ministry of Education established, in 1932, a 4 year school of Domestic Arts for graduates of primary schools for girls in Baghdad and a 2 year Secondary Commercial School for the graduates of intermediate schools for the boys.

Sudhof, visited Iraq in 1935. He made the following points after he observed the country and its education system:

First, he pointed out that there was a lack of trained and skilled workers for the growth and development of the Iraqi industry.

Second, he noted that most secondary school graduates in Iraq had joined the government's white-collar jobs or had

entered higher education rather than working in industry, business or agricultural sectors.

Third, he also noted that the government was unable to provide employment for all graduates who wanted to work for the state.

His recommendation, based on the above observations, was to build a strong sound system of technical schools to be based closely on industry, commerce and the economy in the country²⁶.

In 1950 and as a direct result of the increased government revenues from oil, the Iraqi government asked the International Bank for Reconstruction, in view Iraq's economic situation, to recommend a development programme for the country. The Bank sent a mission of 14 experts in economics, finance, industry, agriculture and public services fields who investigated the economic situation of the country and submitted a report back to the Iraqi government. The report presented a clear picture of the country's socio-economic needs and the existing technical/vocational education programmes. It pointed out the increased demand for such schools which greatly exceeded the number of places available in such institutions.

In regard to the status of the then existing technical/vocational institutions and their problems that hindered the socio-economic progress of the country, the report stated that:

"There is fairly general agreement on the part of those who are familiar with existing technical schools that the training they provide is neither sufficiently practical nor closely enough related to the conditions that obtain in the factories and the market. The result are most of their graduates are not

equipped to setup a workshop or business. Instead, most of them hanker after government jobs or clerical positions in banking and commerce"²⁷.

In the same year Dr. Victor Clark visited Iraq as the result of a request made by the Ministry of Education to UNESCO to study the country's socio-economic needs and to advise the Ministry on conducting compulsory primary education. In his report, which was later published, he made some general points on the status and problems facing technical/vocational education in the country, stating that:

"At the present the Iraqi society has four main educational needs. The first is the need for a sound character training, including a realization that education is not simply a collection of skills and aids in preparation for a government or clerical job, but the acquisition of sound values which need to be applied in all walks of life whether professional or manual. The second important need is a knowledge of the practice and principles of good husbandry by those who work on the land. An equally important requirement in a minority of the population is the acquisition of technical skills necessary in local industries and in the growing demand for maintenance work"²⁸.

As a consequence of the Ministry of Education's realisation of the significance of technical/vocational institutions in supplying skilled and semi-skilled workers for the implementation of development programmes, the Ministry made a further request to UNESCO to study and investigate the then existing technical/vocational education service of the country. As a part of his mission the UNESCO's vocational education advisor visited industrial plants, business establishments, workshops, public and private schools and technical/vocational education and training institutions. His report was critical of not only the status of technical/vocational education institutions but also people's attitude towards manual work in

general. Students chose technical/vocational secondary schools as a second and in some cases as a third best alternative. Thus, he recommended a positive attitude towards manual work in general and technical/vocational education and training in particular.

In 1952/1953, the Ministry of Education as a part of a process of diversifying primary and secondary school curricula introduced homecraft subjects of 4 hours for girls, agricultural courses of 3 hours to rural schools, and gardening to urban secondary schools²⁹.

None the less, there were various technical/vocational institutions in Iraq during the above period. They were designed to fulfill the country's needs for skilled manpower (mechanical, clerical, and professional). The institutions ranged from simple trade schools which required a public primary certificate for admission, to the College of Law and the Royal College of Medicine. As a result of the shortage of skilled and professional workers, the government offered free training to students in most cases in these institutions³⁰.

Technical/vocational education at the post-primary level provided five types of vocational secondary schools during the period. They were technical, agricultural, trade, commercial and industrial engineering schools.

Technical/vocational education was reviewed by the Ministry of Education during the period in view of the skilled technical staff required for the implementation of technical and construction projects. The projects which were a direct result

of increased oil revenues since 1950 included the foundation of different factories and workshops, building of highways, bridges and dams, and many more constructional programmes. Thus, special emphasis was put on the existing technical/vocational institutions ³¹.

Three trade schools of 3 years study duration after primary school education were started in Najaf, Ana and Samarra in 1956-1957.

Technical secondary schools were of 5 years study duration after primary school education. There were five technical secondary schools in Baghdad, Mosul, Kirkuk, Basra and Sulaimaniya. In addition the then Ministry of Development allocated £338,000 for the establishment, building and equipment of 3 workshops in Kербala, Ramadi and Diwaniya, which were attached to secondary schools there. The total enrolment in commercial schools was 917 in 1956-57. There were 2 commercial schools, in Baghdad and Basra, together with commercial sections in secondary schools in Mosul, Sulaimaniya, Kербala and Najaf which were newly opened as an alternative to the usual literary and scientific sections.

Commercial secondary schools were the only vocational schools and they had a checkered history during which they were abolished more than once, reduced to an intermediate course, and functioned as one of the sections of secondary schools the other. However, in 1945 the Baghdad Commercial Secondary School was an independent preparatory school of 2 years above the intermediate level similar to those existing today which attracted appropriate type of students. Table 4.2 shows the study programme for the Baghdad Commercial Secondary School as

it was in the academic year 1945-1946:

Table 4.2 The Weekly Study Programme of the Baghdad Commercial Secondary School in 1945/1946

Subjects	First Year		Second Year
	Arabic Section	English Section	
Arabic	5	5	4
English	6	6	6
Bookkeeping	4	4	4
Typing	9	6	9
Business methods (Arabic)	2	2	3
Business methods (English)	2	2	3
Commercial Law	..	..	2
Commercial Arithmetic	3	5	3
Economics	2	2	2
Geography	..	4	..
Commercial Geography	3	..	..
Physical Training	1	1	1
Total	37	37	37

Source: Matthews, R.D. and Akrawi, M.E., 1949, Education in Arab Countries of the Near East, The American Council on Education, Washington 6, D.C, p 178.

The demand arose for young persons with commercial school training after the exodus of Iraqi Jews³².

In addition, the Ministry of Education also opened 3 intermediate vocational agricultural schools in Mosul, Ramadi and Baquba in 1956-57, as a part of the government's concern for developing the agricultural sector. The total number of students enrolled in these schools were 100 in 1956/1957³³.

Trade schools which offered instruction in printing, secretaryship, business, sewing and modelling, and home economics fields were connected to local administration units in the Liwas (provinces) but were supervised by the Ministry of Education. The number of these trade schools which prepared

students for a profession were 10 (8 for girls and 2 for boys) with an enrolment of 900 students (700 girls and 200 boys) in 1956/1957. There were also trade schools connected to the Ministry of Development who trained every year hundreds of primary school graduates in one-year training course in technical/vocational fields for jobs. The Ministry of Education also opened new intermediate schools of domestic science of 3-5 years duration study for primary school graduates who specialised in the final year of their study in needlework, cookery or secretaryship. The total number of students enrolled in domestic science schools was 902 in 1956/1957. The Institute of Fine Arts was also regarded as vocational education establishment and had a total enrolment of 346 students in 1956/1957³⁴.

Table 4.3 shows the quantitative growth in the student enrolments for all types of vocational secondary schools in Iraq during the period starting from 1939/1940, when all types of vocational schools (industrial, commercial and agricultural) were founded, to 1957/1958.

As a consequence of the expansion in vocational schools, there was an urgent need for teaching staff. The Ministry of Education started a training course for the best graduates of technical schools to appoint them to teach in vocational schools³⁵.

Table 4.3 Number of Students in Technical/Vocational
Institutions in Iraq 1939/1940-1957/1958

Academic Year	Number of Students
1939/1940	325
1940/1941	464
1941/1942	642
1942/1943	804
1943/1944	913
1944/1945	790
1945/1946	779
1946/1947	549
1947/1948	662
1948/1949	656
1949/1950	832
1950/1951	1,071
1951/1952	1,066
1952/1953	1,192
1953/1954	1,674
1954/1955	2,205
1955/1956	2,477
1956/1957	3,154
1957/1958	4,233

Source: UNESCO, 1961, World Survey of Education, Number 3
Secondary Education, Paris, p 684.

To conclude, technical/vocational education during the independent period between 1932-1958 grew and developed and was directed to local day-to-day needs but had made very little contribution to the country's future socio-economic requirements. However, the following observations could be made in regard to the development and growth of the education system in general and to the development of technical/vocational education in particular:

First, though the Education Law of 1940 stated the objectives of the education system was to "provide children with a basic education and culture which would make them good citizens and to discover their capabilities and aptitudes so as to guide them accordingly in their work"³⁶, it fell short of defining a suitable policy for attaining this

objective. Hence, there was a lack of clear and well defined education policy during the period which consequently led to uneven growth of educational stages. Technical/vocational education had its lowest rate of growth and development as compared to other sectors of education, primary, secondary and higher education. Furthermore, the lack of clear educational policy was characterised with a lack of integrated educational sector with the rest of the economy.

Second, the education system was no where near being universal, compulsory and free.

Third, the growth of the schooling system was urban based and unevenly distributed. The number of schools, teachers and students in rural areas were smaller than in urban areas. Also the big cities of Baghdad, Mosul and Basrah had the largest share of students, teachers and schools³⁷.

In addition the amount of money allocated to the development of technical/vocational education during this period was small despite the evidence of the significance of this type of education in preparing skilled manpower needed for the implementation of development programmes.

Table 4.4 shows technical/vocational education expenditure compared to the total educational expenditure for the period of 1951/1952-1957/1958:

Table 4.4 Technical/Vocational Education & National Education
Expenditure in Iraq during the period (1951-1958)

Academic Year	Education Expenditure (1) "000" Iraqi Dinars	Technical/Vocational Expenditure (2)	% of 2 in 1
1951/1952	4,092	77	1.9
1952/1953	4,946	99	2.0
1953/1954	6,786	83	1.2
1954/1955	8,517	81	1.0
1955/1956	10,044	236	2.9
1956/1957	12,457	430	3.1
1957/1958	14,327	486	3.4

Sources: 1. UNESCO, 1955, International Yearbook of Education
Number 17, Paris p 209.

2. UNESCO, 1958, International Yearbook of Education
Number 20, Paris, p 189.

4.5 Technical/Vocational Education during the Republican Era 1958-1968

The year 1958 marked a new era in the history of Iraq when the monarchy was overthrown and the Kingdom of Iraq was replaced by the Republic of Iraq. Soon after, the revolutionary government introduced new schemes for social, economic and cultural development which had a special impact on Iraqi society. The education system was reviewed and underwent basic changes and new educational stated aims emerged. The aims included providing equal educational opportunities for all Iraqi citizens; closer links between the school and the community and introducing diversified new curricula with special emphasis on technical education; and sincere efforts to solve the then existing educational problems of the shortage of qualified teachers and the inadequacy of school buildings³⁸.

The whole secondary education stage in Iraq during the period was in a process of reform where greater emphasis was put on the development of technical/vocational education at the stage. To this end, various steps were taken to make technical/vocational education system more effective. One of which was the establishment of the Directorate General of Vocational Education in the Ministry of Education to take direct control and responsibility for industrial, commercial, agricultural and home economic schools.

After 1958, progress in relation to the quantitative growth in the number of students, teachers and schools was achieved at all levels of education including secondary education. The increase in the number of students at the secondary stage was a direct result of a number of factors, such as: the rapid population growth; primary school education expansion; and the Ministry of Education's successful efforts to offer places in secondary schools for all primary school graduates. However, technical/vocational education during the period lagged behind academic secondary education.

Table 4.5 shows the increase in the number of students, teachers and schools in secondary schools (academic and vocational) in Iraq during the period 1957/1958-1967/1968.

Table 4.5 Growth in the number of students, teachers and schools at the secondary stage in Iraq (1957/58-1967/68)

Academic Year	Secondary Academic			Secondary Vocational		
	Students	Teachers	Schools	Students	Teachers	Schools
1957/1958	62,703	3,421	244	3,370	416	23
1967/1968	254,033	8,602	757	5,811	967	26

Source: Iraq, Ministry of Education, 1979, Basic Educational Statistics 1920/21-1977/78, Baghdad, pp 12-13 and 17-25.

It is clear from the above table that technical/vocational education was still the least favoured compared to academic secondary education during the republican era. Thus, a balance between academic and vocational education had not yet emerged despite the country's greater demand for agricultural, industrial and commercial skilled manpower.

The factors which were behind the slow development of technical/vocational education were: lack of interest in the part of students and their parents in manual work; social and traditional outlook which praised the academic secondary education as being the secure way to guarantee a government clerical job; and finally the slow path in the development and growth of the country's industrial sector³⁹.

None the less, the steadily increased revenues from oil helped industry to pass its infancy and helped in speeding up its growth and development which consequently increased demand for technicians and skilled labour. The acute shortage of skilled labour led to a significant development of technical/vocational education and training when some big leading companies in the country started to organise training schemes for students. The training schemes were setup to meet the company's specific

demands for skilled manpower and technicians. Such schemes were as follows:

4.5.1 The Iraqi Petroleum Company Training Scheme

After 1950, the Iraqi Petroleum Company conducted theoretical and practical vocational training courses with the aim of preparing skilled labour required by the oil industry. The company established a training school in its oilfields near Kirkuk (now Ta'meem), in the north of the country and provided staff and equipment for it. Students were selected to the courses available by means of competition, test and interview⁴⁰. The school provided the following training courses:

First, Apprentice Training Courses of five years duration for primary school graduates. The curriculum of the Apprentice Training courses included Mathematics, Mechanics, Electricity, Physics, Chemistry, English, Blacksmith and Metal Work, Welding, Automobile and Carpentry. Students spent their first two years on shop training in the centre and their last three years in both the training school and industrial departmental training. In short though students have studied most subjects, the courses emphasised shop training⁴¹.

Second, Artisan Training Courses of two years for students of 17 to 20 years of age who had five to six years of formal schooling. Students on these courses spent their first six months in the Training School followed by training in the industrial field. Between 40-80 students were accepted in these courses⁴².

Third, On-the-job Training evening courses provided for Iraqi Petroleum company workers. Though language and commercial courses were provided the main emphasis of these courses was laid on practical instruction in welding, motor transport, diesel engines and instrument machines.

Similiar courses were provided by the Khanaqin Oil Company Training School. It provided training courses in commercial, distribution and technical artisan apprentices which recruited about 40 students each year.

4.5.2 The Iraqi Railway Apprentice School

In the middle of 1930, the Kingdom of Iraq built railway lines with equipment and facilities provided by Britain. By the end of the 1950s, the Iraqi Railway employed about 1,800 people. A temporary building adjacent to the railway repair workshops at Shalijiyah in Baghdad was set aside for around 200 trainees recruited to cater for the immediate demands of skilled workers and railway technical staff⁴³.

The School accepted primary school graduates for five years training course and study using methods similiar to the Iraqi Petroleum Company School and different from the formal technical/vocational education schools in the country. Though the programme of study included Arabic, English and general engineering the courses were designed to focus mainly on practical training for railway skills. The trainees spent their first year in the school workshops to train on engineering trades needed for railway purposes. Then the trainee was given

a paid job at Shalijiyah Workshop where he spent the rest of the four years training. The trainee specialised in either fitting, mechanics, machine operating, boiler repairing or wood working and were instructed by a foreman who registered their future progress⁴⁴.

In addition there were other non-formal training schools belonged to the Development Board-Housing Section, such as The Building School which was established in 1957 in Baghdad to prepare skilled bricklayers, carpenters and plumbers required by the housing section. Other schools and training centres included The Basrah Port Training Centre to train mechanics needed by the Basrah Port Authority and The Public Transport Training Workshops which provided five years training in their garages for the repair and maintenance of public passenger transport vehicles.

4.6 Conclusion

The public schooling system in Iraq which was established under the Ottoman rule in the latter half of the 19th century and improved in the early 20th was influenced to a great extent by western models, notably the French. The country's modern educational system was started in 1915 under the British rule and was developed by the Iraqi educationists who were influenced either by French or American types of education. All educational policies including curriculum, textbooks, examinations and plans for expansion were shown the imitation of western styles of education, adopting in specific terms the French model. Today's National Baccalaureate Examination System

was inherited from the French system of education and still regarded as the means of assessment and gaining high standard of education in Iraqi schools.

Concerning technical/vocational education, though few technical institutions were established as a part of the Ottoman Secular Schooling System, the evolution of technical/vocational education system in Iraq can not be traced back until after the foundation of the modern education system in the country.

The Education Law of 1929 laid down the final touches of the Iraqi modern education system which was amended by the Education Law of 1940. The former Act divided the secondary school stage into two streams, general academic schools and vocational schools such as commerce, industry and agriculture. In addition the two Laws put a considerable emphasis on the significance of developing a public and centralised system of education.

Despite the fact that vocational schools were provided free of charge and encouraged by the government since the independent Iraq in 1932, neither the number of students nor the buildings, teachers, equipment and curricula were adequate to the country's needs for skilled manpower. Furthermore, there was a lack of interest in the part of students and their parents in this type of education.

During the Republican Era (1958-1968), the whole secondary education stage underwent a process of reform, when greater emphasis was put on technical/vocational education. However, technical/vocational education lagged behind academic secondary education and was slowly developed. Furthermore, no attempt was

made to keep the educational system in step with the process of economic development in the country. The status of technical/vocational education during the period of 1957/1958-1967/1968 was clearly distinguished from general academic education. There were only 5,811 students in vocational schools taught by 967 teachers in 26 schools in 1967/1968 compared to 254,033; 8,602; and 757 in secondary academic schools in the same year respectively. Hence, a balance between academic and vocational education had not yet emerged despite the country's greater demands for agricultural, industrial and commercial skilled labour.

None the less, the steadily increased revenues from oil helped industry to pass its infancy stage and led to increased demand for more technicians and skilled manpower. This led to a significant development of non-formal technical/vocational institutions. The country's leading companies like the Iraqi Petroleum and the Iraqi Railway organised training schemes to prepare skilled labour to meet the company's immediate and specific demands for skilled manpower and technicians. In addition, the emergence of such non-formal institutions was a promising development in the history of the Iraqi technical/vocational education and training.

* Islamic institutions attached to mosques and provided religious education to boys age 5-14 years. Imams (religious leaders of mosques) taught children the memorisation of the Quran which was the main textbook.

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CHAPTER 5

5 EVALUATION OF THE CURRENT TECHNICAL/VOCATIONAL SECONDARY EDUCATION SYSTEM IN IRAQ

- 5.1 Stated Aims of Technical/Vocational Secondary Education in Iraq
- 5.2 Selection
- 5.3 Technical/Vocational Secondary Education Administration
- 5.4 Technical/Vocational Secondary Education Finance
- 5.5 Curricula and Programmes of Study
- 5.6 Students
- 5.7 Teaching and Training Staff
- 5.8 Male/Female Contribution
- 5.9 The Built Environment
- 5.10 Equipment and Materials
- 5.11 Educational Guidance
- 5.12 Technical/Vocational Secondary Education Problems in Iraq
 - 5.12.1 The Social Attitude to Manual Work
 - 5.12.2 Technical/Vocational Secondary Education in Relation to Development Needs
 - 5.12.3 Technical/Vocational Secondary Education and the Labour Market
 - 5.12.4 Students' Attitudes Towards Technical/Vocational Secondary Education
 - 5.12.5 Insufficient Number of Well-Qualified Teaching and Training Staff
 - 5.12.6 Poor Design of Technical/Vocational Secondary Education School Curricula
- 5.13 Conclusion

5 EVALUATION OF THE CURRENT TECHNICAL/VOCATIONAL SECONDARY EDUCATION SYSTEM IN IRAQ

Having explored technical/vocational secondary education antecedents in Iraq, an analysis to the existing system is needed. Thus, the main aim of this chapter is to evaluate the existing system of technical/vocational education within the secondary system of education in Iraq. This is done by:

Firstly, examining the Iraqi technical/vocational secondary education characteristics including, objectives; selection; administration; finance; curricula; teaching and training staff; and male/female enrolment.

Secondly, examining the problems facing the Iraqi technical/vocational secondary education system.

5.1 Stated Aims of Technical/Vocational Secondary Education in Iraq

The current educational goals in Iraq are based on the socialist perspective of the ruling Arab Ba'th Socialist Party (ABSP), which first came to power in 1963 and has held power continuously since 1968. The stated educational goals are set as:

"First, the eradication of illiteracy; second, to make education, and in particular primary education, a right available to all; third, to ensure free education to all; and fourth, to coordinate and link education to national development needs"¹.

Technical/vocational education goals in Iraq are derived from the general stated aims of education which are based on the philosophy of the ruling ABSP. Since the 1974 Political Report of 8th Regional Congress of the Party, greater emphasis has been placed on technical/vocational education. The report called explicitly for the increased role of education in economic development, emphasising the need to gear education to meeting the country's socio-economic development requirements.

Iraq shares this goal of education with most developing countries. The specific objectives of technical/vocational education vary from one country to another. However, all Arab Gulf countries including Iraq, share the following objectives of technical/vocational education. They are:

- "1. Preparation of vocational and technical staff to meet the needs of the countries concerned.
2. Enhancing the momentum of national development plans.
3. Rectifying the manpower pyramid.
4. Minimizing dependence on expatriate staff.
5. Reorientating social outlook upon manual work"².

The main objectives of technical and vocational education in Iraq are summarised as to "prepare the middle-level cadres to satisfy the requirements of the national development plan and the skilled workers for the labour market"³.

In recent years more priority has been given to the development and growth of technical/vocational education within the secondary stage of education in Iraq.

The Ministry of Education in Iraq which is responsible for the

provision of technical/vocational education at the secondary stage, had set in 1977 the following objectives to be achieved by such schools:

- "1. To train able and skilled cadres at all levels for the national development of the country.
2. To spread educational and training programmes of all levels that are related to the national development plans.
3. To equip the students with the latest innovations to live effectively in the modern age of science and technology.
4. To develop the importance of the preparation and relation of cadres to the national development plans of the nation.
5. To create suitable environments and opportunities for every student to make progress according to his or her own ability and aspirations"⁴.

The above objectives are set for technical/vocational schools to emphasise the importance of this type of education in accelerating the economic growth and supporting the economic development process in the country by training students in skills required by the economy. To this end, the Law number 198 of 1977 was introduced to regulate technical/vocational secondary education under the auspices of the Foundation for Vocational Education of the Ministry of Education. According to the Law of 198 of 1977, the Foundation for Vocational Education's goals and objectives are as follows:

1. To help develop the right attitude of the student toward work habits and proper use of technology.
2. To provide guidance and counseling services to assist students in making the right decision with regard to a specific vocation.
3. To provide continuing education programmes on a higher level

for expanding opportunity in the whole area of vocational education growth and development.

4. To stimulate and encourage students toward vocational, industrial, and technical education fields.
5. To equip and explore the necessary information of industry and the world of work on the intermediate level.
6. To provide the industrial schools with adequate technological orientation and information that can lead to the encouragement of specialisation in one area.
7. To equip the industrial schools with adequate laboratories, workshops, modern equipment, materials and supplies⁵.

In order to achieve the above goals of the Foundation of Vocational Education, which were set according to the Law, the Ministry of Education has stated specific and immediate aims for secondary vocational education throughout the country. They are as follows:

Firstly, organising and setting up training workshops for students in vocational schools during the summer vacation.

Secondly, increasing the vocational schools' capacities all over the country to absorb greater number of intermediate school graduate students.

Thirdly, establishment of industrial training programmes in academic secondary schools in all geographical areas of the country where vocational secondary schools do not

exist.

Fourthly, ensuring that the teaching and training staff of vocational schools receive the training needed.

Fifthly, updating general academic knowledge of teaching and training staff working in vocational schools.

Sixthly, encouraging talented vocational graduate students to continue their practical education and training beyond the secondary stage of education.

Finally, offering financial support to students of vocational schools to assist them in pursuing their education and training at such schools⁶.

5.2 Selection

Vocational secondary school students are selected from graduates of secondary intermediate schools. Admission to secondary vocational schools (industrial, agricultural and commercial) is dependent on success in the Intermediate Baccalaureate Examination held at the final year of the stage (9th grade)⁷.

The entry requirements to vocational secondary schools which are set by the Law number 34 of 1967 are as follows:

1. Successful completion of Intermediate Baccalaureate Examination with satisfactory grades.
2. Apply within the time limit set by the Ministry of Education and pass successfully the arranged personal interview.
3. He/she should be less than 23 years of age.

As 23 is the age of joining the military national service, students may go back to vocational school courses after the completion of the tour of military duty required. Moreover, failures of academic secondary schools could be admitted to vocational secondary schools⁸.

The recent increase in the number of development projects in Iraq, necessitated increased number of skilled workers to implement them. In addition it is stated that there is still imbalance in the Iraqi labour market pyramid in regard to skilled and technical staff which required to be rectified. Consequently, the Ministry of Education has recently planned to rectify the manpower pyramid in regard to skilled workers by expanding the vocational secondary school system. Since 1980, the plan is to send 50% of all intermediate school graduates to technical/vocational secondary schools⁹.

Intermediate school graduates are competing with each other in accordance to the marks they have obtained in the National Baccalaureate Examinations to enrol in either secondary preparatory academic or secondary vocational schools. However, the traditional and social values in Arab countries including Iraq, have tended to attach primary importance to academic secondary schools and steered students away from vocational secondary schools. As a result, students with lower grades who have not been offered a place in academic secondary schools are enrolled in vocational secondary schools only as a second best choice. Consequently, negative results could be achieved due to the students' lack of interest in this type of education which could also result in lower academic standards as compared to

others in academic secondary preparatory schools¹⁰.

To conclude, selection to vocational secondary schools is mainly dependent on the academic achievements in the Intermediate Baccalaureate Examinations.

The major task of the Interview Committee, which consists of the headteacher of the vocational school, his/her deputy and two teaching staff, is to arrange the distribution of applicants over vocational education sections or trades available. In addition when the demand is high on a certain section or trade of the vocational school, the preference will be given to those who scored higher marks in the Baccalaureate examination.

As a consequence of the above methods of selection in secondary vocational schools and because of the traditional and social values which have long preferred academic secondary education over technical/vocational education, students with less academically oriented and lower records of academic achievements are accepted in this type of education in Iraq. However, graduates of intermediate secondary schools who join technical/vocational secondary schools at the age of 15 or 16 may choose so with the support of their families in order to cut short the road to employment. That is usually the case with students from low income families.

Furthermore, since 1975, the vocational secondary education stage in Iraq is regarded as a transitional stage to higher education besides academic secondary education. Graduates of technical/vocational secondary education schools are admitted to technical institutes of the Foundation of Technical Institutes

for two years study courses leading to technical post-secondary diplomas in their own similar specialism. At present, this rule does not apply to all graduates and only the top three students from each trade or section of the vocational school are entitled to apply for the two-year post-secondary diploma courses in their own specialism at the University of Technology or Technical Institutes¹¹.

5.3 Technical/Vocational Secondary Education Administration

Setting up technical/vocational education policy aims and their priorities in national development plans are regarded mainly as political exercises. However, to achieve their stated aims is a question of management and administration. Although management and administration are inseparable, UNESCO distinguishes between the two by stating that:

"management is concerned with the output of the system, with its performance, with finding ways to meet the objectives set. Administration, on the other hand, is concerned with input, with directing, organizing and executing the routine operations that keep the system running"¹².

Hence, their success is interrelated and there is nothing for management to do when the administrative organisation does not exist in the country.

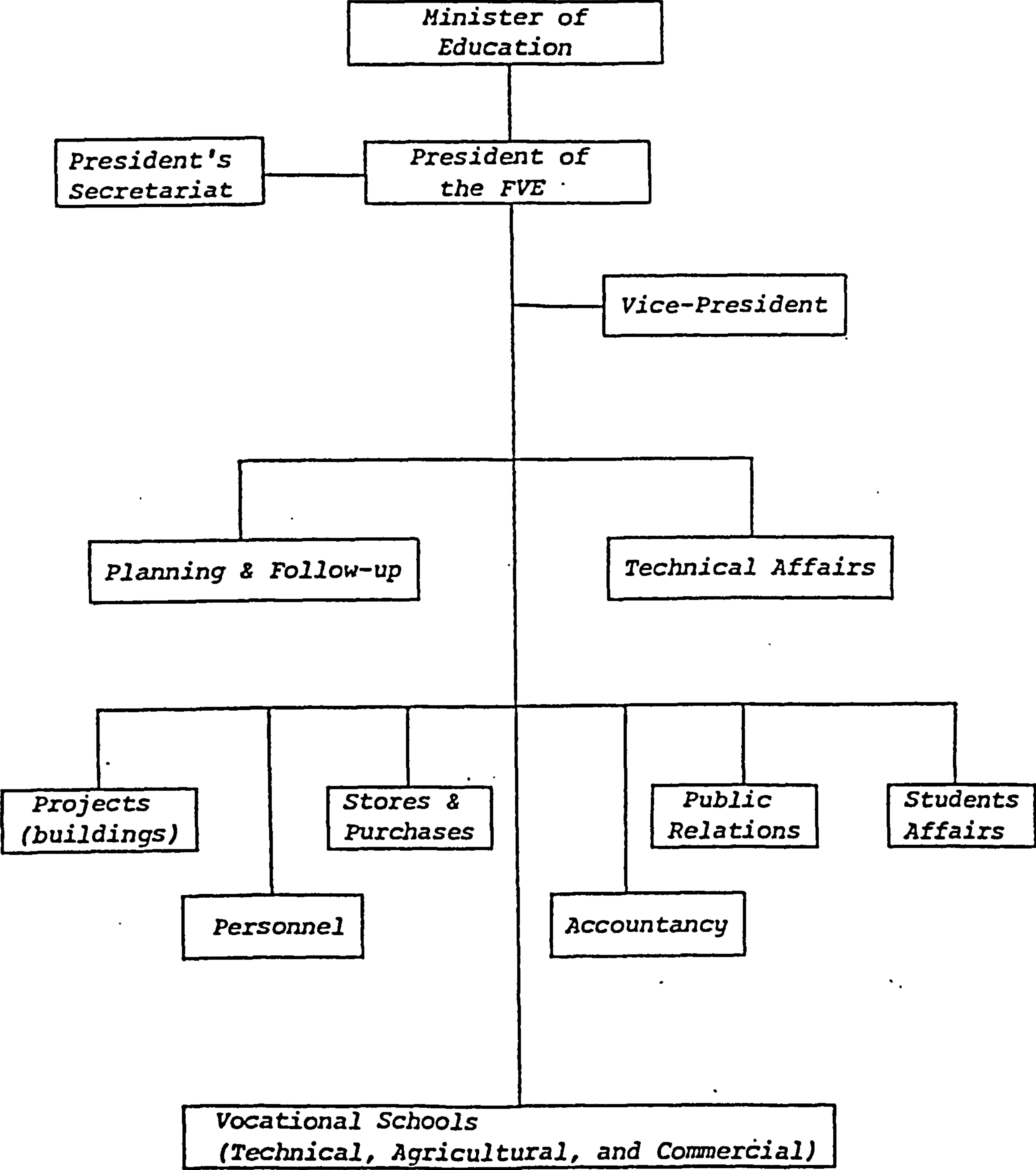
The administrative structure and organisational work of the educational system in general and of the technical/vocational education system in particular should be examined to see whether or not they constitute effective channels for achieving technical/vocational stated aims.

In Iraq, as mentioned in the discussions and comments made on the structural diagram of its policy-making and administrative system, there is a highly centralised administrative and educational structure. The administrative structure of the Iraqi education system as a whole retained its highly centralised nature with the dawn of the Republican Era in 1958. Today, the Ministry of Education has direct control over the secondary stage of education (general academic and vocational).

It has direct control over curricula, appointment of teachers and training staff holding national Baccalaureate examinations and organising programmes of study and training of vocational secondary schools throughout the country. All technical/vocational secondary education schools come under the authority of the Foundation for Vocational Education of the Ministry of Education. The Foundation for Vocational Education, which was established in 1975 to replace the General Directorate of Vocational Education, has been given the responsibility of direct control and running of this type of education. The Foundation is headed by a president, who is responsible directly to the Minister of Education. The president of the Foundation is assisted by a vice-president and directors of the Departments of Planning and Follow-up, Student Affairs and Technical Affairs¹³.

Diagram 5.1 shows the administrative structure of the Foundation for Vocational Secondary Education in Iraq:

Diagram 5.1 The Administrative Structure of the Foundation for Vocational Secondary Education in Iraq



Source: Iraq, Ministry of Education, The Foundation for Vocational Education, 1979, Guide to the Foundation for Vocational Education in Iraq for the Academic Year 1978/79, Baghdad, p 12.

Each vocational secondary school is run by a headteacher who has the prime responsibility for the school and is assisted by two deputy headteachers and support staff. There is a consultative committee in every vocational secondary school which consists of 3-4 persons who are specialised in related industrial, agricultural or commercial matters and meet regularly to discuss matters important to the development of the school. The headteacher attends all these meetings together with meetings of the school council which is composed of the headteacher, the consultative committee and two members of the teaching staff. The school council is responsible for management, funding and development of the school and is assisted by an accountant, a typist and a clerk who form the support staff. However, the school's authority in relation to funding, management and school development is limited to what is granted by the central authority (The Foundation for Vocational Education).

Thus, the organisational structure of the technical/vocational secondary education system in Iraq is an example of a centralised administrative structure which covers all areas of policy-making, such as curriculum development, evaluation, planning, policy-making and management and running of individual schools.

To sum up, the administrative structure of the Iraqi technical/vocational secondary education system and the weight of centralization and bureaucracy prevent the system from responding quickly to the changing needs for skilled labour locally or to innovation, even when local, national and international experiments have proved successful.

Furthermore, the traditional values act as barriers to the achievement of stated aims of the technical/vocational secondary school system, meaning that internal dynamics of the system are unable to respond effectively to serving the purpose for which the system was designed.

5.4 Technical/Vocational Secondary Education Finance

The most serious constraint on the growth and development of technical and vocational education worldwide and especially in developing countries, is the shortage of funds allocated, which involves a number of problems. UNESCO has put the problems under three main headings: "sheer lack of money; a social demand for general education rather than technical and vocational education; and the relative cost of technical and vocational education in comparison with other types of education"¹⁴.

Many developing countries have found difficulty in financing technical and vocational education, not only because of their low levels of economic development, but also because other priorities are making demands on their limited resources.

Until recently, in a number of developing countries including Iraq, the tendency was to put more resources into general or purely scientific education as a response to the social demand. This has resulted in underemployment and unemployment of school leavers, since there are not enough white-collar jobs available to them on the one hand and to a shortage of trained and skilled manpower to implement the development of the economy on the other. In addition, because of the equipment and facilities

involved in providing technical and vocational education, its funding is more expensive than other fields of education.

All types of vocational secondary education schools (industrial, commercial and agricultural) are funded by the government through the Ministry of Education budget. In fact the Foundation for Vocational Education has its own independent budget which is a supplement to the Ministry of Education's budget. Funds for vocational secondary schools are also allocated as a part of annual and five-year investment development plan budgets. These funds are spent on:

First, projects for the general improvement and development of the educational process. In 1979/80 the budget covered the areas of in-service teacher training programmes, audio-visual aids, language laboratories, educational equipment and, the provision of commercial and technical/vocational schools.

Second, projects for setting up and maintaining various educational institutions. The 1979/80 budget paid for the construction of new school buildings, new classrooms, maintenance of educational institutions and setting up centres and workshops for training vocational secondary school students¹⁵.

Currently, the ordinary budget of the Ministry of Education is the source for staff salaries, cost of equipment, curricula and textbooks. It is also worth mentioning that there are some self-generated revenues in vocational secondary schools which come from the sale of products and/or services provided¹⁶. The

period since 1968 has witnessed a growing increase in the amount of funds allocated to this type of education.

Technical/vocational secondary education during the period before 1968 was given less attention than the academic secondary education, as evidenced by the enrolment of students and expenditure allocated to this type of education. For instance, during the ten years of the Republican Era from 1958 to 1968 technical/vocational secondary education was given lower priority and hence its budget as a share of the Ministry of Education's budget during the period declined. In 1960, the allocation to technical/vocational education was 480,000 Iraqi Dinars, while by 1967 it had declined to 461,000 Iraqi Dinars¹⁷.

The budget for the General Directorate of Vocational Education between 1970 and 1975 rose from 1.2 million Iraqi Dinars in 1970 to 3.75 million Iraqi Dinars in 1975. However, allocations to technical/vocational secondary education schools increased considerably with the passing of the legislation in 1975 to establish the Foundation for Vocational Education to replace the General Directorate of Vocational Education¹⁸.

Table 5.1 shows the expenditure on each type of vocational secondary school in Iraq. It shows that industrial education has received a greater proportion of the budget, 53.4%, followed by agriculture, 29.1%, and commercial, 17.5%.

Table 5.1 Vocational Secondary Education Budget by Type of Education for Selected Years in Iraqi Dinars

Year	Industrial	Agricultural	Commercial	Total
1970	...	...	...	1,200,000
1975	...	...	...	3,750,000
1980	9,105,251	4,850,467	2,657,770	16,613,488
1981	10,139,357	4,929,700	2,360,992	17,430,000
1982	10,097,368	5,675,795	2,938,837	18,712,000
1983	10,654,974	5,795,124	3,494,902	19,945,000
1984	10,760,215	5,852,364	3,529,421	20,142,000
1986	...	...	...	25,700,000

Sources: 1. Iraq, Ministry of Education, 1984, The Foundation for Vocational Education, Baghdad.

2. UNESCO, 1987, UNESCO's 24th General Conference, Paris, pp 15 and 64.

5.5 Curricula and Programmes of Study

As mentioned before, Iraq has a centralised curriculum and uniform textbooks prescribed by the Ministry of Education for all educational levels below the university. The Ministry has introduced several innovations into the educational system reflecting the government's interest in relating education to the economic and social needs of the Iraqi society.

To this end, the educational system emphasises the integration of manual work into academic education and stresses the need for the introduction of extra-curricular activities beyond school hours. It also presses the need for establishing small farms linked to rural primary schools to introduce children to the world of work and teach them how to use agricultural tools on the farms. Industrial Art sections are opened in urban secondary intermediate schools to teach and train students in carpentry, metalwork, electricity and industrial and geometric

drawing. In addition, girls are taught home economics courses¹⁹.

The mass media including radio and television and press in Iraq emphasises the need for practical educational training and encourage people to respect manual work to meet the social and economic requirements of the Iraqi society.

Technical/vocational secondary education is a three year course of study and training offering a variety of programmes in the industrial, agricultural and commercial fields. The curricula of these schools are in constant innovation and update to meet the nation's socio-economic and employment requirements. They emphasise practical training and applied subjects. Summer training and work in factories, offices, workshops or related establishments for all students is an integral part of the curriculum. The programmes are designed to prepare skilled workers in one or more areas of technical/vocational specialisation²⁰.

The technical/vocational education programme and the network of schools are all designed to prepare students directly for employment and occupational fields. The programme is divided generally into the following three areas:

Firstly, specialised practical subjects representing the greatest part of the curriculum.

Secondly, applied subjects such as Physics and Mathematics.

Thirdly, general subjects such as Arabic and English languages²¹.

The curriculum of technical/vocational industrial schools provides 17 different types of specialisation for different skills. They are: Electricity, Electronics, Industrial Drawing, Chemical Industries, Food Industries, Air Conditioning, Printing, Textiles, Construction, Minerals, Automobiles, Carpentry, Knitting, Welding, Agricultural Machinery, specimen making and metalwork.

Commercial school curriculum includes two main areas of specialisation: Accounting, and Management and Stores.

Agricultural school curriculum includes three types of specialisation: Animal Husbandry, Botany and Veterinary²². Specialised subjects account for about two-thirds of the total course time for commercial school, 55% of the total course time in industrial schools and 60% of the total course time in agricultural schools²³. Some agricultural schools have productive farm sectors and share the income with the students. Also, some of the graduates of agricultural schools are given farmlands to cultivate in agriculture, animal husbandry or veterinary projects²⁴.

Table 5.2 shows the weekly plan and programmes of study for technical/vocational secondary agricultural schools for veterinary section in 1984/1985:

Table 5.2 The Study Plan for Veterinary Agricultural Education in Iraq in 1984/1985

Subject	First Year		Second year		Third Year	
	Theo	Prac	Theo	Prac	Theo	Prac
Islamic Education & Commentary on Quran	2	..	2	..	2	..
Arabic Language	3	..	3	..	3	..
English Language	2	..	2	..	2	..
Chemistry	2	2				
Physics	..	..	2	2	..	..
Biology (Zoology)	2	2	..	..	..	..
Statistics	..	..	1	..	..	..
National & Socialist Education	1	..	..	..	..	..
Kurdish Language	2	..	..	..	..	..
Physical Education	..	1	..	1	..	1
Animal Keeping	3	3	..	..	..	..
Anatomy	2	3	2	2	..	..
Physiology	2	3	..	..	..	..
Animal Feeding & Improvement	..	..	2	1	..	..
Veterinary Pharmacology	..	..	3	1	..	..
Microbiology & Parasites	..	..	3	2	..	..
Poultry Raising & Poultry Diseases	..	..	2	2	..	..
Animal Industries	..	..	1	2	..	..
Abdominal Diseases	..	..	..	..	3	3
Surgery & Obstetrics	..	..	..	..	3	3
Artificial Fecundation	..	..	..	..	1	3
Slaughter Houses & Meat Test	..	..	..	..	1	2
Infections & Common Diseases	..	..	..	..	3	3
Forensic Medicine & Veterinary Laws	..	..	..	..	1	..
Total	21	14	23	13	19	15
Grand Total		35		36		34

Source: Iraq, Ministry of Education, General Directorate of Educational Planning, 1986, Development of Education In Iraq during 1983/84 and 1984/85, A Report submitted to the 40th Session of the International Conference on Education, Baghdad, p 44.

Since the Foundation for Vocational Education was established in 1975, it has paid great attention to the curricula development in technical/vocational education schools to put emphasis on practical subjects and extensive summer vacation work programmes

in industry, farms and other related establishments²⁵.

In 1984/85 the programme of technical/vocational secondary industrial schools in Iraq was as follows:

Table 5.3 The Study Plan for Technical/Vocational Industrial Secondary Education in Iraq in 1984/1985

Subject	Year of Study		
	1st	2nd	3rd
-----	---	---	---
A. Theoretical			

Islamic Education & Commentary on Quran	2	3	2
Arabic Language	3	3	3
English Language	2	2	2
Natural Sciences	4	4	4
Mathematics	3	3	3
National & Socialist Education	1	..	..
Kurdish Language	2	..	..
Vocational Education	1	1	1
Physical Education	..	1	1
Total	18	16	15
 B. Practical			

Industrial & Geometrical Drawing	3	3	3
Technical Sciences	4	4	4
Other Specialised Practical Subjects	16	16	16
 Total	23	23	23
 Grand Total	41	39	38

Source: Iraq, Ministry Of Education, 1986, p 45.

The weekly plan and programmes of study for technical/vocational secondary commercial schools in Iraq are shown below in table 5.4:

Table 5.4 The Study Plan for Technical/Vocational Commercial Secondary Education in Iraq in 1984/1985

Subject	Year of Study		
	1st	2nd	3rd
-----	---	---	---
Islamic Education & Interpretation	2	2	2
Arabic Language	3	3	3
Kurdish Language	2	..	..
Foreign Language (English)	4	4	4
National & Socialist Education	1	..	..
Physical Education	1	1	1
Management: Principles	2	2	..
Accountancy: Principles	4	5	..
Marketing and Stores	4	2	..
Insurance	2	..	..
Mathematics	2	..	..
Commercial Law	2	..	..
Arabic Typing	2	2	2
English Typing	2	2	2
Economics	..	3	3
Statistics and Computer	..	2	..
Financial Mathematics	..	3	3
Governmental Accountancy	..	..	4
Specialised Accountancy	4
Commercial & Foreign Correspondence	2
Total	33	30	30
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Source: Iraq, Ministry of Education, 1986, p 46.

Specialisation in technical/vocational secondary commercial schools for the two sections of Accountancy, and Management and Stores start in the third year.

The weekly instructional hours in technical/vocational education schools are organised to devote 3 days to theoretical subjects and 3 days to practical training per week, with the theoretical subjects closely related to practical work²⁶.

All industrial schools have the same unified syllabi. All specialisations share the uniform textbooks for general and applied subjects. However, each type of specialisation studies its own specialised subjects. For instance, the electronics

department curriculum includes specialised subjects like electronics theory, technical drawing and practical work in the field of electronics. The curriculum of each type of specialisation is developed and improved according to the modern development trends and the requirements of the Iraqi economy and society. As part of the Participation Programme of UNESCO 1979/80, a consultative mission from UNESCO visited Iraq to study the theory and practice subjects of the Electronics departments of industrial secondary schools and suggest to the Iraqi government the scales for improvement.

The mission was based at the Secondary Electrical Technical School in Baghdad which was built in 1969, one of the five industrial technical secondary schools in Iraq, with departments for electronics. The consultant of the mission observed that the electronics department of the school had six workshops each setup to absorb up to sixteen students, and one laboratory. There were also separate buildings for workshops and classrooms for teaching theoretical subjects. However, the UNESCO mission observed that workshops and equipment of the department were not managed properly and not in good condition²⁷.

The curriculum of the electronics department of the secondary electrical technical school in Iraq is as follows:

Table 5.5 Electronics Secondary Electrical Technical School Curriculum in Iraq in 1979/80

Subjects	Hours Weekly	
	1st, 2nd and 3rd Year	
	Class	Workshop
Religion	45min.	
Sport	45min.	
English	1hr. 10min.	
Arabic	1hr. 10min.	
Social Study	35min.	
Mathematics	1hr. 45min.	
Physics	1hr. 10min.	
Chemistry	1hr. 10min.	
Technical Drawing	2hr. 10min.	
Electronics Theory	3hr. 30min.	
Practical Work		18hr.
Total	14hr. 10min.	
Total		18hr.

Source: Ortman, T., 1980, Republic of Iraq: Vocational Secondary Education in Electronics, Radio and Television, UNESCO, Paris, p.3.

The mission studied the syllabi and made the following comments:

1. Only a small proportion of the course time is devoted to theory. It suggested that 30-40% of the course time should be devoted to theory subjects and the rest, 60-70%, to practical work.
2. It observed that the present syllabi emphasise to a great extent electron tubes at the expense of modern electronic technology, and suggested a more general approach to electronics in the first two years of the course. The mission has suggested that basic electronics should be studied for two years and industrial electronics, telecommunication and home electronics for one year²⁸.

5.6 Students

Technical/vocational education policies combined with suitable administrative structures and facilities, are not able of themselves to achieve their stated aims in the country. The successful achievement of such aims according to UNESCO, will depend largely on the quality of the following three major factors:

"a. the students recruited, depending in turn upon the quality of guidance; b. the equipment methods and materials used in the teaching and learning process; c. the teaching staff"²⁹.

Due to the important role of technical/vocational secondary education in preparing middle-rank skilled labour, this type of education was given special attention by the government. There has been a rapid expansion in the number of students enrolled in all types of technical/vocational secondary education schools (industrial, agricultural and commercial) during the period 1967/68 to 1984/85.

Table 5.6 shows the increase in the number of students in all technical/vocational secondary schools in Iraq during the period 1967/68 to 1984/85 in selected years.

It is clear from Table 5.6 that the total number of students in technical/vocational secondary education schools has grown very rapidly during the period 1967/68 to 1984/85. The total number of students rose from 7,096 in 1967/68 to 99,246 in 1984/85, that is an increase of 1398%. However, the greatest increase has been in the number of students in commercial schools which rose from 1,246 in 1967/68 to 32,180 in 1984/85, an increase of 2583%, followed by industrial schools, from 2,296 in 1967/68 to

58,321, an increase of 2,540%. The number of students in agricultural schools rose from 3,554 in 1967/68 to 8,745 in 1984/85, an increase of 246%.

Table 5.6 Number of Students in Technical/Vocational Secondary Schools in Iraq in Selected Years

Academic Year	Industrial Number	%	Agricultural Number	%	Commercial Number	%	Total
-----	-----	-----	-----	-----	-----	-----	-----
1967/68	2,296	23.36	3,554	50.08	1,246	17.56	7,096
1973/74	5,208	36.29	3,531	24.60	5,614	39.11	14,353
1977/78	19,460	55.30	5,784	16.44	9,944	28.26	35,188
1980/81	31,195	54.87	9,010	15.85	16,643	29.28	56,848
1982/83	32,249	52.54	8,514	13.87	20,620	33.59	61,383
1983/84	43,503	56.18	8,704	11.24	25,226	32.58	77,433
1984/85	58,321	58.76	8,745	8.81	32,180	32.43	99,246
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- Sources: 1. Iraq, Ministry of Education, Foundation for Vocational Education, 1981, Light on Present and Future of Vocational Education, Ministry of Education Press, p 19.
2. Iraq, Ministry of Education, 1978, Education in Iraq in Figures during the years 1968-1978, Ministry of Education Press (Leaflet).
3. Iraq, Ministry of Education, 1985, Education in Iraq 1967-1984, publication number 98, Baghdad, p 6.
4. Iraq, Ministry of Education, 1986, p 56.

The most striking feature of the increases is that the share of both industrial and commercial schools' enrolments increased, from 23.36% and 17.56% of the total number in 1967/68 to 58.76% and 32.43% in 1984/85, respectively. Their increased shares have been at the expense of the sharp decline in the share of agricultural schools' enrolments, which dropped from 50.08% of the total number of students in 1967/68 to 8.81% in 1984/85.

One of the new educational policy trends in Iraq is keeping the balance between general academic and technical/vocational education at the secondary stage. Since 1980, the plan is

to send 50% of all intermediate school graduates to technical/vocational secondary schools³⁰. Though the expansion in the total number of students in technical/vocational schools has reached a good record, the proportion of technical/vocational secondary school enrolments has not reached anywhere near the planned proportion of 50%. Nonetheless, the percentage of students in technical/vocational education to the total number of students at the secondary level rose from 11.17% in 1973/74 to 29.28% in 1984/85.

Table 5.7 Growth in the Number of Students in both General Academic & Technical/Vocational Secondary Schools in Iraq during the period 1973/74 to 1984/85

Academic Year	General Academic Number	General Academic %	Technical/Vocational Number	Technical/Vocational %	Total
1973/74	114,179	88.83	14,353	11.17	128,532
1974/75	129,313	86.63	19,961	13.37	149,274
1975/76	129,420	84.81	23,171	15.19	152,591
1976/77	144,008	83.54	28,365	16.46	172,373
1977/78	161,374	82.10	35,188	17.90	196,562
1978/79	189,737	79.75	48,186	20.25	237,923
1979/80	212,243	79.71	54,026	20.29	266,269
1980/81	227,762	80.03	56,848	19.97	284,610
1981/82	250,448	82.48	53,203	17.52	303,651
1982/83	237,369	79.45	61,383	20.55	298,752
1983/84	245,140	76.00	77,433	24.00	322,573
1984/85	239,669	70.72	99,246	29.28	338,915

- Sources:
1. Iraq, Ministry of Education, 1978, Education in Iraq in Figures during the years 1968-78, Ministry of Education Press, leaflet.
 2. Iraq, Ministry of Education, 1985, Education in Iraq in Figures 1967-84, Publication number 98, Ministry of Education Press, p.6.
 3. Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Baghdad, Ministry of Education Press, p.5.

Table 5.7 shows the increased number of students in both general academic and vocational schools in Iraq during the period 1973/74 to 1984/85, together with the percentages of the total

number of students at the secondary stage of education.

It is evident from the above table that the greater proportion of students are still enrolled in general academic education as compared to technical/vocational education at the secondary stage in Iraq. However, except for the academic years 1980/81 and 1981/82 there has been a steady increase in the proportion of technical/vocational education students throughout the period of 1973/74 to 1984/85, reaching a proportion of 29.28% compared to 70.72% for general academic education in 1984/85.

5.7 Teaching and Training Staff

The teacher's role in the process of achieving the stated aims of technical/vocational secondary education in Iraq, as elsewhere, is a major one. The General Conference of the United Nations Educational, Scientific and Cultural Organisation held in 1974 stated in its "Revised Recommendation concerning Technical and Vocational Education" that :

"To enhance the achievement of the objectives of technical and vocational Education, a priority should be given to the recruitment and preparation of adequate numbers of well-qualified and competent teachers, administrators and guidance staff and to the provision of the necessary training and other facilities to enable them to function effectively in their profession"³¹.

Teaching and training staff of technical/vocational secondary education in Iraq are of 3 types:

1. Teachers of general academic subjects.

2. Teachers of practical related theory subjects.

3. Instructors of laboratories and workshops who give instruction to students in vocational school laboratories and workshops.

Teaching and training staff of technical/vocational secondary schools are classified according to their academic qualification and the subjects they teach. Technical/vocational school teachers are prepared through the following different channels:

First, agricultural secondary school teachers are prepared through the department of agriculture teachers of the College of Agriculture at the Iraqi universities.

Second, commercial secondary school teachers are prepared through the department for preparing commercial teachers of the College of Administration and Economics at the Iraqi universities.

Third, industrial secondary school teachers for the electricity, mechanics and construction branches are prepared through the related departments of the University of Technology.

Fourth, the Foundation of Technical Institutes prepares vocational industrial secondary education teachers for practical subjects to teach students practical subjects and to give instruction to students in laboratories and school workshops³².

Due to a number of socio-economic factors, the Iraqi vocational secondary education system has long lacked any formal institutional training for technical/vocational teachers and

training staff. One of these factors was the general concept of education in Iraq, which emphasised the academic nature of education and as mentioned before led to the slow growth of technical/vocational institutions. This resulted in giving little or no attention to the preparation and training of technical/vocational education teachers and training staff. The slow growth of the Iraqi economy and the lack of enthusiasm on the part of the government in the past in utilising human and natural resources were hindering factors in the expansion of the Iraqi technical/vocational education system and consequently in the expansion of technical/vocational teacher training education.

Since the mid 1970s and with the flow of revenues from nationalised crude oil, and the government's diversified economic policy, immediate and urgent needs for the preparation of skilled manpower emerged. Programmes for training technical/vocational students at the secondary and post-secondary stages were expanded. Lack of qualified teaching and training staff has presented a major barrier to the expansion and development of the technical/vocational education system in Iraq in general and to the development of technical/vocational secondary education in particular.

Since the "Foundation for Vocational Education" was established in 1975, the Ministry of Education has attempted to solve the problem of the shortage of qualified teachers and training staff in coordination with the Ministry of Higher Education and Scientific Research, the educational authority responsible for the higher education stage. Thus, there has been a steady

expansion in the organisational structure of all patterns of technical/vocational teacher training institutions.

The Foundation of Technical Institutes of the Ministry of Higher Education and Scientific Research is the main source for providing qualified training staff to train and instruct students in laboratories and workshops. The duration of study in technical institutes in Iraq is two years, by the end of which students receive a post-secondary Diploma certificate. The curricula and programmes of study of technical institutes are mainly practical and students' training in industry or public service institutions during the summer vacations is a major part of their two years preparation and training. Practical training constitutes about 70% of the weekly hours of study and training in technical institutes³³.

The number of students in technical institutes rose from 9,292 in 1976-77 to 34,277 in 1983-84. There were 22 technical institutes in Iraq in 1983-84. They include one technology institute, 8 technical institutes, 7 agricultural institutes, 2 management institutes, 2 medical institutes and one technical drawing institute. Table 5.8 shows the number of students in all post-secondary technical institutes (first and second year) in Iraq in 1983/84 according to sex and type of institute.

Today, there are ample facilities in Iraqi universities for the training of not only teachers of general and applied subjects but also for the training of technical teachers in industrial, commercial and agricultural fields³⁴.

Table 5.8 Number of Students in Iraqi Post-Secondary Technical Institutes in 1983/84 due to sex and type of Institute

Institute	First Year			Second Year			Total
	Male	Female	Total	Male	Female	Total	
Technology, Baghdad	2815	662	3477	1335	430	1765	5242
Management, Rasafa	1043	1213	2256	518	853	1371	3627
Technical/Agricultural, Baghdad	584	258	842	286	99	385	1227
Technical/Medical, Baghdad	528	114	642	238	62	300	942
Technical/Medical, Basrah	72	12	84	57	2	59	143
Technical Drawing	125	49	174	4	..	4	178
Technical, Basrah	1362	605	1967	786	321	1107	3074
Technical, Mosul	1726	441	2167	924	209	1133	3300
Technical, Kirkuk	1857	501	2358	714	241	955	3313
Management, Karkh	644	582	1226	120	353	473	1699
Technical, Hillah	1864	563	2427	773	326	1099	3526
Technical/Agricultural, Kummett	47	7	54	48	3	51	105
Technical, Ramadi	1253	205	1458	390	76	466	1924
Technical, Najaf	1468	265	1733	355	176	531	2264
Technical, Omarah	961	90	1051	423	57	480	1531
Technical/Agricultural, Musayyab	163	25	188	182	35	217	405
Technical/Agricultural, Kut	85	12	97	42	1	43	140
Technical/Agricultural, Bani Sa'd	178	27	205	107	47	154	359
Technical/Agricultural, Hawijah	48	12	60	43	..	43	103
Technical/Agricultural, Nimrud	105	17	122	70	6	76	198
Technical, Nasiriyah	419	51	470	175	20	195	665
Technical/Agricultural, Kufa	186	38	224	73	15	88	312
Total	17533	5749	23282	7663	3332	10995	34277
% to Total	51.2	16.8	67.9	22.4	9.7	32.1	100.0

Source: Hasawi, G.S. and Al-Gamili, A.G., 1986, Technical and Vocational Education in the Arab Gulf Countries, UNESCO, Paris, p 36.

In December 1985, UNESCO sent a questionnaire to all 158 member states in regard to its revised recommendations of 1974 concerning technical and vocational education. Iraq was among the 44 member states who answered the questionnaire and sent a comprehensive report back to UNESCO on the status of technical

and vocational education in the country. Among the information provided to UNESCO by the Iraqi national authorities is that "Teachers of theoretical subjects should hold at least a B.Sc., workshops instructors should hold a diploma in their specialisation"³⁵. In addition, the report stated that in-service teacher training facilities for the teaching staff of technical/vocational education are provided through the Institute of Vocational Development in Baghdad, which also provides a one-month introductory teacher-education course for new appointees and courses of up to 3 months for upgrading, together with fellowships for local and overseas staff training. In addition, the report stated that the average size of the class in technical/vocational secondary schools is between 25 and 30 for theoretical subjects and 5 for practical subjects³⁶.

There was a considerable increase in the number of teachers and training staff of technical/vocational secondary schools. It rose from 1,036 in the academic year 1973/74 to 5,315 in the academic year 1984/85, an increase of 513%.

Table 5.9 shows the growth in the number of teaching staff in technical/vocational secondary schools (industrial, agricultural and commercial) in Iraq for the period 1973/74 to 1984/85:

Table 5.9 The Growth in the Number of Technical/Vocational Secondary Education Teaching Staff 1973/74-1984/85

Academic Year	Industrial Schools	Agricultural Schools	Commercial Schools	Total
1973/74	425	378	233	1,036
1974/75	561	372	370	1,303
1975/76	697	430	419	1,546
1976/77	869	550	487	1,906
1977/78	1,160	644	527	2,333
1978/79	1,766	896	611	3,273
1979/80	2,231	1,006	619	3,928
1980/81	2,288	1,054	806	4,148
1981/82	2,335	1,030	860	4,225
1982/83	2,637	1,088	1,008	4,733
1983/84	2,923	1,075	1,117	5,115
1984/85	3,124	992	1,199	5,315

- Sources: 1. Iraq, Ministry of Education, 1978, Education in Iraq in Figures during the years 1968-1978, Ministry of Education Press, (leaflet).
2. Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Publication number 109, Government Press, pp 5, 14, 27 and 40.
3. Iraq, Ministry of Education, 1985, Education in Iraq in Figures 1967-1984, Publication number 98, Government Press, pp 6-9.

It is clear from Table 5.9 that the number of teaching staff over the period 1973/74 to 1984/85 has increased in all types of technical/vocational secondary schools. However, the major increase was in industrial schools in which the number rose from 425 teachers in 1973/74 to 3,124 in 1984/85, followed by commercial schools from 233 to 1,199 and agricultural schools from 378 to 992 respectively. The total number of teaching staff of technical/vocational secondary schools rose from 1,036 in 1973/74 to 5,315 in 1984/85.

Though teachers of theoretical subjects should hold at least a university degree and teachers of practical subjects a diploma in their specialisation, the real picture looks different. In 1984/85 the number of teaching staff holding a university degree was just over 50% of the total and the rest had either a Secondary School Certificate or diploma. Table 5.10 shows the number of teaching staff in technical/vocational secondary schools in 1984/85 according to the qualifications they have obtained:

Table 5.10 Number of Technical/Vocational Secondary Education Teachers in Iraq in 1984/85 and their qualifications

Type of Qualification	Number	%
Secondary School Certificate	1,763	33.17
Diploma	827	15.56
University Degree (B.A./B.Sc.)	2,661	50.07
Higher Diploma	49	0.92
Masters Degree (M.A., M.Ed. & M.Sc.)	8	0.15
Others	7	0.13
Total	5,315	100.00

Source: Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Publication number 109, Government Press, pp 14, 27 and 40.

5.8 Male/Female Contribution

One of the problems that education has suffered from in Iraq, is the low proportion of female students. Since 1968, the Iraqi government has made considerable efforts to overcome this problem and introduced co-education at all levels. However, there are still a great number of single sex schools at all levels of primary, secondary and teacher training. The number of co-education technical/vocational secondary schools has

increased sharply since the academic year 1970/1971. It rose from nil in 1970/1971 to 44 in 1977/1978³⁷, and to 83 in 1984/1985³⁸. This rise is due to a number of reasons including increased social consciousness and high cost of technical/vocational schools which made the provision of single sex schools in each area difficult if not impossible³⁹.

Equal access to education in Iraq is one of the principles that the new educational policy is based on. The Iraqi government's report to the 24th General Conference of UNESCO has stated that females have equal educational opportunity access to all types of technical/vocational education schools backed by legislations to ensure them not only equal access but also equal rights in employment⁴⁰.

Females' contribution in regard to the number of students in all types of technical/vocational secondary education schools increased from 2,577 in 1973/1974 to 28,396 in 1984/1985, that is from 17.95% of the total number of students in 1973/1974 to 28.61% in 1984/1985. Table 5.11 shows the number of male and female students in technical/vocational secondary schools in Iraq and their proportions during the period 1973/1974 to 1984/1985:

Table 5.11 Number of Male and Female Students in Technical/Vocational Secondary Schools in Iraq between 1973/74-1984/85

Academic Year	Number of Students				
	Male	%	Female	%	Total
1973/74	11,776	82.05	2,577	17.95	14,353
1974/75	15,808	79.19	4,155	20.81	19,961
1975/76	18,277	78.82	4,910	21.18	23,187
1976/77	22,598	79.67	5,767	20.33	28,365
1977/78	27,272	77.66	7,846	22.34	35,118
1978/79	36,013	74.74	12,173	25.26	48,186
1979/80	38,915	72.03	15,111	27.97	54,026
1980/81	40,224	70.77	16,611	29.23	56,835
1981/82	37,061	69.66	16,142	30.34	53,203
1982/83	42,539	69.30	18,844	30.70	61,383
1983/84	54,684	70.62	22,749	29.38	77,433
1984/85	70,850	71.39	28,396	28.61	99,246

- Sources :
1. Iraq, Ministry of Education, 1978, Education in Iraq in Figures during the years 1968-78, Ministry of Education Press, (leaflet).
 2. Iraq, Ministry of Education, 1985, Education in Iraq 1967-84, Publication number 98, Ministry of Education Press, p 6.
 3. Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Publication number 109, p 5.

Though the proportion of female students to the total number of students enrolled in technical/vocational secondary schools has increased during the period 1973/74-1982/83, their participation rate is far from being equal with that of male students. Furthermore, there has been a slight decrease in their participation rate for the academic years 1983/84 and 1984/85. The decline in females' participation rate is due to their lack of interest in manual work, as they enjoy equal access to technical/vocational secondary education schools with men in Iraq.

However, the proportion of females differs from one type of technical/vocational secondary school to another. Table 5.12 shows that the proportion of female students in commercial education are the highest, followed by agricultural education and then industrial education.

The striking feature of females' participation rate is that, their proportion has fallen slightly in all types of technical/vocational secondary education schools. In commercial education, it has fallen from 78.89% of the total number of students in 1980/81 to 73.95% in 1984/85; in agricultural and industrial education, from 16.84% and 6.32% in 1980/81 to 14.85% and 5.66% in 1984/85 respectively. The fall in females' participation rate, can be explained by their lack of interest in this type of education and the desire to join academic secondary education schools in order to continue their higher education studies.

Table 5.12 Number and Proportion of Male/Female Students in each Type of Technical/Vocational School 1980/81 & 1984/85

Type of School	1980/81				1984/85			
	Male	Female	%Fem	Total	Male	Female	%Fem	Total
Industrial	29,223	1,972	6.32	31,195	55,021	3,300	5.66	58,321
Agricultural	7,493	1,517	16.84	9,010	7,446	1,299	14.85	8,745
Commercial	3,530	13,189	78.89	16,719	8,383	23,797	73.95	32,180
Total	40,246	16,678	29.30	56,924	70,850	28,396	28.61	99,246

- Sources: 1. Iraq, Ministry of Education, 1982, Annual Report of 1980/81, Baghdad, Ministry of Education Press, p.
2. Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Publication number 109, Ministry of Education Press, pp. 9, 23 and 36.

The proportion of women's contribution to the teaching staff of technical/vocational secondary education schools has grown considerably in the period 1980/81 to 1984/85. Table 5.13 shows the total number of technical/vocational secondary education teaching staff and the rise in the proportion of females compared to males between 1980/81 and 1984/85.

Table 5.13 Females' Contribution to the Iraqi Technical/Vocational Secondary Education Teaching Staff 1980/81 & 1984/85

Academic Year	Male	%	Female	%	Total
1980/81	3,155	76.06	993	23.94	4,148
1984/85	3,152	59.30	2,163	40.70	5,315

- Sources: 1. Iraq, Ministry of Education, 1982, Annual Report of 1980/81, Baghdad, Ministry of Education Press p.
2. Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Publication number 109, Ministry of Education Press, p.5.

It is evident from the above table that the proportion of females to the total number of teaching staff has risen from 23.94% in 1980/81 to 40.70% in 1984/85.

Though the number of female students and teaching staff in technical/vocational secondary education schools have not yet reached anywhere near the equal number of males, the above tables suggest that the trend has been upward with the exception of the academic years 1983/84 and 1984/85 in regard to female students.

5.9 The Built Environment

One of the most significant elements for the achievement of goals for developing and expanding technical/vocational secondary education is the state of the school buildings. A suitable building environment is of great importance in the provision of effective education and training in general and in the provision of technical/vocational education in particular. Unlike most other primary and secondary schools, technical/vocational secondary education schools require suitable teaching and training accommodational environment not only for theoretical subjects (classrooms) but also for practical teaching (workshops and laboratories).

Traditionally, in Iraq, the school building was a place where children gathered to spend a few hours with a teacher, reading and writing, without paying any attention to the educational and hygienic standards of the building. The first attempt to improve the status of the school buildings in Iraq was a study conducted by Noori Baldar in 1965. He listed the necessary

conditions which should exist in every school building⁴¹. That was followed by an international conference in 1975, held in Geneva which hosted representatives of 70 countries. They discussed ways of improving the educational and hygienic conditions of the school buildings in each country parallel with the country's economic ability.

Enrolments in technical/vocational secondary education rose more than fourfold between 1971/72 and 1984/85. The expansion led to a similar increase in the number of schools, which rose from 52 in 1971/72 to 202 in 1984/85⁴².

To accommodate the increased number of students, the government gave considerable attention to the construction of new school buildings and devoted extra funds from the 5 year national development plans to the construction of new schools and classrooms. This is in addition to the Ministry of Education's ordinary annual budget. However, because of the shortage of school buildings and as an urgent solution to the problem, the Ministry of Education started to house two schools in one building at all levels of education, including vocational secondary, that is running double shifts each day.

In the academic year 1984/85, there were 202 technical/vocational schools housed in 163 school buildings. That means 39 technical/vocational secondary schools did not possess a building and were sharing the built environment with others. The schools without an individual building were 9 industrial, 4 agricultural and 26 commercial. However, this does not imply that all the 163 technical/vocational secondary education school buildings were suitable for the educational and

training process.

Table 5.14 shows the status of technical/vocational secondary education school buildings in Iraq in 1984/85:

Table 5.14 The Status of Iraqi Technical/Vocational Secondary School Buildings in 1984/85

Type of School	Schools with Building		Schools without Building	
	Number	%	Number	%
Industrial	86	90.5	9	9.5
Agricultural	27	87.1	4	12.9
Commercial	50	65.8	26	34.2
Total	163	80.7	39	19.3

Source: Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Publication number 109, Ministry of Education Press, Baghdad.

It is evident from the above table that 19.3% of all technical/vocational secondary schools do not have their own buildings and have to share buildings with others. That is 9.5% of industrial schools, 12.9% of agricultural schools and 34.2% of commercial schools. In addition, the Ministry of Education's statistics have shown not only the shortage of school housing but also the poor status of some buildings. Among the 163 technical/vocational secondary education school buildings, 11 of them (4 industrial, 3 agricultural and 4 commercial) were considered inappropriate for teaching and training students, and 48 of them required attention and repairing (27 industrial, 4 agricultural and 17 commercial).

5.10 Equipment and Materials

The UNESCO's Revised Recommendation concerning Technical and Vocational Education in 1974 stated in regard to the teaching and learning processes, methods and materials, the following:

"Theory and practice should form an integrated whole: what is learned in the laboratory, workshop or in enterprises should be directly related to the mathematical and scientific foundations of the particular operation or process, and conversely, technical theory, as well as the mathematics and science sustaining it, should be illustrated through their practical applications"⁴³.

Practical work is given a considerable importance in technical/vocational education schools in Iraq. Furthermore, it is this aspect of practical teaching and training which makes technical/vocational education costly compared to general academic schools. Technical/vocational secondary education schools are provided with equipment and facilities adapted to the teaching and training needs and level of the students. Each department of the technical/vocational secondary school possesses its own workshops and laboratories in the case of industrial schools, its own farms and laboratories in the case of agricultural schools, and practical training classrooms and laboratories in the case of commercial schools. For instance, the Department of Electronics of the Secondary Technical School in Baghdad, which was built in 1969, has 6 workshops, each designed to absorb 16 students, and one laboratory⁴⁴.

The instructional hours in technical/vocational secondary education schools in Iraq are arranged weekly, devoting three days of the week to teaching theory and the other three days to teaching and training practical subjects. The aim is to relate

directly theoretical study to practical instruction in the workshops and laboratories⁴⁵.

In addition, students in technical/vocational education schools have to complete a minimum training of 12 weeks during the summer vacations in industry or related establishments, as part of their study and training. The training is supervised, and divided into six weeks each summer vacation, and aimed to familiarise students with the type of employment they will take upon their graduation from the technical/vocational secondary education school⁴⁶.

UNESCO has also defined in its Revised Recommendation concerning Technical and Vocational Education the type of equipment and tools to be used in technical/vocational school workshops and laboratories. They should be simple and designed purely for pedagogical purposes and adapted to the level of students. It has also suggested that appropriate and effective training on complicated machines and equipment should be given on the job.

"Machines and equipment used in workshops in educational institutions should be geared to the level and training of the users. This equipment should be simple and designed for pedagogical purposes without however being obsolete or teaching obsolete procedures. Training using complex equipment may be given more appropriately and efficiently on the job"⁴⁷.

5.11 Educational Guidance

Guidance is seen as an important instrument for achieving the goals for developing and expanding technical and vocational education. According to UNESCO's revised recommendations of 1974, concerning technical and vocational education, guidance is

regarded as "a vital element in education" which should be viewed as a continuous process to help students in making positive educational and employment choices. Guidance provision should equip the individual with the following abilities:

- "a. to become aware of his interests and abilities and able to set himself precise objectives;
- b. to pursue a course of education, whether preparatory or continuing, commensurate with these;
- c. to make decisions concerning his occupation, both in the initial and later stages, which lead to a satisfying career;
- d. to facilitate transactions between education and employment at whatever level or stage"⁴⁸.

Guidance and counselling services on the national, local and institutional levels have to make sure that young people receive realistic views of the opportunities available to them through:

- "a. close liaison and coordination with training, counselling, employment and placement services;
- b. ensuring that all necessary information concerning employment and career opportunities is available and actively disseminated;
- c. ensuring that those in employment have access to information concerning opportunities in continuing education and training"⁴⁹.

In Iraq, guidance services are provided by the provision of information through both group meetings and student records analysis which are recorded on the students' school cards. The student's school card provides information on the pupil's educational performance, psychological attitudes, and other relevant information on his/her career choice. In addition, guidance is set to integrate teaching methods and means with the student's optimum level of attainment or achievement. Guidance services in Iraqi technical/vocational secondary education

schools are conducted through a guidance committee setup in every school or institution. However, guidance programmes are carried out by the teaching staff as there are no specialised guidance teachers in technical/vocational secondary education schools at the present time⁵⁰.

Evaluation of guidance services in Iraq is carried out by educational inspectors (academic supervisors)⁵¹.

However, in Iraq as in many other developing countries, guidance services are on the whole little developed, thus additional fiscal resources and better linkages with industry, business and commerce are needed to improve the counselling and guidance. Guidance services should contribute positively to the smooth transition of students from school to work⁵².

5.12 Technical/Vocational Secondary Education Problems in Iraq

Iraq has very little disagreement with other developing countries as a whole, and with Arab States in particular, concerning general policy objectives for technical and vocational education. As mentioned before, the country is aware of the fact that technical and vocational education can play a vital role in the implementation and acceleration of national development plans. This has led the authorities to pay special attention to the development and improvement of the technical/vocational education system so as to contribute to economic and social development. However, due to the dynamics of the development process, a number of problems have arisen. Technical/vocational education problems are also common in other developed countries.

UNESCO's comparative study of the policy, planning and management in technical/vocational education has identified major problems from the experience of sixteen countries concerned. These problems which may be listed under the following headings are to be overcome if rapid development is to be achieved, as in the case of Iraq. They are:

"a. social demand; b. resource allocation and optimization; c. relevance to development and manpower needs; d. co-ordination with training agencies and product users; e. techniques of plan and policy implementation; and f. lack of trained administrative and financial managers"⁵³.

The major problems which face the growth and development of technical/vocational secondary education in Iraq can be grouped under the following headings:

1. The social attitude to manual work.
2. Technical/vocational education in relation to development requirements.
3. The gap between the requirements of the growing industries and the capacities of the technical/vocational secondary education system.
4. Students' attitudes towards technical/vocational education.
5. Insufficient number of well-qualified teaching and training staff.
6. Poor design of technical/vocational secondary education school curricula.

5.12.1 The Social Attitude to Manual Work

It is a general case in most of the Arab countries, including Iraq, that the society's traditional values tend to attach only secondary importance to technical/vocational education. The society's negative attitude towards technical/vocational education is inherited from the colonial periods when the country was under foreign occupation. During these periods, the social status of manual work was low and the people preferred white-collar jobs. As a consequence, technical/vocational secondary education was given lower priority than general academic education. That is because the latter led to university and thereafter a respectable and comfortable white-collar job away from farms and centres of industry⁵⁴.

Today, despite the vital role of this type of education in the development and acceleration of the implementation of national development plans in Iraq as elsewhere, and the government's realisation of its importance, the effect of social outlook upon it is still noticeable. The negative attitude of students' parents and society in Iraq in general to manual work have affected the size and the role of technical/vocational education policies in the planning and implementation of national development programmes. It is thought that the society's negative attitude towards technical/vocational education in Arab Gulf countries, including Iraq, will continue for a longer time than in other Arab states for reasons of their economic capabilities and the individual's financial ability to continue his/her study⁵⁵.

5.12.2 Technical/Vocational Secondary Education in relation to Development Needs

It is a matter of fact that for every development plan to succeed, requires sufficient and efficient human resources in addition to allocation of adequate financial resources. Also there is no doubt that the main source for providing such human resources is the education system of the country. Therefore, the coordination between the outputs of the education system and the requirements of the development plans is important. The education system should produce sufficient ~~and~~ qualified manpower at all levels for the socio-economic development requirements of the society⁵⁶.

In all Arab Gulf countries including Iraq, the economic structures have grown and developed at ^{such} a high rate during the last two decades that education systems have been unable to cope with the socio-economic transformations. As to technical/vocational secondary education, this leads to the problem of the capacity of technical/vocational secondary education system and the development or manpower needs. The problem faced by Iraq and other Arab Gulf countries is the gap between the requirements of their growing industries and the capacities of their technical/vocational secondary education systems⁵⁷. In Iraq, the technical/vocational secondary education system simply is not meeting the needs of the socio-economic development.

^{the}
If/technical/vocational secondary education system is to provide for the needs of the country (Iraq), it has not only to be expanded but also it has to be made relevant to economic and

manpower needs of the country. The problem of coordination between national planning requirements and the output of the technical/vocational secondary education system has to be set locally or nationally.

5.12.3 Technical/Vocational Secondary Education and the Labour Market

With the increase in the number of development projects in Iraq, there is an increased demand for more technicians and skilled workers to work in these projects. In addition, the technological advancement has increased the demand to training students in a variety of specialised industrial, agricultural and commercial fields.

Technical/vocational secondary education in Iraq is regarded as the main source for providing middle-rank skilled labour. The low proportion of students enrolled in technical/vocational secondary schools (agricultural, industrial and commercial) in comparison to general secondary education, and the high demand for middle-rank skilled labour, leads to a demand for the expansion of the system. However, because the expansion in the system has been smaller than the demand in all Arab Gulf countries, they relied on importing expatriate skilled workers from abroad. The expatriate workers have not only drained most of the countries' resources allocated to socio-economic developments in these countries but will also cause problems in population density of some Arab Gulf countries such as United Arab Emirates^{5 8}.

Iraq is an exception to other Arab Gulf Countries in this regard, as the number of expatriate workers in the labour market is low. However, as the country continues to suffer from the shortage of local skilled labour and technical staff, there is a pressing need for the expansion of technical/vocational secondary schools capacities to overcome the shortage in the number of middle-rank skilled labour and minimise dependence on expatriate staff for the labour market.

5.12.4 Students' Attitudes Towards Technical/Vocational Secondary Education

Lack of students' interest in technical/vocational secondary education, has affected the size of the system and attracted only students with lower academic abilities. That is one of the main problems facing the technical/vocational secondary education systems of most Arab countries including Iraq. Table 5.15 shows the picture of the problem by comparing the enrollments of technical/vocational secondary schools with enrollments of academic secondary schools in Arab Gulf countries:

Table 5.15 The Number of Students in Technical/Vocational Schools & Secondary Academic Schools in Arab Gulf Countries

Country	Academic Year	Number of Students		%Technical/ Vocational
		Technical/Vocational	Academic Secondary	
Bahrain	1983/84	7067	5619	56.0
Iraq	1984/85	99246	239669	29.8
Oman	1983/84	452	6329	7.0
Saudi Arabia	1981/82	7780	112187	6.4
United Arab Emirates	1982/83	248	7960	3.1
Qatar	1980/1981	115	5240	2.1
Kuwait	1981/82	..	54546	..

Sources: 1. Hasawi, G.S. & Al-Gamili, A.G., 1986, Technical and Vocational Education in the Arab Gulf Countries, UNESCO, Paris, p 80.

2. Iraq, Ministry of Education, 1985, Vocational Education in Iraq for the Academic Year 1984/85, Baghdad, Ministry of Education Press, p 5.

It is clear from the above table that the proportion of technical/vocational secondary education enrolments to the total enrolments in secondary education stage is the highest in Bahrain 56%, followed by Iraq 29.8% and simply non-existent in Kuwait.

The Studies and Research in these countries attribute the low proportion of technical/vocational secondary education enrolments to the following factors:

1. The social outlook upon manual work, as mentioned previously.
2. The second factor is that graduates of technical/vocational secondary education schools do not have access to higher

education unlike the graduates of secondary academic schools.

3. The poor quality of educational guidance provided to students at the educational stages that proceed technical/vocational secondary education stage, that is the primary and intermediate school stages.
4. The negative attitude towards manual work which have been inherited from the colonial periods in these countries⁵⁹.

As a consequence of all these above, this type of education has generally received students with lower academic abilities and yielded negative results of low academic performance and a lack of enthusiasm which led into the production of poorly qualified graduates. This is one of the factors which has made technical/vocational education in most Arab countries largely unsuccessful.

5.12.5 Insufficient Number of Well-Qualified Teaching and Training Staff

Expansion of a technical/vocational secondary education system naturally creates the problem of the preparation of adequate number of teaching and training staff for the system. The chief problems concerning the education and preparation of technical/vocational secondary education teachers are both quantitative and qualitative. On the quantitative side, there is a need for adequate number of trained teachers to meet the rising demand for technical/vocational secondary education schools. That has led a number of Arab Gulf countries including Iraq, to appoint a large number of graduates of universities and

higher institutes to the teaching and training staff of technical/vocational secondary education schools. Those graduates lacked experience in teaching this type of education and that resulted in low quality of education and training in these schools.

A number of Arab Gulf countries have tried to grapple with the problem. In Iraq, for instance, a number of university departments started to organise courses and to open new sections for the preparation and training of qualified teaching staff for industrial, agricultural and commercial technical/vocational secondary education schools. It has also opened new specialised sections to prepare training staff in post-secondary technical institutes such as the section for the preparation of industrial training staff in the Baghdad Institute of Technology, Iraq and the Riyadh Technical Institute, Saudi Arabia⁶⁰.

There has been a growing awareness in Iraq and other Arab Gulf countries of the importance of maintaining a high level of performance for the teaching and training staff of technical/vocational secondary schools, through the retraining of staff and raising their academic efficiency. Their retraining and upgrading programmes cover the following areas:

"educational and vocational training; upgrading and specialisation subjects; arrangements for practical experience and field practice; training in the formulation of course curricula"⁶¹.

In addition, in-service teacher training facilities for technical/vocational secondary education teaching staff in Iraq, are provided through the Institute of Vocational Development in Baghdad, which also provides a one-month introductory

teacher-education course for new teaching and training staff appointees. Courses of up to 3 months for upgrading and training local and overseas fellowships are also provided by the institute⁶².

5.12.6 Poor Design of Technical/Vocational Secondary Education School Curricula

Technical/vocational secondary education school curricula in developing countries in general, and in Arab countries in particular, are characterised by poor design and preparation which resulted in preparing less qualified graduates.

Technical/vocational secondary education school curricula are designed usually in accordance to the individual and society's needs, taking into account the future technological advancement developments.

The current technical/vocational secondary education curricula in most Arab countries including Iraq, suffer from the following weaknesses:

1. They are not based on an organised scientific analysis of the term "work".
2. They are not instructed by strategical and pedagogical educational and learning objectives.
3. They are not stable.
4. They are characterised with many interventions and repetitions in their educational courses and subjects.

5. There is no clear system to measure the standard of the graduate in the field of work and thus, identify the effectiveness and efficiency of the existing curricula⁶³.

For the above reasons, the employers are usually complaining about the poor performance of the graduates in practical work and that the education and training they have received do not relate to their job in the factory or the farm. Therefore, technical/vocational secondary education curricula require to be revised on the basis of a needs analysis of the functions needed to be performed by the graduate of the particular course programme. Significant consideration should be given to design and applicability of a scientific approach to produce curricula characterised with clarity, usefulness and based on analytical study of the society's real needs.

The curricula of technical/vocational secondary education schools in Arab Gulf countries cover a variety of specializations in the electrical, mechanical, civil, agricultural, management and commercial fields. However, there is room for attaching more significance to certain other fields of study, being of more immediate concern for certain countries of the Arab Gulf. Such fields are, the petroleum and petrochemical industries, solar energy, fishery and water resources⁶⁴.

Among the innovative approaches being employed by Iraq, concerning the curriculum of technical/vocational secondary schools is that, curriculum is constantly being reviewed and updated to meet economic needs for employment. It emphasises practical training and applied subjects, representing a total of

60% of the curriculum and summer training for all students are provided in related factories, farms or related establishments as an integral part of the curriculum⁶⁵.

5.13 Conclusion

The stated aims of technical/vocational secondary education in Iraq, are summarised as to prepare and train middle-rank skilled labour for the requirements of the national development plans. To this end, the Foundation for Vocational Education was established to replace the General Directorate of Vocational Education. The Foundation has the direct control over curricula, appointment of teachers and training staff, holding national examinations and organising programmes of study and training of technical/vocational secondary schools throughout the country.

Technical/vocational secondary education students are selected from intermediate school graduates (9th grade). Selection to this type of education (agricultural, industrial and commercial), is dependent on success in the Intermediate Baccalaureate Examination. Technical/vocational secondary school students are enrolled for 3 years education and training course, leading to a certificate parallel to the preparatory academic secondary school certificate. Though since 1975, technical/vocational secondary education stage in Iraq, is regarded as a transitional stage to higher education besides academic secondary education, only the top three students from each trade or section of the school are eligible to the two-year post-secondary diploma in their own specialism at the University

of Technology or Technical Institutes.

The administrative structure of the Iraqi technical/vocational secondary education, is highly centralised under the Foundation for Vocational Education, that prevents the system from responding quickly to the changing needs for skilled labour locally or to innovation, even when local, national and international experiments have proved successful.

All types of technical/vocational secondary education schools in Iraq, are funded entirely by the government through the Ministry of Education budget. The Foundation for Vocational Education has its own independent budget, which is a supplement to the Ministry of Education's budget. Allocations were also made to technical/vocational secondary education schools from the annual and five-year investment development plan budgets.

Technical/vocational secondary education offer a variety of programmes in the industrial, agricultural and commercial fields. Though the curricula of these schools have been in constant innovation and update to meet the nation's socio-economic and employment needs, they are generally characterised with a poor design and preparation, that resulted in preparing less qualified graduates.

The number of students in technical/vocational secondary schools has increased sharply during the last 2 decades. The most striking feature of this increase is that the share of both industrial and commercial schools' enrolments have grown from 23.36% and 17.56% of the total number of students in 1967/68 to 58.76% and 32.43% in 1984/85 respectively, at the expense of the

sharp decline in the share of agricultural schools' enrollments. It has dropped from 50.08% of the total number of students in 1967/68 to 8.81% in 1984/85. The change is due to the rapid growth of the industrial sector in Iraq and rising demand for more skilled industrial workers in the growing industry and services.

One of the new educational policy trends in Iraq since 1980, has been to keep the balance between general academic and technical/vocational education at the secondary stage by sending 50% of all intermediate graduates to technical/vocational secondary schools. However, in 1984/85, the proportion of students in technical/vocational secondary schools was 29.8% to the total number of students at the secondary stage.

Though there are ample facilities in Iraqi universities for the education and training of general, applied and technical subjects, technical/vocational secondary education teaching and training staff suffer from both quantitative and qualitative problems. There are insufficient number of qualified technical/vocational secondary school teachers and training instructors.

Women in Iraq have equal access to all types of technical/vocational secondary education. Though the proportion of female students has increased during the last 15 years from 17.95% of the total number of students in 1973/74 to 28.61% in 1984/85, the figures show nowhere near equal to male students.

The quantitative growth in the number of students in technical/vocational secondary education has led to a shortage of school buildings, and the Ministry of Education's statistics show that 19.3% of schools do not have their own buildings and have to share buildings with others. This proportion is higher in commercial schools than agricultural and industrial schools.

The instructional hours in technical/vocational secondary education schools are arranged weekly, devoting 3 days to teaching theory and the other 3 days to teaching and training practical subjects. Equipment and materials are used to achieve the aim of relating directly theoretical study to practical instructions in the workshops and laboratories.

In regard to educational guidance in technical/vocational secondary schools in Iraq, guidance services on the whole are little developed and there are no specialised guidance teachers in these schools. If guidance services to contribute positively to the smooth transition of students from school to work, improvements should include additional fiscal resources and better linkages with industry, business and commerce.

Technical/vocational secondary education growth and development in Iraq are facing major problems. They are grouped as: the social attitude to manual work; technical/vocational education in relation to development requirements; the wide gap between requirements of the growing industry and the capacities of the technical/vocational secondary education system; students' negative attitudes towards technical/vocational education and manual work; insufficient number of well-qualified teaching and training staff; and the poor design of technical/vocational

secondary education school curricula. Suggestions will be made in the next chapter of general conclusions on how to overcome the above problems.

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CHAPTER 6

6 SUMMARY, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

6.1 Summary

6.2 Purpose of the Study

6.3 Methods of the Study

6.4 Summary of Findings

6.5 Conclusions

6.6 Implications

6.7 Suggestions for Further Research

6 SUMMARY, CONCLUSIONS, IMPLICATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

This chapter includes a brief summary of aims, procedures and findings of the study, together with conclusions, implications and suggestions for further research and investigation.

6.1 Summary

Iraq is a country in a hurry to industrialise and develop itself. The country's main economic assets are oil, water, cultivable land and labour force. However, oil has been the key to Iraq's economic development since 1972 when both the flow and the price of oil rose sharply. Industrialisation for Iraq meant transforming the country from an underdeveloped agrarian society to a developed agro-industrial society. This process of diversifying the Iraqi economy has been hindered by a variety of factors, one of which is the inadequate supply of technical skills in terms of the quality and quantity needed.

The recent conflict with its neighbour, Iran, lasted 8 years and drained the country's human and natural resources, affecting the government's effective policies of utilising manpower resources for the country's economic development process.

Middle-rank skilled and technically qualified labour was in the forefront of these attempted policies, which led to particular attention to technical/vocational education within the secondary stage.

The technical/vocational secondary education system in Iraq, which is regarded as the main source for middle-rank skilled

labour, is evaluated in this study in relation to the country's social, economic, historical, cultural and educational development realities.

The plans for education and the education system have been geared to suit the economic needs of the country. Half of all pupils at the secondary stage of education are to be enrolled in vocational streams of agriculture, commerce and industry.

Technical/vocational education within the secondary stage of education is regarded as an integral part of the education system in Iraq. The Iraqi education system is based on comprehensive national policy principles derived from the socialist perspective of the ruling Arab Ba'th Socialist Party (ABSP).

Technical/vocational secondary education in Iraq is centralized under the authority and control of the Foundation of Vocational Education of the Ministry of Education. The structure of the Iraqi education system consists of 2 years voluntary pre-school education; followed by 6 years of compulsory primary education; 3 years secondary intermediate and 3 years secondary preparatory (academic or vocational), and 3 to 6 years higher education.

Technical/vocational secondary education consists of 3 years of specialized technical and vocational education in one of the fields related to industrial, agricultural and commercial occupations. Its curriculum aims at the preparation and training of skilled workers balanced with a strong element of general education and knowledge to train middle-rank skilled labour for the requirements of the national development plans.

The Foundation for Vocational Education has the direct control over curricula, appointment of teachers and training staff, holding national examinations and organising programmes of study and training of technical/vocational secondary schools throughout Iraq.

Graduates of intermediate schools are enrolled for three years study and training course leading to a certificate parallel to the preparatory academic secondary school certificate that qualify their holders for a technical skilled job in its specialised field of agriculture, commerce or industry.

Technical/vocational secondary education stage in Iraq is a transitional stage to higher education for only few top graduates of each specialised field or section of these schools.

All types of technical/vocational secondary education schools in Iraq are funded entirely by the government through the Foundation for Vocational Education's budget which is a supplement to the Ministry of Education's budget.

There has been a sharp increase in the number of students in all types of technical/vocational secondary schools during the last 2 decades and the biggest increase have been in the share of both industrial and commercial schools. However, females' contribution is still low and in 1984/85 it was 28.61% of the total number of students enrolled.

The number of students enrolled in technical/vocational secondary education schools is lower than the number of students in academic secondary schools. In 1984/85, the proportion of students in technical/vocational secondary schools was 29.8% as

compared to 70.2% in academic secondary schools.

Though there has been an increase in the number of teaching and training staff of technical/vocational secondary schools, the schools suffer from insufficient number of qualified teachers.

There is a shortage of suitable school buildings, workshops and equipment for technical/vocational secondary education schools in Iraq.

Guidance services are little developed and there are no specialised guidance teachers in technical/vocational secondary schools in Iraq.

The problems facing the technical/vocational secondary education system in Iraq are grouped as: the social attitude to manual work; technical/vocational education in relation to development requirements; the wide gap between requirements of the growing industry and the capacities of the technical/vocational secondary education system; students' negative attitudes towards technical/vocational education and manual work; insufficient number of well-qualified teaching and training staff; and the poor design of technical/vocational secondary education school curricula.

6.2 Purpose of the Study

The main purpose of this study was to examine technical/vocational secondary education system of a specific country, Iraq, according to UNESCO's criteria and in relation to the country's own historical, social, cultural and geographical needs, and its relevancy to that particular country (Iraq). The

study examined critically the following factors:

1. The debate on technical/vocational education and its application to a developing country, Iraq.
2. An analysis of the existing Iraqi education system.
3. An analysis of the existing structure of technical/vocational secondary education: objectives, selection, curricula, administration, teaching staff and student enrolment.
4. Examining the degree of priority which has been given to technical/vocational secondary education on the national level and what remains to be done.

More specifically, the study was designed to find an answer to the question "To what extent does the existing system of technical/vocational secondary education satisfy the distinctive requirements of Iraq as a developing country", through answering the following questions:

1. What is the nature of the Iraqi education system?
2. What is the nature of technical and vocational education in Iraq and what factors have influenced its development?
3. How integrated is the system of technical/vocational secondary education in the overall structure of the country's education system?
4. How much priority has been given to technical and vocational education on a national level?
5. What are the main problems facing technical and vocational

education in Iraq in general and technical/vocational secondary education in particular, and how can these be solved?

6.3 Methods of Study

This study was primarily descriptive and evaluative and involved the following analytical processes:

1. Survey of information pertaining to the past and present status of technical/vocational secondary education in Iraq.
2. An analysis of reports and studies of Iraqi national authorities on policies, related to and affecting the growth of technical/vocational secondary schools in Iraq.
3. Philosophical debate of the arguments raised for and against technical and vocational education and how this can be applied to Iraq.
4. Assessment of the factors affecting the country's economy and society.
5. Exploration of the problems facing technical/vocational secondary education growth and development.

6.4 Summary of Findings

The study's findings are as follows:

1. The earliest form of schooling in Iraq goes back to the time of Hamorabi (1792-1750 B.C.)
2. Kuttab, the typical form of Islamic education, has dominated

the country's education for longer than any other form of education.

3. Throughout the history of Iraq, vocational training was provided through the apprenticeship method, when no formal vocational education and training existed.
4. The first technical/vocational institution in Iraq was provided in 1870 by Madhat Pasha, the then Ottoman ruler of the country, as a part of the Ottoman Secular Schooling System.
5. Modern technical/vocational education in Iraq was introduced during the period of British Mandate, with the passing of the 1929 Education Act.
6. There has been a demand for skilled manpower throughout the history of Iraq, as evidenced by almost all the studies reviewed in this research.
7. Education and the education system in Iraq at all levels and of all types are financed entirely from central funds of the state.
8. The shortage of skilled labour became more severe in the 1970s when the price and the flow of oil increased sharply and ambitious development plans were launched.
9. Technical/vocational secondary education which is regarded as the main source for middle-rank skilled labour, is expensive to provide in Iraq as compared to academic secondary education.

10. The social attitude to manual work in Iraq is negative, and the traditional values in the country tend to attach only secondary importance to technical/vocational education.
11. There is a gap between the requirements of the growing industry and sectors of the economy in Iraq on the one hand, and the capacities of technical/vocational secondary education on the other hand.
12. The demand for middle-rank skilled labour in Iraq has been higher than the expansion in the number of technical/vocational secondary education students enrolled for the period since 1974 that forced the labour market in Iraq to rely on expatriate staff.
13. The Iraqi students lack interest in technical/vocational secondary education. 29.8% of secondary education students were enrolled in this type of education in 1984/1985.
14. There is an insufficient number of well-qualified technical/vocational secondary education teaching and training staff in Iraq.
15. Technical/vocational secondary education school curricula in Iraq is characterised with poor design and preparation.

6.5 Conclusions

On the basis of analysis and methods used in this research, the following conclusions may be drawn:

The educational system in Iraq has not existed in a vacuum, but has been shaped and influenced, throughout the country's

history, by social, geographical, economic, cultural, religious and political factors.

The new Iraqi government that came to power in 1968 and has since ruled the country continuously, is the inheritor of an education system introduced to the country by formal colonial rulers that have not had clear objectives.

Since her independence in 1932, Iraq like most developing countries has simply expanded the existing education patterns and, being in a hurry to develop/industrialise, had no time to investigate critically the role and type of education most suited to the country's socio-economic needs. Prior to 1968, the successive governments were baffled in attempting to find quick solutions to the urgent problems.

Though the real political independence of Iraq^{was} declared in 1958, the republican government continued to adopt the same policy of expansion and solving urgent educational problems with quick solutions and paid no attention to examining the role of education.

It was only after 1968 that the government reviewed and critically examined the role of education and the education system of the country, setting-up aims and objectives for each educational stage. The aims were set according to the socialist perspective of the ruling ABSP in order to cope with the economic, social, political and cultural needs of the Iraqi society.

The Iraqi economy has gone through dramatic change in the 1970s. Increased oil revenues have been used to accelerate growth and diversify the Iraqi national economy from being mainly agricultural to an agro-industrial economy. As a result constraints like insufficient skilled manpower, inadequate infrastructure, congestion in roads, ports and communication together with the problem of transforming the modern technology emerged.

The combination of a substantial endowment of oil resources with a comparatively sizeable population and a large cultivable land provides Iraq with practically bright economic prospects. To take advantage of these assets, Iraq should show a strong interest in endeavouring to improve considerably and make planning for human resources as an integral part of economic development planning.

To remedy the situation and provide sufficient skilled manpower, the plans for education and the education system have been geared to suit the economic situation of the country. The development of technical/vocational education has since been given a distinguished priority in educational development plans in Iraq. Much of the attention is given to the vocational stream of secondary school education which is regarded as the main source for providing middle-rank skilled labour.

The development of technical/vocational form of education in Iraq, as many other countries of the world, is regarded as the keystone of an educational system best adapted not only to meet skilled manpower requirements but also in terms of a broader reform targeted to making education as a whole more responsive

to social and economic development needs of the individual and the society.

Vocationalising secondary stage of education is not new. It is a worldwide old and recurring policy theme. However, its striking feature in the 1980s is that it transcends the divide between rich and poor countries and between different political systems.

This study shows that secondary education plan targets in Iraq since 1980, have failed to recruit the planned 50% of enrolled secondary school students in technical/vocational schools. Only 29.8% of students in 1984/85 were enrolled in this type of education in Iraq. Hence, to turn to the problem of implementing the vocationalisation of secondary education in Iraq as presented at the beginning of this study, the following conclusions can be drawn.

The Iraqi education system requires a radical change and a complete re-modelling in relation to selection of students, curricula preparation, equipment, courses provided and training programmes to meet the country's distinctive requirements.

The demand for technical/vocational secondary school graduates in Iraq continues to be strong for the reasons mentioned before. But the interest of students to enrol in this type of education will continue to meet very little demand. The problem then seems to be focused on how to persuade students to follow agricultural, commercial and industrial courses. As a significant proportion of secondary school graduates in Iraq continue on to higher education and as for a great number of

them secondary education will be their last educational cycle, a mix of general and vocational education would be advised. At present only a small percentage of technical/vocational secondary education graduates are admitted to higher education.

There are several possible responses to this problem. One is to provide all technical/vocational secondary education graduates access to polytechnical branch institutes (post-secondary technical institutes) to continue studying for a technical career.

A second issue concerns the way to introduce reforms for the development and expansion of technical/vocational secondary education schools. This study shows that there are a number of factors that must be taken into account. A few are listed below:

First, there is a group of factors related to the role of education in shaping the Iraqi society and its relationship to the country's labour market. Given the examples from the past history of Iraq that there is a strong tradition of social mobility through education, the vocationalising reforms and the expansion plans of technical/vocational secondary education schools should not diminish students' chances for mobility in the labour market or prevent them access to higher education. Thus, it is important that the future expansion and reforms in technical/vocational secondary education channel the demands of students and their parents.

In other words, the vocationalisation process cannot be understood without taking account of the individual choice processes through the social demand for various options and the aspirations of new strata reaching secondary education with the possibility of continuing higher education.

The expansion in technical/vocational secondary education system should be fitted into the relationship between education on the one hand and the social mobility processes and the labour market on the other.

A second group of factors deals with the administrative structure of the technical/vocational secondary education system and its organisational pattern. Though the centralised system of education is characterised with making the process of change quick and easy to execute, its highly centralised and bureaucratic features prevent the system from responding quickly to changing ^{local} needs, or to innovation, even when such experiments have proved successful elsewhere.

A third major problem is related to the costs of providing this type of education that makes it more costly than traditional academic schools. Laboratories, workshops and equipment are needed for this type of education.

With regard to the discussions made in the previous chapters of this study which showed that Iraq depends mainly on oil resources to implement the country's development programmes, educational programmes are also funded by the central government revenues.

There is no sign of shortfall of funds in implementing the expansion of the education system. The costs of the war with the neighbouring country Iran in the period from 1980 to 1988 and the fall in oil prices since 1982 have not affected the steady rise in educational budgets. None the less, the country should strive to make more rational use of the funds spent on education by reducing waste and increasing internal and external efficiency of the education system, together with introducing new methods of saving funds in education, one of which could be in the field of vocational training, that is to explore the introduction of out-of-school, on-the-job apprenticeship type of vocational training which costs less than the formal vocational secondary school education and training.

One final important comment concerns the contradictory relationship between school and work. With respect to the previous discussions, since 1973 there has been an increased demand for technical skills at all levels. Thus, Iraq has to show interest in solving the school-to-work transition problems.

The general education and training of a nation like Iraq has great influence on the role and significance of technical/vocational secondary education process and system. Furthermore, to make the technical/vocational secondary education system effective, it should not only be an integral part of the overall educational system of the country but also must be practised as an integral part of it.

Lack of specialised and qualified teaching and guidance staff and inadequate in-service training programmes for the teaching staff of technical/vocational secondary schools exacerbates

other organisational problems related to the transition from the school to work.

Finally, necessary attention should be given to the importance of the basic learning skills: reading, writing, communication and factoring with numbers as fundamental learning blocks that the technical/vocational secondary education system in Iraq should be based upon.

6.6 Implications

In view of the summary of findings and the conclusions drawn from this study, the study offers the following recommendations on the macro-level of overall national Iraqi educational policies and on the micro-level so as to improve the technical/vocational secondary education system in Iraq:

First, primary school curricula should not only include practical subjects but also give practical subjects more attention. The educational principles should involve students' academic abilities so as to gain their respect for manual work.

Second, the demand on the labour force is influenced by local as well as regional needs and requirements, therefore planning the educational facilities in Iraq should be based on geographical needs of the area. The imbalance in the supply pyramid of the labour force of Iraq at various occupational levels should be solved through carefully planned procedures for an educational system that produces more professionals, technicians and

skilled workers on all levels.

Third, more research and studies in relevant educational fields are needed to secure and help in clarifying procedures for closer coordination between educational planning and the plans for the socio-economic development requirements of the country. The research should also help in greater participation of the concerned groups in planning — educational development policies through a decentralised approach involving more experts and consultants from both private and public sectors.

Fourth, the narrow base of the Iraqi economy, its dependency on oil resources and fluctuating financial resources place pressure and create bottlenecks in the implementation of educational reform, policy plans as a whole and on technical/vocational secondary education in particular.

Fifth, great effort should be ~~made~~ to remedy the negative social attitude to manual work by planning nationally for education, taking into account the people's irrational rush to general secondary and higher education in the country.

Sixth, plans should be provided to secure a balanced presence of females in technical/vocational secondary education in Iraq, matched by a similar presence in the secondary academic schools in the country.

Seventh, manpower planning efforts should be made to determine the national economy's requirement of skilled manpower by occupational categories and the skilled workers

needed in each occupation.

On the micro-level, the recommendations are:

1. Intermediate school curricula should provide exploratory courses related to industrial, agricultural and commercial fields of the Iraqi economy and society.
2. Every intermediate school in Iraq should have a specialised vocational guidance teacher. The Guidance Teacher should help students in exploring occupations that are at the student's level and interest and required for the future development of the country.
3. Secondary school curricula should have practical subjects taught in addition to the academic subjects in order to narrow the gap between academic learning and the demands for the skills required for employment or an occupation.
4. The programmes of study in technical/vocational secondary education schools (industrial, agricultural and commercial) should be geared to local and national needs in an effort to secure an adequate supply of quality skilled manpower.
5. Studies and research should be conducted for the improvement and reform of the technical/vocational secondary education system and its requirements.
6. Technical/vocational secondary school teachers should be given continuous training in industry and related institutions so that industry, agriculture, commerce and public services can be closely involved in the improvement and reform of the technical/vocational secondary education

system in the country.

7. Technical/vocational secondary education schools should be run by local boards which involve not only government officials but also representatives of industry or related institutions, businessmen, local authorities and popular organisations.
8. Technical/vocational secondary education programmes should be dynamic and flexible to the requirements of the labour market.
9. Females should be encouraged to join all types of technical/vocational secondary education schools as they would be involved in all sectors of the socio-economic development of the country.
10. Advisory committees should work with education, industry, management, labour, employment services, governmental agencies and private sectors to ensure that technical/vocational secondary education programmes are compatible with the nation's resources, planning and economic development.
11. Special attention should be devoted to a study of the possibility of development of technical/vocational secondary education curricula and courses of study to provide for the shortage of skills required by the sectors of the Iraqi economy.

12. Technical/vocational secondary education schools are in need of specialist supervisors. Such supervisors should be competent and knowledgeable in the fields of planning and curriculum development.

6.7 Suggestions for Further Research

This research project has involved secondary analysis of national data it is therefore been mainly quantitative and at a macro-level. An alternative study could involve the collection of ethnographic material (which would naturally be at a micro-level).

One suggestion would involve the study of the attitudes of teachers and secondary school students in Iraq towards technical/vocational secondary education programmes. This could be done via interviews and observations in Iraqi educational institutions. In this way the findings described in this research could be tested and complemented at an ethnographic level.

It is hoped that this study, and the symposium of its theme will have offered a few answers and perhaps more important, some new and valuable ideas which will contribute to the progressive resolution and development of the technical/vocational secondary education system in Iraq, to make it contribute more effectively to the socio-economic development of the Iraqi society and economy.

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APPENDICES

Appendix 1 UNESCO's Revised Recommendation

Appendix 2 English Glossary

Appendix 3 Arabic Glossary

Revised Recommendation
concerning Technical
and Vocational Education

adopted by the General Conference of Unesco
at its eighteenth session, Paris, 19 November 1974

Revised Recommendation concerning Technical and Vocational Education ¹

The General Conference of the United Nations Educational, Scientific and Cultural Organization, meeting in Paris, at its eighteenth session, held from 17 October to 23 November 1974,

Recalling the constitutional responsibilities of the Organization for the promotion of education,

Recognizing that technical and vocational education have to contribute to the maintenance of peace and friendly understanding between the various nations,

Considering that education must now be seen as a lifelong process,

Recognizing that technical and vocational education is a prerequisite for sustaining the complex structure of modern civilization and economic and social development,

Recalling the principles set forth in Articles 23 and 26 of the Universal Declaration of Human Rights guaranteeing all the right to work and to education,

Considering therefore that all have a right to an education enabling full participation in contemporary society,

Taking into account the diversity of education systems throughout the world, as well as the particular and urgent needs of developing countries,

Considering that in spite of this diversity similar goals are pursued and similar questions and problems arise in all countries concerning technical and vocational education and that therefore common standards and measures are called for,

Having adopted for this purpose at its twelfth session the Recommendation concerning Technical and Vocational Education,

Recognizing however that the rapid technological and educational changes of the last decade require new, creative, and efficient efforts in technical and vocational education to improve education as a whole for social, economic and cultural development,

Having decided at its seventeenth session that in view of these changes this Recommendation should be revised in order to better serve Member States,

1. Adopted by the General Conference of Unesco at its eighteenth session, Paris, 19 November 1974.

Noting that the International Labour Conference has adopted, over the years, a number of instruments dealing with various aspects of vocational guidance and vocational training and, in particular, the Vocational Guidance Recommendation, 1949, the Vocational Training (Agriculture) Recommendation, 1956, and the Vocational Training Recommendation, 1962, and that the Conference, at its 59th session, had adopted substantive conclusions with a view to adoption, in 1975, of a new instrument or instruments on vocational guidance and vocational training,

Noting further the close collaboration between Unesco and the International Labour Organisation (ILO) in drawing up their respective instruments so that they pursue harmonious objectives, avoiding duplication and conflict, and with a view to continued collaboration for effective implementation of the two instruments,

Adopts this Recommendation this nineteenth day of November 1974,

The General Conference recommends that when developing and improving technical and vocational education, Member States should apply the following provisions by taking whatever legislative or other steps may be required to give effect, within their respective territories, to the principles set forth in this Recommendation,

The General Conference recommends that Member States should bring this Recommendation to the knowledge of the authorities and bodies concerned with technical and vocational education,

The General Conference recommends that Member States should report to it, at such times and in such manner as shall be determined by it, on the action they have taken to give effect to the Recommendation.

I. Scope

1. This Recommendation applies to all forms and aspects of education which are technical and vocational in nature provided either in educational institutions or under their authority, directly by public authorities, or through other forms of organized education, public or private.
2. For the purposes of this Recommendation: 'technical and vocational education' is used as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. Technical and vocational education is further understood to be :
 - (a) an integral part of general education;
 - (b) a means of preparing for an occupational field;
 - (c) an aspect of continuing education.
3. Technical and vocational education, being part of the total educational process, is included in the term 'education' as defined in the Convention and Recommendation against Discrimination in Education adopted by the General Conference of the United Nations Educational, Scientific and Cultural Organization at its eleventh session and the provisions of that Convention and Recommendation are therefore applicable to it.
4. This recommendation should be understood as setting forth general prin-

ciples, goals and guidelines to be applied by each individual country according to needs and resources. The application of the provisions in their particulars and the timing of the implementation will therefore depend upon the conditions existing in a given country.

II. Technical and vocational education in relation to the educational process : objectives

5. Given immense scientific and technological development, either in progress or envisaged, which characterizes the present era, technical and vocational education should be a vital aspect of the educational process and in particular should :
 - (a) contribute to the achievement of society's goals of greater democratization and social, cultural and economic development, while at the same time developing the potential of individuals for active participation in the establishment and implementation of these goals;
 - (b) lead to an understanding of the scientific and technological aspects of contemporary civilization in such a way that men comprehend their environment and are capable of acting upon it while taking a critical view of the social, political and environmental implications of scientific and technological change.
6. Given the necessity for new relationships between education, working life, and the community as a whole, technical and vocational education should exist as part of a system of lifelong education adapted to the needs of each particular country. This system should be directed to :
 - (a) abolishing barriers between levels and areas of education, between education and employment, and between school and society through :
 - (i) the integration of technical and vocational and general education in all educational streams above primary level;
 - (ii) the creation of open and flexible educational structures;
 - (iii) the taking into account of individuals' educational needs and of the evolution of occupations and jobs;
 - (b) improving the quality of life by permitting the individual to expand his intellectual horizons and to acquire and to constantly improve professional skills and knowledge while allowing society to utilize the fruits of economic and technological change for the general welfare.
7. Technical and vocational education should begin with a broad basic vocational education, thus facilitating horizontal and vertical articulation within the education system and between school and employment thus contributing to the elimination of all forms of discrimination and should be designed so that it :
 - (a) is an integral part of everyone's basic general education in the form of initiation to technology and to the world of work;
 - (b) may be freely and positively chosen as the means by which one develops talents, interests and skills leading to an occupation in the sectors listed in paragraph 2 or to further education;
 - (c) allows access to other aspects and areas of education at all levels by being grounded on a solid general education and, as a result of the integration mentioned in paragraph 6(a), containing a general education component through all stages of specialization;

- (d) allows transfers from one field to another within technical and vocational education;
 - (e) is readily available to all and for all appropriate types of specialization, within and outside formal education systems, and in conjunction or in parallel with training in order to permit educational, career and job mobility at a minimum age at which the general basic education is considered to have been acquired, according to the education system in force in each country;
 - (f) is available on the above terms and on a basis of equality to women as well as men;
 - (g) is available to disadvantaged and handicapped persons in special forms adapted to their needs in order to integrate them more easily into society.
8. In terms of the needs and aspirations of individuals, technical and vocational education should :
- (a) permit the harmonious development of personality and character and foster the spiritual and human values, the capacity for understanding, judgement, critical thinking and self-expression;
 - (b) prepare the individual to learn continuously by developing the necessary mental tools, practical skills and attitudes;
 - (c) develop capacities for decision-making and the qualities necessary for active and intelligent participation, teamwork and leadership at work and in the community as a whole.

III. Policy, planning and administration

- 9. Policy should be formulated and technical and vocational education administered in support of the general objectives adopted for the educational process as well as for national and, if possible, regional social and economic requirements, and an appropriate legislative and financial framework adopted. Policy should be directed to both the structural and the qualitative improvement of technical and vocational education.
- 10. Particular attention should be given to planning the development and expansion of technical and vocational education :
 - (a) high priority should be placed on technical and vocational education in national development plans as well as in plans for educational reform;
 - (b) planning should be based upon a thorough evaluation of both short-term and long-term needs taking into consideration any variation in needs which may exist within a country;
 - (c) adequate provision for proper current and future allocation of financial resources should be a major element of planning;
 - (d) planning should be done by a responsible body or bodies having authority on the national level. This body should have available to it data which have been collated, analysed, synthesized and interpreted by qualified staff provided with adequate research facilities.
- 11. Planning should be responsible to national and, if possible, regional, economic and social trends, to projected changes in demand for different classes by goods and services, and for different types of skills and knowledge in such a way that technical and vocational education may easily adapt to the evolving situation be it rural or urban. This planning should also be co-ordinated with current and projected training action and the evolution of employment.

12. While the education authorities should have primary responsibility, the following groups and authorities should be actively associated in policy formulation, and in the planning process. Structures, on both national and local levels, taking the form of public agencies or consultative or advisory bodies, should be created to permit this : ³⁰⁵
- (a) public authorities responsible for planning economic and social policy, labour and employment, and for the various occupational sectors (industry, agriculture, commerce);
 - (b) representatives of non-governmental organizations within each occupation sector from among employers and workers;
 - (c) any authority or body, such as a training body or extension services, responsible for out-of-school education and training;
 - (d) representatives of those responsible — both in public education and in State recognized private education — for executing educational policy including teachers, examining bodies and administrators;
 - (e) parent, former pupil, student and youth organizations;
 - (f) representatives from the community at large.
13. Policies for the structural improvement of technical and vocational education should be established within the framework of broad policies designed to implement the principle of lifelong education through the creation of open, flexible and complementary structures for education, training and educational and vocational guidance, regardless of whether these activities take place within the system of formal education or outside it. In this respect consideration should be given to the following :
- (a) multipurpose secondary education offering diversified curricula including work-study programmes;
 - (b) open tertiary institutions recruiting from a variety of sources and offering programmes ranging from short specialized ones to longer full-time programmes of integrated studies and professional specialization;
 - (c) establishing a system of equivalencies whereby credit is given for completion of any approved programme and recognition is granted educational and professional qualifications achieved through various means.
14. Policy should be directed to ensuring high quality in such a way as to exclude the possibility of any judgement which discriminates between the different educational streams, whatever their ultimate goal. In this respect special efforts should be made to ensure that technical and vocational education in rural areas meets the same standards as that offered in urban ones.
15. In order to ensure quality, responsible national authorities should establish certain criteria and standards, subject to periodic review and evaluation, applying in all aspects of technical and vocational education, including to the extent possible non-formal education for :
- (a) all forms of recognition of achievement and consequent qualification;
 - (b) staff qualifications;
 - (c) ratios of teaching and training staff to learners;
 - (d) the quality of curricula and teaching materials;
 - (e) safety precautions for all learning environments;
 - (f) physical facilities, building, workshop layouts, quality and type of equipment.
16. Policies should be established fostering research related to technical and

vocational education, with particular emphasis on its potential within lifelong education, and directed to its improvement. This research should be carried out by competent staff on national and institutional levels as well as through individual initiative. To this end :

- (a) special emphasis should be placed on curriculum development, research concerning teaching and learning methods and materials; and where the need exists, on technologies and techniques applied to development problems;
 - (b) financial resources and physical facilities should be made available through institutions of higher education, specialized research institutions and professional organizations for applying the results of this research on an experimental basis in representatively selected institutions for technical and vocational education;
 - (c) channels should be created for the widespread dissemination and rapid application of the positive results of research and experimentation;
 - (d) the effectiveness of technical and vocational education should be evaluated using, among other data, relevant statistics including those concerning part-time enrolments and drop-out rates which are in some cases neglected;
 - (e) particular attention should be given to all research efforts to humanize working conditions.
17. Provision should be made within administrative structures for evaluation, supervisory and accreditation services, staffed by technical and vocational education specialists, to ensure the rapid application of new research findings and to maintain standards :
- (a) evaluation services as a whole should ensure the quality and smooth operation of technical and vocational education by continuous review and action directed to constant improvement of staff, facilities and programmes;
 - (b) supervisory services for the staff should encourage improvement in the quality of teaching by providing guidance and advice and recommending continuing education;
 - (c) all programmes of technical and vocational education, in particular those offered by private bodies, should be subject to approval by the public authorities through some means of accreditation or form of public inspection.
18. Particular attention should be given to the material resources required for technical and vocational education. Priorities should be carefully established with due regard for immediate needs and the probable directions of future expansion and adequate cost controls introduced :
- (a) institutional planning should be directed to ensuring maximum efficiency and flexibility in use;
 - (b) the planning, construction and equipping of facilities should be carried out in collaboration with specialist teachers and educational architects and with due regard for their purpose, prevailing local factors and relevant research;
 - (c) adequate funds should be allocated for recurrent expenditure for supplies and maintenance and repair of equipment.

19. An initiation to technology and to the world of work should be an essential component of general education without which this education is incomplete. An understanding of the technological facet of modern culture in both its positive and negative attributes, and an appreciation of work requiring practical skills should thereby be acquired. This initiation should further be a major concern in educational reform and change with a view to greater democratization of education. It should be a required element in the curriculum, beginning in primary education and continuing through the early years of secondary education.
20. Opportunities for general technical and vocational initiation should continue to be available to those who wish to avail themselves of it within the educational system and outside it in places of work or community centres.
21. The technical and vocational initiation in the general education of youth should fulfil the educational requirements of all ranges of interest and ability. It should mainly perform three functions :
 - (a) to enlarge educational horizons by serving as an introduction to the world of work and the world of technology and its products through the exploration of materials, tools, techniques and the process of production, distribution and management as a whole, and to broaden the learning process through practical experience;
 - (b) to orient those with the interest and ability towards technical and vocational education as preparation for an occupational field or towards training outside the formal education system;
 - (c) to promote in those who will leave formal education at whatever level but with no specific occupational aims or skills, attitudes of mind and ways of thought likely to enhance their aptitudes and potential, to facilitate the choice of an occupation and access to a first job, and to permit them to continue their vocational training and personal education.
22. Required general technical and vocational studies in the schools having great importance for the orientation and education of youth programmes, should include a proper balance between theoretical and practical work. A properly structured programme of such studies should be drawn up by the competent authorities in collaboration with the professional community and with those responsible for technical and vocational education. These programmes should :
 - (a) be based upon a problem-solving and experimental approach and involve experience in planning methods and decision-making;
 - (b) introduce the learner to a broad spectrum of technological fields and at the same time to productive work situations;
 - (c) develop a certain command of valuable practical skills such as tool use, repair and maintenance and safety procedures, whether applicable to future education, training and employment or to leisure time, and a respect for their value;
 - (d) develop an appreciation of good design and craftsmanship and the ability to select goods on the basis of their quality;
 - (e) develop the ability to communicate including the use of graphical means;
 - (f) develop the ability to measure and calculate accurately;

(g) be closely related to the local environment without, however, being limited to it.

23. The technical and vocational initiation in programmes of general educational enrichment for older youth and adults should be directed to enabling those engaged in working life to :

- (a) understand the general implications of technical change, its impact on their professional and private lives, and how man may shape this change;
- (b) to use practical skills for improving the home and community environment and thus the quality of life and, in appropriate conditions, for productive leisure-time activities.

V. Technical and vocational education as preparation for an occupational field

24. Given disparities that may exist between formal education, whether secondary or tertiary, and the employment and career opportunities available, the highest priority should be given to technical and vocational education which prepares young people to exercise occupations in the sectors covered by this recommendation. Consequently the structure and content of traditional education, whether general or technical and vocational, should be adapted accordingly through :

- (a) the diversification of secondary education in the later stages so that it may be pursued in conjunction with employment or training, or may lead to employment or to higher education, thereby offering to all youth educational options corresponding to their needs;
- (b) the introduction of new programmes into tertiary education more relevant to the career needs of young adults;
- (c) the development of educational structures and programmes on all levels centred on organized and flexible interchange between educational institutions including training institutions and those responsible for employment in the various occupational sectors.

25. Technical and vocational education as preparation for an occupational field should provide the foundation for productive and satisfying careers and should :

- (a) lead to the acquisition of broad knowledge and basic skills applicable to a number of occupations within a given field so that the individual is not limited by his education in his freedom of occupational choice, and later transfer from one field to another in the course of working life is facilitated;
- (b) at the same time offer a thorough and specialized preparation for initial employment and effective training within employment;
- (c) provide the background in terms of skills, knowledge and attitudes, for continuing education at any point in the individual's working life.

26. Premature and narrow specialization should be avoided :

- (a) in principle 15 should be considered the lower age limit for beginning specialization;
- (b) a period of common studies concerning basic knowledge and skills should be required for each broad occupational sector before a special branch is chosen.

27. Because it is desirable that women seek wider participation in all kinds of occupations outside family and domestic activities, they should have the same educational opportunities available to them as men in order to prepare for an occupation and should be encouraged to take advantage of these through appropriate legislative measures and widespread distribution of information concerning these opportunities.
28. Special provision should be made for out-of-school and unemployed youth and children of migrant workers with the minimum or less of primary education, as well as for those not entering education or training programmes after completion of compulsory schooling, in order that they may acquire employable skills.
29. Given the necessity of integrating the physically and mentally disadvantaged into society and its occupations, the same educational opportunities should be available to them as to the non-handicapped in order that they may achieve qualification for an occupation; special measures or special institutions may be required.

Organization

30. Technical and vocational education as preparation for an occupational field should be organized on a national or, if possible, regional basis, so as to respond positively to over-all social, economic and educational requirements and to the needs of different groups of the population without discrimination.
31. Several organizational patterns of technical and vocational education, including both full-time and part-time options should exist within each country. The following patterns of organization for example should be considered :
 - (a) full-time including practical training as well as general education, provided in an educational establishment, either comprehensive or specialized;
 - (b) part-time programmes such as the following in which general education and theoretical and broad practical aspects of the occupational field are given in an educational establishment while specialized practical training is acquired during work in the chosen occupation : (i) the day-release system providing for young workers and apprentices to attend an educational establishment at least one day a week and preferably two; (ii) the sandwich system under which periods in an educational institution alternate with training periods in a factory, farm, business establishment or other undertaking; (iii) the block-release system whereby young workers are released to attend courses for one or two short periods of at least ten to fifteen weeks in total length per year which may be especially adapted to conditions in areas of low population density by provision of boarding facilities.
32. The responsible authorities should encourage part-time education, therefore :
 - (a) these programmes should be available directly after completion of minimum compulsory or required schooling, and should continue to be available to the highest level of formal education;
 - (b) the educational qualifications acquired by this means should be equivalent to those acquired by full-time education;
 - (c) where employers are responsible for the practical training aspect for part-time students, this training should be as broad as possible serving the educational and training needs of the individual, and should meet national standards.

33. In view of the increasing requirement for highly qualified middle-level manpower in all fields, and the increasing numbers completing secondary education or its equivalent, the development of programmes of technical and vocational education corresponding to further qualifying tertiary education should be given high priority. The following patterns of organization should be considered :
- (a) a period of from one to two years of guided work experience followed by a part-time or briefer full-time programmes of specialization;
 - (b) part-time programmes;
 - (c) full-time programmes as an extension of programmes given in specialized secondary institutions or given in tertiary institutions.
34. The high cost of equipment for the practical component of technical and vocational education requires that this be organized so that benefits received are in proportion to the cost. Consideration should be given to the following as a means of achieving this :
- (a) centralized workshops, or mobile units, could be used to serve several educational institutions;
 - (b) workshops attached to educational institutions could be designed so that they are suitable for use by the community at large particularly for continuing education programmes;
 - (c) although workshops and laboratories in advanced secondary or tertiary institutions should be designed primarily for pedagogical purposes, they might also be equipped and staffed so that equipment for use in technical and vocational studies in general education may be produced.
35. Enterprises should be closely associated in the practical training of those preparing for occupations in their particular sector, and should be encouraged to take responsibility, in co-operation with educational institutions, for the organization of this training.

Programme content

36. All programmes of technical and vocational education as preparation for an occupational field should :
- (a) aim at providing scientific knowledge, technical versatility and the broad skills and knowledge required for rapid adaptation to new ideas and procedures and for steady career development;
 - (b) be based on an analysis of broad occupational requirements worked out for the long term between education authorities including organizations representing educational research and administration and employment authorities and occupational organizations concerned;
 - (c) include a proper balance between general subjects, science and technology, and studies of both the theoretical and practical aspects of the occupational field, with the practical component in all cases related to the theoretical one;
 - (d) stress developing a sense of professional values and responsibilities from the standpoint of human needs.
37. In particular programmes should :
- (a) whenever possible be interdisciplinary in character as many occupations now require knowledge and training in two or more traditional areas of study;

- (b) be based on curricula designed around core knowledge and skills;
 - (c) include studies of the social and economic aspects of the occupational field as a whole;
 - (d) include the study of at least one foreign language of international use which, while conducive to a higher cultural level, will give special emphasis to the requirements of communication and the acquisition of a scientific and technical vocabulary;
 - (e) include an introduction to organizational and planning skills;
 - (f) emphasize instruction in safety procedures relative to the materials and equipment used in a given occupational field and the importance of safe working conditions and the health aspects relative to the occupation as a whole.
38. While based on the above general principles and components, and thus pursuing in all cases broader educational aims, programmes in their practical aspect should be designed taking into account special occupational requirements with regard to the particular executive, organizational, analytical and practical skills required.
39. Technical and vocational education programmes leading to university qualification, while encouraging research and offering high-level specialization, should be developed with particular attention to :
- (a) the inclusion of components directed to developing attitudes whereby those with broad responsibilities in technological fields constantly relate their professional tasks to larger human goals;
 - (b) relating more closely higher technical and vocational education for the industrial and agricultural sectors to the requirements of these sectors. In this regard consideration should be given to creating within tertiary institutions, centres for the testing and certification of industrial and agricultural products, supervised by the public authorities and serving both educational and research purposes.
40. Programmes of technical and vocational education as preparation for occupations within the agricultural sector should be designed in accordance with the over-all social and economic requirements of rural development. Therefore :
- (a) both general aspects and the technical and vocational aspects, while adapted in terms of both organization and content to the special requirements of agricultural occupations, should be of the same quality as those for other occupational areas;
 - (b) programmes should be directed to the development and application of technologies especially suited to rural development through close co-ordination between education and extension services and between these and research services and institutions;
 - (c) programmes should be directed to preparing qualified people for all types of occupations and ranges of technical competence necessary for rural development;
 - (d) programmes should be broadly conceived, including in addition to the special occupational area, an introduction to the commercial aspects of agriculture and the functioning of rural economic institutions.
41. Where lack of resources limits the expansion of technical and vocational education, emphasis in the initial stages should be placed on developing programmes for occupations in areas of critical manpower shortage, and in areas of immediate development potential.

42. Programmes preparing for occupations in small industry, individual farming or the artisan trades, whether urban or rural, and particularly for self-employment, should include commercial studies enabling those engaged in such occupations to take responsibility not only for production, but also for marketing, competent management and the rational organization of the whole enterprise.
43. Programmes leading to occupations in the business and commercial sector should include :
 - (a) a thorough grounding in the methods and skills developed as a result of the application of technology to business and office management and particularly to the acquisition and processing of information;
 - (b) training in the organizational and management skills required for the smooth operation of enterprises in all economic sectors;
 - (c) an introduction to marketing and distribution procedures.
44. Special attention should be given to developing programmes for preparing personnel at all levels for the social services sector (e.g. community and family work, nursing and paramedical occupations, nutrition and food technology, home economics and environmental improvement). Those programmes should :
 - (a) emphasize the relation of the special occupational field to raising standards of living in terms of food, clothing, housing, medical services, the quality of family life or that of the environment as the case may be;
 - (b) be well adapted to the special requirements of local conditions in particular those of climate and geography, materials available and community organization and social patterns.

VI. Technical and vocational education as continuing education

45. The development and expansion of technical and vocational education as continuing education, both within and outside the formal education system, and within the framework of lifelong education, should be a priority objective of all educational strategies and broad provision should be made for allowing everyone, whatever the educational qualifications achieved prior to employment, to continue both their professional and general education.
46. In addition to permitting adults to make up deficiencies in general education or professional qualifications, which has often been the only objective of continuing education, it should now :
 - (a) offer possibilities of personal development and professional advancement;
 - (b) permit the updating and refreshing of knowledge and practical abilities and skills in the occupational field;
 - (c) enable the individual to adapt to technological changes in his occupation or to enter another occupation if these changes render his particular job obsolete;
 - (d) be available throughout working life without restriction of age, sex, prior education and training or position;
 - (e) be broad in scope, including general education elements, and not simply specialized training for one particular job.
47. The appropriate authorities should be encouraged to provide the basic conditions for technical and vocational education as continuing education,

including consideration of measures providing for paid educational leave or other forms of financial aid.

48. The technical and vocational aspect of continuing education should actively be encouraged through such means as :
 - (a) widespread dissemination of information concerning the programmes available, and how one may take advantage of existing opportunities, including full use of mass media to this end;
 - (b) recognition of successful completion of programmes in terms of remuneration and professional advancement.
49. Those responsible for organizing programmes of continuing technical and vocational education recognized by the public authorities should consider the following forms :
 - (a) courses given during working hours at the place of work;
 - (b) fuller part-time courses especially designed for continuing education given in secondary and tertiary institutions, already staffed and equipped for technical and vocational education;
 - (c) evening and week-end courses given in the above types of institutions or in community centres;
 - (d) correspondence courses;
 - (e) courses given on educational television;
 - (f) periodic seminars;
 - (g) inter-enterprise programmes;
 - (h) informal discussion groups created and organized on the initiative of students.
50. The following forms of organization of leave should be considered :
 - (a) day release;
 - (b) block release of varying lengths;
 - (c) release for one or more hours during the working day.
51. Programmes of technical and vocational education as continuing education should :
 - (a) be designed and taught on the basis of the special requirements of adults, and use teaching methods which take into account the expertise which they have already acquired;
 - (b) contain a built-in mechanism for rapid adjustment to the needs of particular individuals or groups and to technological change.
52. Special provision should be made for groups with particular requirements :
 - (a) in the case of women, because of the necessity of periods of absence from the labour force imposed by maternity and family responsibilities, in order to enable them to update their knowledge and to improve their professional skills for re-entry into employment;
 - (b) to enable older workers to adapt to new occupations;
 - (c) to provide foreign workers and handicapped workers with specific facilities for pre-training to enable them to adapt to a training programme or to working life;
 - (d) the resources of continuing education should be used to offer unskilled and semi-skilled workers the opportunity to improve their qualifications.
53. Particular attention should be paid to the development of continuing education programmes suitable in rural areas in terms of content, physical location and time of year offered.

VII. Guidance

54. Guidance should be viewed as a continuous process and a vital element in education, directed to aiding all to make positive educational and occupational choices. It should ensure that the individual be provided with the necessary prerequisites :
 - (a) to become aware of his interests and abilities and able to set himself precise objectives;
 - (b) to pursue a course of education, whether preparatory or continuing, commensurate with these;
 - (c) to make decisions concerning his occupation, both in the initial and later stages, which lead to a satisfying career;
 - (d) to facilitate transitions between education and employment at whatever level or stage.
55. Guidance services on the national, local and institutional levels should ensure that the paths are kept open between education and initial training and employment, and employment and continuing education and training through :
 - (a) close liaison and co-ordination with training, counselling, employment and placement services;
 - (b) ensuring that all necessary information concerning employment and career opportunities is available and actively disseminated;
 - (c) ensuring that those in employment have access to information concerning opportunities in continuing education and training.
56. While emphasizing the needs of the individual, guidance for young people should be accompanied by information which gives them a realistic view of the opportunities available in a given occupational cluster, including information regarding probable developments in the market and in employment structures, and what may be expected in terms of remuneration, career advancement and possibilities for occupational change.
57. Particular attention should be given to guidance for girls and women :
 - (a) this guidance should cover the same broad range of education, training and employment opportunities as for boys and men;
 - (b) it should systematically encourage girls and women to take advantage of the opportunities available to them.
58. Guidance given in the technical and vocational aspects of general education during the observation or orientation cycle of secondary schooling should :
 - (a) cover a broad range of occupations with supplementary visits to work places and acquaint the student with the eventual necessity of choosing an occupation and the importance of this choice being as rational as possible;
 - (b) aid students in making a positive choice concerning educational streams or options for those wishing to pursue technical and vocational education as preparation for an occupational field or training programmes outside the educational system, and aid those not continuing their formal education or entering training to find employment, while encouraging them to continue their education at a later date.
59. Guidance in technical and vocational education as preparation for an occupational field should :
 - (a) inform the student of the various possibilities open in the particular field

of interest, the educational background required and the possibilities for later continuing education available;

- (b) encourage the student to choose an educational programme which will limit his later employment options as little as possible;
- (c) follow the progress of the student during the educational programmes;
- (d) supplement the later stages of the programmes by short periods of work experience and study of real work situations.

60. Guidance in technical and vocational education as continuing education should :

- (a) help the employed adult choose the programme of continuing education most suited to his needs;
- (b) enable him to place himself in relation to the various levels of study and afford him the means of making effective choices.

61. Guidance should be given on the basis of :

- (a) knowledge of the individual which takes account of the social and family factors influencing his attitudes and expectations;
- (b) information obtained from objective evaluation of the results of testing including aptitude tests;
- (c) knowledge of his educational achievements and/or achievements in employment;
- (d) knowledge of employment and career opportunities as well as job satisfaction in the occupational sector in which he is interested or engaged and of demands made;
- (e) medical records indicating whether the student is physically able to pursue a given occupation.

62. The effectiveness of guidance services should continually be assessed and statistics kept on both the national and institutional levels through :

- (a) the keeping of cumulative records concerning the education of the students as well as follow-up records concerning his employment;
- (b) a built-in system of evaluation of both quality of staff performance and the methods used in order to effect change or improvement where needed.

VIII. The teaching and learning processes : methods and materials

63. In all aspects of technical and vocational education, the methodology of learning should assume equal importance in the teaching and learning process with the subject-matter itself. All aspects of technical and vocational education should be oriented to the needs of the learner and directed to motivating him, and methods and materials developed accordingly.

64. Theory and practice should form an integrated whole : what is learned in the laboratory, workshop or in enterprises should be directly related to the mathematical and scientific foundations of the particular operation or process, and conversely, technical theory, as well as the mathematics and science sustaining it, should be illustrated through their practical applications.

65. Full use should be made of the resources provided by educational technology, with special emphasis on the methods and materials of self-education, in particular audio-visual aids, including multi-media systems, programmed instruction and the use of mass media.

66. The methods and materials used in technical and vocational education

should be carefully adapted to the group to be taught. In this respect :

- (a) where the language of instruction differs from the native language, teaching materials should make maximum use of numerical and graphical representation, written material being kept to a minimum;
- (b) where materials developed in one country are adapted for use in another, this adaptation should be carefully made with due regard to local factors.

67. Machines and equipment used in workshops in educational institutions should be geared to the level and training of the users. This equipment should be simple and designed especially for pedagogical purposes without however being obsolete or teaching obsolete procedures. Training using complex equipment may be given more appropriately and efficiently on the job.

Evaluation

68. Evaluation should be an integral part of the teaching and learning process in technical and vocational education, and its major function should be the development of the particular individual in accordance with his interests and capacities.

69. Although standards of performance should be upheld, evaluation of the student's work should be made on a total basis considering among others his class participation, his interest and attitude, his relative progress, allowance being made for his aptitudes, and examinations and other tests.

70. Students should participate in the evaluation of their own progress and the evaluation of student work should have a system of feedback built into it so that learning problems and their causes may be identified and steps taken to correct them.

71. Continuous evaluation of the teaching process should be made by both teachers and their supervisors, with the participation of students as well, in order to determine the effectiveness of the methods and materials used, and to devise alternatives should the need arise. Continuous evaluation of the teaching-learning process should be undertaken with the participation of representatives from the occupational fields concerned.

IX. Staff

72. To enhance the achievement of the objectives of technical and vocational education, a priority should be given to the recruitment and preparation of adequate numbers of well-qualified and competent teachers, administrators, and guidance staff and to the provision of the necessary training and other facilities to enable them to function effectively in their profession.

73. The emoluments and conditions of service which are offered should compare favourably with those enjoyed by persons with similar qualification and experience in other occupational sectors. In particular, promotions, salaries and pension scales for technical and vocational education staff should take into account any relevant experience acquired in employment outside the educational sector.

74. All teachers in technical and vocational education, including those who teach only practice, should be considered an integral part of the teaching profession and as such should be recognized as having the same status as their colleagues in other fields. In this regard :
- (a) the Recommendation concerning the Status of Teachers adopted by the Special Intergovernmental Conference on the Status of Teachers on 5 October 1966 is applicable to them especially as regards the provisions concerning preparation for a profession and continuing education; employment and career; the rights and responsibilities of teachers; conditions for effective teaching and learning; teachers' salaries; social security;
 - (b) arbitrary distinctions between teachers employed by various types of educational institutions, e.g. specialized technical and vocational institutions and general education institutions, should be eliminated.
75. Teachers involved in any aspect of technical and vocational education, whether on a full-time or part-time basis, should possess the personal, ethical, professional and teaching qualities essential for the accomplishment of their work.
76. Teachers of technical and vocational aspects in general education should :
- (a) be familiar with a broad range of specialities;
 - (b) develop the ability to relate these to each other as well as to the larger social, economic and historical and cultural context;
 - (c) where this aspect of technical and vocational education serves primarily an occupation or educational orientation function, be able to give guidance.
77. Considering technical and vocational education as preparation for an occupational field, teachers in this area should have special qualifications depending on the occupation for which they are preparing students :
- (a) if the occupational field requires primarily practical skills the teacher should himself have long employment experience in the exercise of these skills;
 - (b) if students are to be prepared for technician or middle management positions, teachers should have a thorough knowledge, preferably acquired through appropriate practical experience, of the special requirements of this type of position;
 - (c) if the occupational field requires research and theoretical analysis, e.g. an engineering field, the teacher should have a university education and be actively engaged in research himself.
78. Considering technical and vocational education as continuing education, teachers in this area should, in addition to the special preparation for teaching adults, have an adequate knowledge of the working environment of their students and have specialized knowledge and skills in their teaching field.
79. Skilled professionals employed in appropriate sectors outside education should be invited to teach, at suitable points in technical and vocational education, certain programmes in schools, universities or other educational institutions in order to link the world of work more closely to the classroom.
80. Teachers of general subjects in institutions which offer technical and vocational education, in addition to the usual qualification, both professional

and in their teaching field, should receive a special initiation concerning the objectives and requirements of technical and vocational education.

81. Preparation for technical and vocational teaching should be given as a tertiary programme, thereby requiring completion of secondary education or its equivalent for entrance. All types of programme should be designed with the following objectives in mind :
 - (a) to maintain standards of education and professional preparation in vigour for the teaching profession as a whole and to contribute to the raising of these over-all standards;
 - (b) to develop in the future teacher the ability to teach both theoretical and the practical aspects of his field;
 - (c) to ensure that the teacher will be qualified, with minimum further training, to teach other groups than those for which he was prepared initially.
82. Varied and flexible programmes, full time and part time, adapted to the special requirements of a wide variety of recruitment sources as well as to those of the field to be taught and the group or groups to be taught should be available.
83. In those cases where it is difficult for intending technical and vocational teachers to acquire employment experience, consideration should be given to creating units, attached to teacher-training institutions, for the production of equipment and teaching materials for the schools in which intending teaching staff would be required to work for varying lengths of time.
84. The professional preparation of all technical and vocational teachers should include the following elements :
 - (a) educational theory both in general and as especially applying to technical and vocational education;
 - (b) educational psychology and sociology as it especially applies to the group or groups for which the future teacher will be responsible;
 - (c) special teaching methods appropriate to the field of technical and vocational education for which the future teacher is preparing and the groups to be taught, in methods of evaluation of student work, and in classroom management;
 - (d) training in the choice and use of the whole range of modern teaching techniques and aids presupposing the use of up-to-date methods and materials in the programme of professional preparation itself;
 - (e) training in how to create and produce appropriate teaching materials, of special importance in those cases where technical and vocational materials are in short supply;
 - (f) a period of supervised practice teaching experience before appointment to a teaching post;
 - (g) an introduction to educational and occupational guidance methods as well as to educational administration;
 - (h) a thorough grounding in safety and emphasis on the ability to teach safe working practice and habitually to set a good working example.
85. Staff responsible for the preparation of technical and vocational teachers should have obtained the highest qualifications possible in their field :
 - (a) teacher-educators responsible for special technical and vocational fields should have qualifications in their field equivalent to those of special subjects staff in other institutions and programmes of higher education,

- including advanced degrees and employment experience in a related occupational fields;
- (b) teacher-educators responsible for the pedagogical aspect of teacher preparation should themselves be experienced teachers in technical and vocational education and should possess the highest qualifications in a specialized field of education.
86. Staff responsible for the preparation of technical and vocational teachers should be actively engaged in research in their field and provision should be made for this in terms of a reasonable teaching load and access to appropriate facilities.
87. Teaching staff should be encouraged to continue their education, whatever the field in which they specialize, and should have the necessary means to do so. This continuing education which should be made available in a wide range of facilities, should include :
- (a) periodic review and updating of knowledge and skills in the special field;
- (b) periodic updating of professional skills and knowledge;
- (c) periodic work in the occupational sector relating to the special field.
88. Account should be taken of a teacher's achievements in continuing education when the responsible authorities consider questions of promotion, seniority and status concerning him.

Administrative and guidance staff

89. Administrative responsibilities for technical and vocational education programmes should be entrusted to persons with the following qualifications :
- (a) teaching experience in a field of technical and vocational education;
- (b) proficiency acquired through study and employment experience in one of the fields taught in the programme;
- (c) a broad vision of technical and vocational education as a whole and of the interrelation of the various aspects;
- (d) a knowledge of administrative techniques.
90. The heads of establishments in technical and vocational education should receive adequate administrative assistance so that they can devote most of their time to the highly important educational and scientific aspects of their work. Technical and vocational education establishments should have sufficient staff to provide the following services :
- (a) advice and guidance for candidates and students;
- (b) the preparation, supervision and co-ordination of all practical work and experiments;
- (c) the maintenance of instruments, apparatus and tools in workshops and laboratories;
91. Administrators should keep up to date with new administrative techniques and trends through programmes of continuing education. Prospective administrators should receive special training in methods and problems involved in the task. This preparation should include :
- (a) management methods appropriate to educational administration;
- (b) methods of allocation of available resources given the objectives of the various programmes for which they will be responsible;
- (c) planning methods.
92. Guidance staff should receive special preparation for their tasks whether

they are specialists or are teachers serving also as guidance staff. This preparation should be equipped to make objective assessments of aptitude, interest and motivation and to have at hand up-to-date information concerning career and education opportunities. During this preparation they should acquire a direct knowledge of the economy and the world of work through systematically organized visits to enterprises and periods of time spent in enterprises. Guidance staff should be required and provided with facilities — including the opportunity for practical experience — to keep up with new methods of guidance and information as to new or changed educational training and employment opportunities.

X. International co-operation

93. Member States should give priority to international co-operation in the field of technical and vocational education.
 - (a) This co-operation, whether in the framework of bilateral or multilateral agreements, or through international organizations, should be directed to improving the quality of technical and vocational education and developing and expanding it where necessary.
 - (b) Every effort should be made to co-ordinate within any given country the international assistance activities in the field of technical and vocational education.
94. Member States should take special measures to provide foreigners (in particular migrants and refugees) and their children living within their territory with technical and vocational education. Such measures should take into account the special needs of such persons in the host country as well as in view of their possible return to their country.
95. Provision should be made at national, regional and international levels for the regular exchange of information, documentation, and materials of international interest obtained from research and development efforts on all levels concerning technical and vocational education, in particular:
 - (a) publications concerning, among others, comparative education, psychological and pedagogical problems affecting general and technical and vocational education, and current trends;
 - (b) information and documentation concerning curriculum development, methods and materials, study opportunities abroad, employment opportunities including manpower requirements, working conditions and social benefits;
 - (c) teaching materials and social benefits;
 - (d) mass media programmes of an informational or pedagogical character.
96. Regional co-operation among countries having a common cultural heritage and facing common problems in the development or extension of technical and vocational education should be highly encouraged through:
 - (a) periodic meetings on the ministerial level and the establishment of a standing committee or organization to review policies formulated and actions taken;
 - (b) the creation of joint facilities for higher level research, the development of prototype materials and equipment, and the preparation of staff for the training of teachers where the costs of such facilities are too high to be sustained by any one country in a given region.

97. The development of both written and audio-visual teaching and learning materials which are suitable for international or regional use should be considered a priority area in international co-operation. These materials should contribute to the progressive establishment of common standards for professional qualifications acquired through technical and vocational education.
98. Member States should encourage the creation of a climate of opinion favourable to international co-operation in the field of technical and vocational education through :
- (a) teacher and student fellowships and exchanges;
 - (b) establishment of sustained contacts between similar institutions in different countries;
 - (c) provision of employment experience abroad, particularly when opportunities at home are limited.
99. To facilitate international co-operation, Member States should apply within technical and vocational education internationally recommended standards and norms relating in particular to :
- (a) system of measure;
 - (b) scientific and technical symbols;
 - (c) occupational qualifications;
 - (d) information processing;
 - (e) equivalencies of qualifications acquired through technical and vocational education implying standardization of curricula and testing, including aptitude tests, for some technical fields;
 - (f) safety and security through testing of materials and products.
100. Internationally recommended standards and norms concerning technical and vocational education should be continuously evaluated through sustained research concerning the effectiveness of their application in the various countries especially in order to facilitate the establishment of equivalence of qualifications and free movement of individuals between the different national systems of education.

Terminology of technical and vocational education

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Terminologie de l'enseignement technique et professionnel

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English glossary

I. General terms relating to education

1. **education:** all actions and influences directed to developing and cultivating a person's mental abilities, knowledge, skills, attitudes and behaviour in such a way that the individual's personality may be developed to the fullest possible extent, so as to be of positive value to the society in which he lives. In a more limited sense, the term is used to mean any activity aimed at transmitting theoretical and practical knowledge, usually by systematic means. Used in this way 'education' is equivalent to the French term *enseignement*.

F *éducation, enseignement*

S *educación, enseñanza*

R *образование*

2. **lifelong education:** refers to a philosophical concept whereby education is viewed as a long-term process beginning at birth and lasting throughout life. The term thus covers all forms of early childhood education, all types and levels of formal education, all types of continuing education and all types of non-formal education. Lifelong education is a conceptual framework within which the educational needs of people of all ages, abilities, educational and occupational levels may be met, since education is understood as a continual process and not as an attribute or possession to be acquired at any one specified time or by any one specified means.

F *éducation permanente*

S *educación permanente*

R *постоянное образование*

3. **formal education:** systematic education which normally takes place in schools and other educational institutions within the education system. Formal education is structured as a series of progressively more difficult and more specialized levels. Successful completion of each level is, in principle, sanctioned by an award which permits entrance to the next educational level.

F *éducation formelle*

S *educación formal*

R *формальное образование*

A term often used as a synonym is:

3.1 formal schooling

F *enseignement institutionnel*

S *enseñanza institucional*

R *школьное образование*

4. **continuing education:** a comprehensive term referring to all forms and types of education pursued by those who have left formal education at any point and who entered employment and/or assumed adult responsibilities—however these may be defined in a particular society. Thus, continuing education might allow one person to complete a level of formal education, another to acquire knowledge and skills in a new field, another to refresh or update his knowledge in a particular field, another to improve his professional qualifications. Continuing education, while not necessarily restricted to programmes related to career or job considerations, is most often pursued with these in mind, as the equivalent French term *formation continue* indicates. 'Conti-

ning education' may be organized within the formal education system, given within specific programmes organized outside this system, or provided on a non-formal basis.

F *formation continue*

S *educación continua*

R *возабуро образование*

A term sometimes used as a synonym is:

4.1 recurrent education

F *éducation récurrente*

S *educación recurrente*

R *возаносрчемое образование*

5. non-formal education: education which takes place outside the formal system on either a regular or an intermittent basis. Such education may provide an alternative to formal education as a means of acquiring educational achievement or professional qualification.

F *éducation non formelle*

S *educación no formal*

R *неформальное образование*

A term sometimes used as an equivalent is:

5.1 out-of-school education

F *éducation extrascolaire*

S *educación extraescolar*

R *внешкольное образование*

6. general education: the education designed to develop numerative and communication skills at progressively more difficult levels and to transmit and encourage the acquisition of general, literary, mathematic, scientific, historical, civic, technical, social and aesthetic knowledge. Formal schooling is the usual means of providing general education, but this education may be given in other types of programmes designed for groups with special educational needs.

F *enseignement général*

S *enseñanza general*

R *общее образование*

7. technical and vocational education: a comprehensive term referring to the educational process when it involves, in addition to general education, the study of technologies and related sciences and the acquisition of practical skills and knowledge relating to occupations in various sectors of economic and social life. The broad educational

goals of technical and vocational education distinguish it from 'vocational training' which is directed to developing the particular skills and related knowledge required by a specific occupation or group of occupations.

When used separately, each element of this composite term takes on a restricted meaning, see 8 and 9.

F *enseignement technique et professionnel*

S *enseñanza técnica y profesional*

R *техническое и профессиональное образование*

8. technical education: education designed at upper secondary and lower tertiary levels to prepare middle-level personnel (technicians, middle management, etc.), and at university level, to prepare engineers and technologists for higher management positions. Technical education includes general education, theoretical, scientific and technical studies and related skill training. The components of technical education may vary considerably depending on the type of personnel to be prepared and the education level.

F *enseignement technique*

S *enseñanza técnica*

R *техническое образование*

9. vocational education: education designed to prepare skilled personnel at lower levels of qualification for one or a group of occupations, trades or jobs. Vocational education, usually provided at upper secondary level, includes general education, practical training for the development of skills required by the chosen occupation, and related theory. The proportions of these components may vary considerably but the emphasis is usually on practical training. Within the framework of lifelong education, three major phases of technical and vocational education may be distinguished, see 10, 11 and 12.

F *enseignement professionnel*

S *enseñanza profesional*

R *профессиональное образование*

10. technical and vocational aspects of general education: this term refers to those components of the general education curriculum which introduce pupils to the elements of technology, in order to acquaint them with the role of techno-

logy in contemporary life and permit them to develop basic practical skills in the manipulation of simple tools and materials. This element of general education is also designed for information and guidance purposes for eventual educational and occupational choices, but it is not intended to prepare young people for a specific occupation. It is usually offered at the lower secondary level, or may continue to be offered throughout secondary education.

F *initiation technique et professionnelle dans l'enseignement général*

S *iniciación técnica y profesional en la enseñanza general*

R *технические и профессиональные аспекты общего образования*

The following terms, which are international in character, may be used synonymously:

10.1 general technical education

F *initiation technique et professionnelle générale*

S *iniciación técnico-profesional general*

R —

10.2 general technical and vocational studies

F *initiation technologique*

S *actividades técnico-profesionales de la enseñanza general*

R —

10.3 general technical and vocational initiation

F *cours de technologie*

S *iniciación a la tecnología y al mundo del trabajo*

R —

Other terms used in English which appear in international documents but which for the most part follow national usages are: 'industrial arts', 'polytechnical education', 'technical orientation', 'elementary technology'. In the past 'pre-vocational education' has also been used to refer to occupational orientation and practical skill training, generally at lower secondary level. 'Pre-vocational education' should be avoided as a synonym for the above terms as it does not correspond to the objectives or content of the technical and vocational aspects of general education.

11. technical and vocational education as preparation for an occupational field: all forms of technical and vocational education designed to prepare students for employment in careers, jobs or occupations requiring technical knowledge and skills. Thus, this education is to be distinguished from 'technical and vocational training' which is usually specialized in nature and more practically oriented than 'technical and vocational education'. This type of education is usually provided within the education system, but may be combined with training and employment. It is designed to impart broad knowledge and develop essential skills in a chosen occupational field but is preparatory in nature; the student does not normally qualify for a specific position or job within this field. These specialized qualifications are most often obtained through training and employment experience.

F *enseignement technique et professionnel en tant que préparation à l'exercice d'une profession*

S *enseñanza técnica y profesional como preparación para el ejercicio de un oficio o profesión*

R *техническое и профессиональное образование как подготовка к профессиональной деятельности*

12. technical and vocational education as continuing education: all forms of technical and vocational education—formal or non-formal—which permit the adult to update or improve knowledge and skills in his occupational field, to attain higher levels of education and qualification required for promotion, or to acquire the knowledge and skills required for a new occupation.

F *enseignement technique et professionnel en tant que formation continue*

S *enseñanza técnica y profesional como una modalidad de la educación permanente*

R *техническое и профессиональное образование как продолжающееся образование*

13. special education: all general or vocational education given to physically or mentally handicapped, socially maladjusted, retarded or backward persons

whose educational needs cannot be met by standard curricula or normal educational practices.

F *éducation spéciale*

S *educación especial*

R *дефектология*

14. **handicapped**: a person whose physical and/or mental well-being is temporarily or permanently impaired, whether congenitally or through illness or accident, with the result that his self-dependence, schooling or employment is impeded.

F *handicapé*

S *deficiente*

R *лицо с нарушениями развития*

15. **evaluation**: refers to the act or result of appraising the quality, worth or efficiency of any aspect of the educational process in terms of whether the desired and planned goals are being achieved. Thus the term 'evaluation' is used here in connexion with appraisal of the working of the education system as a whole, or of any particular aspect of it.

F *évaluation*

S *evaluación*

R *оценка*

II. Terms relating to systems and structures of education

16. **education system**: the over-all structural organization, through which education of all types and all levels is provided to the population.

F *système d'éducation*

S *sistema educativo*

R *система образования*

17. **education authorities**: the authorities at national or local levels, deriving their power from the legislation, and responsible for implementing and developing educational policies along the lines of the legislation in force.

F *autorités responsables de l'éducation*

S *autoridades de la educación*

R *руководящие органы образования*

18. **educational administration**: the service responsible for executing educational policies at all levels, from national to institutional.

F *administration de l'éducation*

S *administración de la educación*

R *административные органы образования*

19. **evaluation service**: the service within the educational administration which constantly reviews and appraises the functioning and efficiency of the whole or any part of the education system, and promotes innovation or change accordingly, as well as the establish-

ment and observance of national standards.

F *service d'évaluation*

S *servicio de evaluación*

R *служба оценки*

20. **accreditation service**: the service within the administration of education which assures that programmes, materials and institutions, whether under public or private jurisdiction, meet standards as established by legislation.

F *service d'homologation*

S *servicio de homologación*

R *служба аккредитации*

21. **non-governmental organizations**: all organized bodies which are not a part of government structures. Trade unions, employers' organizations, teachers' organizations, youth organizations, parents' organizations are examples of such formations which might collaborate with the public authorities on questions concerning education. Non-governmental organizations may also be active at regional or international levels.

F *organismes non gouvernementaux*

S *organizaciones no gubernamentales*

R *неправительственные организации*

22. **formal education system**: the organization of formal education beginning at

primary level and ending at the highest university level. The term formal education system implies fairly rigid educational structures which are geared to uninterrupted progression within the system, with specified ages at which individuals should attain specified levels.

F *système d'enseignement formel ou traditionnel*

S *sistema de enseñanza formal*

R *система формального образования*

23. **open systems or structures:** the organization of education in such a way that exit from the formal education system does not preclude re-entry at a later point. the open systems or structures are designed to offer possibilities of combining education and employment, to increase the education options available and to facilitate continuing education.

F *systèmes ouverts ou structures ouvertes*

S *sistemas o estructuras abiertos*

R *открытые системы или структуры*

24. **articulation:** structures linking levels and programmes of education or education with employment and allowing movement between programmes at the same level or between education and employment.

F *articulation*

S *articulación*

R *взаимосвязь*

25. **primary education:** the period of formal education beginning usually around 6 years of age, in which all children follow a common programme designed to teach the basic skills. This stage of education may vary in length from five to eight years. Some programmes for adults designed to teach basic literacy and numerative skills may be classed as primary-level education.

F *enseignement primaire*

S *enseñanza primaria*

R *начальное образование*

26. **secondary education:** the period of formal education following primary education, completion of which is required for continuation in higher education. Secondary education may last from five to eight years depending on the number of years allocated to primary educa-

tion. Generally, primary and secondary education total ten to twelve years of schooling. The main differences among formal education systems first appear in the organization of secondary education in terms of the age level at which students move from a common programme to separate ones—'streams'—for example, classical, general, technical, scientific, etc. Secondary education is usually divided into two cycles (see 27 and 28).

F *enseignement secondaire*

S *enseñanza secundaria*

R *среднее образование*

27. **lower secondary education:** the first part of secondary education (generally three years) in which a common programme is usually followed. In some systems pupils are separated into different streams at this stage but, along with the trend to lengthen compulsory education, there is a definite tendency to avoid streaming until the upper level of secondary education. The lower secondary level is in most systems the stage at which pupils are oriented toward more specialized education in accordance with their interests, aptitudes and scholastic performance. In most countries, the age at which this level is completed corresponds to the age limit prescribed for compulsory education.

F *premier cycle d'enseignement secondaire*

S *primer ciclo de la enseñanza secundaria*

R *нижняя ступень среднего образования*

28. **upper secondary education:** the last part of secondary education (generally three years), during which different options are introduced into the curricula. The structures for this diversification may vary considerably. Upper secondary education may be organized into completely separate streams, or core curricula with optional courses corresponding to the chosen preference.

F *deuxième cycle d'enseignement secondaire*

S *segundo ciclo de la enseñanza secundaria*

R *верхняя ступень среднего образования*

29. **comprehensive secondary education:** organization of secondary education—adopted by numerous countries—which offers a broad curriculum combining general, scientific and technical education to meet the needs of students of varying aptitudes or interests. Some subjects from certain groups of disciplines, for example, mathematics, science and technology and literature, are usually obligatory. Further, depending on future education and/or employment plans, and upon ability and aptitude, students are offered optional subjects and complete their curriculum accordingly.

F *enseignement secondaire polyvalent*

S *enseñanza secundaria polivalente*

R *всестороннее среднее образование*
Other terms often used as synonyms are:

29.1 integrated secondary education

F *enseignement secondaire intégré*

S *enseñanza secundaria integrada*

R *единое среднее образование*

29.2 multi-purpose secondary education

F *enseignement secondaire diversifié*

S *enseñanza secundaria diversificada*

R *многоцеловое среднее образование*

29.3 polytechnical secondary education

F *enseignement secondaire polytechnique*

S *enseñanza secundaria politécnica*

R *среднее политехническое образование*

30. **streams:** the various directions of specialization available at the secondary level in some education systems in which students are placed according to interest and ability, for example, general, classic, scientific, technical or vocational. The level at which students are directed into streams may vary according to the different education systems. In some systems streams are flexible, organized so that students may change from one to another in the course of secondary education; in others, streams are more rigidly separated and it is virtually impossible for students to enter a stream different from that originally assigned. Usually each stream is designed to lead to a particular end—classic or scientific leading to

university; technical to higher technical; vocational to employment—and in many cases completion of each is sanctioned by an award specific to it.

F *filières*

S *ramas*

R *номоку*

31. **tertiary education:** education, access to which usually requires complete secondary education, or evidence of equivalent educational achievement. This education is usually very specialized in nature and leads to high-level qualifications in the chosen field. A term often used as an equivalent is:

F *enseignement du troisième degré*

S *enseñanza de tercer grado o nivel*

R *образование третьей ступени*

31.1 higher education: two levels or cycles may be distinguished in tertiary education. The first cycle, usually two years in length may serve entirely as a pre-requisite for entrance into the upper cycle, or it may lead to a specific award upon completion.

F *enseignement supérieur*

S *enseñanza superior*

R *высшее образование*

32. **post-secondary education:** those programmes which terminate with a specific award at the end of the first cycle of tertiary education.

F *enseignement postsecondaire*

S *enseñanza postsecundaria*

R *первый цикл высшего образования*

33. **university education:** usually applied to the first and second cycles of tertiary education as a whole, as well as to studies going beyond this level.

F *enseignement universitaire*

S *enseñanza universitaria*

R *университетское образование*

34. **credit system:** the system by which educational programmes and practical training periods are assigned a specific value, composed of a number of credits also of specified value. Credits counting towards achievement of the programme are obtained upon successful completion of each course or training period, compulsory or optional. When credit equivalent to the total value assigned to the programme is obtained, recognition is awarded in the form of a certificate, degree or diploma. Once

obtained, credits gained during the earlier stages or a programme remain on the record as proof of prior achievement and are not lost if education is interrupted. This system facilitates pursuing higher education on an intermittent basis or in different institutions.

F *système des unités de valeur*

S *sistema de unidades de valor*

R *система зачета*

35. **system of equivalencies:** prior employment or training experience, or success in an examination, which are considered as contributing towards the total of credits required for obtaining a diploma or recognized qualification. This may apply even when, for example, the knowledge tested by an examination was not acquired through a formal education programme. The value of the credit awarded would be based on an equivalent credit gained in an education programme. At the international level, this term refers to the process and criteria through which academic or professional degrees obtained in a given country may be recognized and accepted in other countries having different education systems and/or different legislation in force.

F *système des équivalences*

S *sistema de equivalencias*

R *система эквивалентности*

36. **full-time technical and vocational education:** programmes of technical and vocational education for which the presence of students is required at all times in conformity with the timetables established by the educational institutions concerned.

F *enseignement technique et professionnel à temps plein*

S *enseñanza técnica y profesional a tiempo completo*

R *техническое и профессиональное образование с отрывом от производства*

37. **work-study programmes:** programmes of technical and vocational education which combine study and work (which may or may not be remunerated). These programmes provide practical experience in the chosen occupational field and are generally organized and administered by educational institu-

tions rather than by undertakings. 'Career education' and 'co-operative education' are terms for this arrangement which correspond to national usage.

F *enseignement combiné avec l'emploi*

S *enseñanza combinada con el trabajo*

R *учебно-производственные программы*

38. **part-time technical and vocational education:** programmes of technical and vocational education offered within educational institutions to complement the training of those already in employment. In some education systems, this term can also refer to condensed programmes of technical and vocational education, generally organized in the form of evening courses, offered to persons already engaged in employment with a view to allowing them to obtain grades equivalent to those obtained through full-time technical and vocational education.

F *enseignement technique et professionnel à temps partiel*

S *enseñanza técnica y profesional a tiempo parcial*

R *техническое и профессиональное образование без отрыва от производства*

39. **educational institution:** any institution (school, college, university, etc.) in which programmes of education are offered, whether full-time or part-time.

F *établissement d'enseignement*

S *institución educativa*

R *учебное заведение*

40. **vocational school:** a secondary-level institution in which vocational education is offered on either a full-time or a part-time basis.

F *école professionnelle*

S *escuela profesional*

R *профессиональная школа*

41. **technical school:** any educational institution—generally at secondary level—which offers programmes of technical education aimed mainly at the training of middle-level technicians. These programmes are often very similar to those usually offered in vocational schools, since the distinction is rarely made in English between vocational and technical schools. In the French system, the

distinction is made between *collège d'enseignement technique*, referring to schools with a more practical bias, and *lycée technique*, used to refer to schools with more theoretical technical programmes leading to the *baccalauréat technique*.

F *école technique*

S *escuela técnica*

R *техническая школа*

42. **technical teacher training institution:** an educational institution, usually at the tertiary level, which offers programmes of initial preparation for technical and vocational teachers and may offer in-service training programmes as well.

F *école normale technique*

S *escuela normal técnica*

R *учебные заведения по подготовке преподавателей технических дисциплин*

43. **higher technical education institutions:** refers to institutions offering programmes of technical education at the tertiary level, and includes both post-secondary institutions and institutions with full university status.

F *établissements d'enseignement technique supérieur*

S *instituto de enseñanza técnica superior*

R *высшие технические учебные заведения*

44. **post-secondary technical institutions:** refers to institutions offering program-

mes of technical education which are designed for completion at the end of the first cycle of tertiary education as, for example, training programmes for higher technicians.

F *écoles techniques supérieures*

S *escuela técnica superior*

R *технические учебные заведения первого цикла высшего образования*

- 45.* **extension services:** a non-formal education system through which technical knowledge available at a central educational or research institution is directly communicated to practitioners (for example, farmers, artisans or tradesmen) through instruction and practical demonstrations conducted by itinerant specialists.

F *services de vulgarisation*

S *servicios de extensión*

R *служба распространения знаний*

46. **community centre:** an institution available to all members of a community and usually serving a number of purposes initiated by volunteers—social, recreational, educational, etc. Facilities at such centres are often made available for programmes of non-formal education.

F *centre communautaire*

S *centro social*

R *общественный центр*

III. Terms relating to the content of technical and vocational education

47. **content:** the substance or subject matter of an educational programme as a whole or of any one of its parts. With reference to technical and vocational education, 'content' includes not only the substantive knowledge to be acquired, but also the practical skills.

F *contenu*

S *contenido*

R *содержание*

48. **discipline:** a field of study, for example, mathematics, literature, mechanical engineering, science, etc.

F *discipline*

S *disciplina*

R *дисциплина*

48.1 **subject:** a synonym for 'discipline', but may also have the narrower meaning of one particular topic or area of study within a discipline, for

example: within mechanical engineering—strength of materials; within mathematics—algebra or trigonometry.

F *matière*

S *materia o asignatura*

R *предмет*

49. **curriculum**: an organized programme of both theoretical and practical studies, the successful completion of which is considered necessary to achieve specified educational goals corresponding to different levels of knowledge and qualification.

F *programme*

S *currículo*

R *учебный план*

50. **core curriculum**: a term usually employed in secondary education, although it may be applied in some higher education programmes, referring to the organized curriculum which is considered essential and obligatory for all students in a particular educational programme regardless of their fields of specialization or their interests.

F *tronc commun*

S *tronco común*

R *обязательный учебный план*

51. **core subjects**: the various elements of the 'core curriculum' and especially to the individual subjects of common interest to all students within a diversified education system, regardless of their stream or orientation.

F *matières communes*

S *materias comunes*

R *обязательные предметы*

52. **course**: an educational unit within the curriculum dealing systematically with a particular subject or 'discipline' in prescribed ways: lectures, laboratory work, workshops, etc. A series of such courses (e.g. mathematics, physics and electricity) are thus co-ordinated to form the 'curriculum'.

F *cours*

S *curso*

R *курс*

53. **syllabus**: outline of the elements of a course, presented in a logical order of growing difficulty.

F *syllabus*

S *programa de estudios*

R *учебная программа*

54. **curriculum development**: the process of organizing, combining and co-ordinating the various courses which form the curricula so that they lead to different levels of knowledge and qualification. Such process also includes experimentation, evaluation of content and effectiveness, as well as selection of appropriate teaching and learning methods and materials.

F *élaboration des programmes d'enseignement*

S *elaboración del currículo*

R *разработка учебного плана*

55. **interdisciplinary approaches**: ways of organizing the curriculum as a whole or of teaching a particular course such that traditional boundaries between disciplines are ignored and new relationships among them are established.

F *approches interdisciplinaires*

S *enfoques interdisciplinarios*

R *междисциплинарный подход*

Other terms often used in this sense are:

55.1 multi-disciplinary approaches

F *approches multidisciplinaires*

S *enfoques multidisciplinarios*

R *многодисциплинарный подход*

55.2 integrated approaches

F *approches intégrées*

S *enfoques integrados*

R *комплексный подход*

56. **professional knowledge**: the over-all knowledge required for professional qualification and for the exercise of a particular occupation.

F *connaissances professionnelles*

S *conocimientos profesionales*

R *профессиональные знания*

57. **technical theory**: the theoretical part of courses related to certain disciplines, as opposed to their practical aspects (for example, in mechanics—the theory of internal combustion engines).

F *cours techniques théoriques*

S *cursos técnicos teóricos*

R *теория в технике*

58. **professional skills**: the skills which must be acquired for professional qualifications and for the exercise of a particular occupation.

F *compétences professionnelles*

S *competencias profesionales*

R *профессиональные навыки*

59. **practical instruction:** refers to the practical and experimental aspects of courses and curricula through which professional skills may be acquired in technical and vocational education.

F *formation pratique*

S *formación práctica*

R *практическое обучение*

60. **practice period:** a period, usually obligatory, spent at a place of work in which newly acquired practical skills are applied and initial experience in their use gained.

F *stage pratique*

S *período de prácticas*

R *производственная практика*

61. **specialization:** the field or discipline in which an individual concentrates his studies, both theoretical and practical, in order to achieve a certain level of qualification.

F *spécialisation*

S *especialización*

R *специализация*

62. **intermediate technology:** technology specifically developed to answer to cer-

tain economic development needs (for example, in industry and agriculture) where advanced technology would not be applicable or useful. In some countries intermediate technologies have influenced the programmes of technical and vocational education.

F *technologies intermédiaires*

S *tecnología intermedia*

R *промежуточная технология*

See also:

62.1 adapted technology

F *technologie adaptée*

S *tecnología adaptada*

R *адаптированная технология*

63. **communication skills:** the oral, written or audio-visual techniques utilized in successful communication, and to the ability of using these techniques. In the case of vocational education, for example, it may concern technical drawing.

F *aptitudes à communiquer*

S *aptitudes para la comunicación*

R *навыки общения*

IV. Terms relating to the teaching and learning process

64. **teaching and learning methods:** any means employed by a teacher to facilitate the transmission of knowledge and skills, and by the learner to acquire them. The compound term is used in preference to the simple term 'teaching methods' which implies a one-way input into the educational process, because it is a more accurate expression of the fact that learning is inseparable from teaching.

F *méthodes d'enseignement et d'apprentissage*

S *métodos de enseñanza y de aprendizaje*

R *методы обучения и усвоения знаний*

65. **problem-solving approach:** a teaching and learning method whereby a topic is presented in terms of a problem to be solved, with all the necessary means and information at the student's disposal.

In this approach the role of the teacher is to guide the learner to discover solutions for himself rather than to provide a ready-made answer.

F *méthode active*

S *método basado en la solución de problemas*

R *проблемный метод обучения*

66. **self-education:** educational methods through which the learner acquires knowledge and skills on his own without the intervention of the teacher.

F *auto-instruction*

S *autoinstrucción*

R *самообразование*

67. **programmed instruction:** one self-education method whereby the student, alone and at his own pace, works through material (on tape, film or in print), containing previously construct-

ed sequences which lead him step by step to the desired goal through a specified set of responses. The programmed courses are arranged in such a way that each sequence must be mastered before the student may proceed to the next one.

F *enseignement programmé*

S *instrucción programada*

R *программированное обучение*

68. **teaching and learning materials:** all materials used in the teaching and learning process to aid in the transmission or acquisition of knowledge and skills. In addition to audio-visual material employed in all types of education, technical and vocational education uses teaching and learning materials such as tools, machines, scale models, prototypes, raw materials (wood, metals), and all equipment with which students work in laboratories and workshops.

F *matériels d'enseignement et d'apprentissage*

S *materiales de enseñanza y de aprendizaje*

R *учебные материалы*

69. **teaching aids:** the equipment used by a teacher in a lecture, presentation or demonstration. The term covers, for example, blackboards, graphics, slides, films, all types of projectors and demonstration models, etc.

F *auxiliaires pédagogiques*

S *material auxiliar de enseñanza*

R *учебные пособия*

70. **educational technology:** the methods and results of technology applied to solving problems arising in the teaching and learning process. As a result of educational technology Nos. 71 and 72, among others, have been developed.

F *technologie éducative*

S *tecnología educacional*

R *технология учебного процесса*

71. **multi-media systems:** organized utilization of teaching and learning materials combining two or more vehicles of communication, for example, a workbook in printed form, a cassette tape and slides.

F *systèmes multi-média*

S *sistema de medios múltiples*

R *системы комплексной информации*

72. **computer-assisted instruction:** the tea-

ching and learning method by which a computer, with terminals to which students have access, is used as a teaching machine to dispense programmed instruction. The computer may be one of the components in 'multi-media systems'.

F *enseignement assisté par ordinateur*

S *instrucción dirigida por computadora*

R *обучение с помощью эвм*

73. **workshop:** the area in an educational institution where tools and machines are located and which is designed for teaching and learning the practical skills required in a programme of technical and vocational education.

F *atelier*

S *taller*

R *учебная мастерская*

74. **mobile unit:** a mobile workshop, generally one or several specially equipped trucks, which may easily reach various educational institutions or centres which are not equipped with the necessary facilities for practical instruction.

F *unité mobile*

S *unidad móvil*

R *передвижная мастерская*

75. **centralized workshop:** a centrally located workshop serving students from several educational institutions.

F *atelier centralisé*

S *taller centralizado*

R *централизованная учебная мастерская*

76. **educational achievement:** the extent to which an individual has met educational standards set for any level and any type of education.

F *résultats scolaires*

S *aprovechamiento*

R *успеваемость*

An equivalent term is:

76.1 **educational performance**

F —

S *rendimiento de la educación*

R *текущая успеваемость*

V. Terms relating to guidance

77. **guidance**: the process of assisting individuals to make choices concerning their education and employment, based on a thorough assessment of their interests, talents, abilities and achievement, full information as to the probable consequences of choosing a particular educational direction or occupational field, and realistic information as to opportunities available.

F *orientation*

S *orientación*

R *ориентация*

78. **educational guidance**: guidance given to young people and adults by qualified staff designed to aid them choose and successfully complete programmes of education most suited to their talents and interests, taking into account prior educational achievement and any future job or career plans they may have.

F *orientation pédagogique*

S *orientación educacional*

R *учебная ориентация*

79. **vocational guidance**: consists of assisting individuals through orientation to learn about relevant opportunities for education, training and work, and facilitating through counselling their career

planning. It includes individual assessment through standardized testing and test interpretation, the provision of information on education, training and work opportunities and related placement and follow-up activities. Specialized programmes in vocational guidance may be operated in schools, vocational training centres are undertakings. They may also be organized for special groups within the population.

F *orientation professionnelle*

S *orientación profesional*

R *профессиональная ориентация*

80. **guidance counsellors**: the trained staff responsible for providing guidance through aiding individuals to assess their interests, talents and abilities, and making available to individuals and groups all appropriate information upon which decisions may be based.

F *conseillers d'orientation*

S *asesores de orientación*

R *советники по ориентации*

81. **aptitude tests**: tests designed to identify aptitudes for guidance purposes rather than to measure achievement.

F *tests d'aptitude*

S *pruebas de aptitud*

R *проверка склонностей*

VI. Terms relating to teaching staff: their qualifications and training

82. **teacher**: a person employed in an official capacity for the purpose of guiding and directing the learning experience of pupils and students in an educational institution, whether public or private. Usually, the person should have completed a professional training course in a teacher education institution leading to the award of appropriate credentials.

F *enseignant*

S *docente*

R *преподаватель*

83. **instructor**: usually applied to a person responsible only for the practical instruction within a given programme of technical education. Instructors are usually good professional who do not possess the academic credentials required of teachers.

F *instructeur, moniteur*

- S *instructor*
 R *инструктор*
84. **technical teacher educator**: a person responsible for the professional preparation and/or the in-service training of technical and vocational teachers. The titles and qualifications required for technical teacher educators may vary from one education system to another, but they are usually university graduates.
- F *professeur d'école normale technique*
 S *profesor de escuela normal técnica*
 R *преподаватель индустриально-педагогического учебного заведения*
85. **technical teacher education**: programmes of studies, generally at tertiary level, leading to graduation as a technical and/or vocational teacher. Such programmes may consist essentially of psycho-pedagogical studies if entrance to them requires prior mastery of the teaching field and practical employment experience. In addition to pedagogical studies, programmes of technical teacher education may also be designed on an integrated basis, providing improvement of qualifications in a given technical field combined with practical work experience. Integrated programmes are usually designed for those pursuing their studies immediately after completion of secondary education, in order to meet urgent demand for technical and vocational teaching staff.
- F *formation du personnel de l'enseignement technique*
 S *formación del profesorado de la ense-*
- ñanza técnica*
- R *индустриально-педагогическое образование*
 The following are synonymous terms:
 85.1 technical teacher preparation
 85.2 technical teacher training
86. **practice teaching**: period of teaching on a probationary basis in which practical professional experience is acquired under the direction of an experienced teacher. Such periods are usually required as part of the programme of pedagogical studies and student-teacher performance must be evaluated positively in order to obtain teaching credentials.
- F *stage pédagogique*
 S *prácticas pedagógicas*
 R *педагогическая практика*
87. **production units**: workshops attached to technical teacher pre-service or in-service training institutions, in which student-teachers may practise and improve practical skills in their field of specialization by actually producing equipment and teaching materials.
- F *unités de production*
 S *unidades de producción*
 R *производственные мастерские*
88. **supervisory services**: the services within the educational administration responsible for evaluating staff performance, providing guidance to teachers with a view to improving the quality and efficiency of teaching, and recommending promotion.
- F *service d'inspection*
 S *servicios de inspección*
 R *службы инспекции*

VII. Terms relating to training

- 89.* **training**: activities which aim at providing the skills, knowledge and attitudes required for employment in a particular occupation, group of related occupations, or for exercising a function in any field of economic activity. Within this broad term a number of derivatives or subdivisions may be noted based on the purpose and level of the training,
- the age group or other characteristics of the trainee, the place where the training is given, etc.
- F *formation*
 S *formación; capacitación*
 R *обучение*
- 90.* **initial training**: the first complete course of training for an occupation. It is often divided into two parts: 'basic

- training' followed by 'specialization'.
- F *formation initiale*
S *formación inicial*
R *начальное профессиональное обучение*
- 91.* **basic training:** training aiming at imparting the fundamentals of an occupation or a group of occupations with a view to qualifying the trainee for immediate employment or to providing the basis for 'specialization'. It may, but will not always, be recognized as a distinct phase or 'initial training'; it may constitute a part of 'retraining'.
- F *formation de base*
S *formación básica*
R *основное обучение*
- 92.* **further training:** any type of training subsequent and complementary to initial training. It is a global term which may cover any or all of the following forms: 'upgrading' or 'supplementary training', 'updating', 'refresher training', 'specialist training'.
- F *perfectionnement*
S *perfeccionamiento*
R *дальнейшее обучение*
93. **upgrading or supplementary training:** training which provides supplementary skills and knowledge in order to increase the versatility and occupational mobility of a worker or to improve his standard or performance. In some cases its purpose may be to provide additional qualifications for exercising a recognized complementary or related occupation. It may, but will not necessarily, lead to promotion.
- F *formation complémentaire*
S *formación complementaria*
R *повышение квалификации или дополнительное обучение*
- 94.* **retraining:** training for the acquisition of the skills and knowledge required for practising an occupation other than the one for which the worker was originally trained. It may require a period of 'basic training' followed by 'specialization'.
- F *recyclage*
S *reciclaje*
R *переподготовка*
- 95.* **updating:** training to bring the skills and knowledge of the worker up to date with respect to new developments—
- materials, tools, processes, etc.—in his occupation.
- F *mise à jour des connaissances*
S *actualización de conocimientos*
R *усовершенствование*
- 96.* **training within the undertaking:** any training that is provided on the premises of an undertaking where the trainee is employed. It may be given 'on the job' or 'off the job'.
- F *formation dans l'entreprise*
S *formación en la empresa*
R *обучение на производстве*
- The following term, which appears in the Unesco Recommendation, should be understood as equivalent:
- 96.1 **training within employment:** the following terms are often used synonymously: 'in-plant training'—in the case of training given within a production unit; 'in-service training' or 'in-house training'—in the case of training given within an undertaking in the tertiary sector, e.g. banking, insurance, teaching and other public service.
- F *formation en cours d'emploi*
S *formación durante el empleo*
R *обучение в процессе трудовой деятельности*
- 97.* **apprenticeship:** a period of long-term training substantially carried out within an undertaking and regulated by statutory law or custom according to an oral or written contract which imposes mutual obligations on the two parties concerned: the trainee; and, normally, an employer who has assumed responsibility for giving the trainee 'initial training' for a recognized occupation subject to apprenticeship.
- F *apprentissage*
S *aprendizaje*
R *ученичество*
- 98.* **on-the-job training:** training within an undertaking which has been arranged at an ordinary work place and uses actual job of commercial value for instruction and practice.
- F *formation sur le tas*
S *formación en el puesto de trabajo*
R *обучение на рабочем месте*
- 99.* **off-the-job training:** training under the auspices of an undertaking which has been either arranged off the premises or, if given on the premises, organized

in an area (training workshop, classroom, etc.) specially equipped for training purposes.

F *formation en dehors du poste de travail*

S *formación fuera del puesto de trabajo*

R *обучение за пределами рабочего места*

100.* **block release, day release:** the system by which a trainee is authorized to be absent from work, with or without pay, in order to attend part-time courses of related instruction and general education constituting part of his training programme. It may be arranged as: a number of hours (usually one or two complete days) each week—‘day release’; or a number of weeks or months each year—‘block release’.

F *sessions à plein temps, cours hebdomadaires*

S *licencia de estudios: prolongada/por día*

R *обучение с полным или с частичным отрывом от производства*

101.* **sandwich training:** a form of training consisting of alternate periods of training in a school and training within an undertaking. The trainee may be enrolled full-time in a school (school-based) or employed by the undertaking (undertaking-based). The periods, which are often but not necessarily of equal length, may vary in duration from several weeks to several months, or

even longer.

F *cours alternés*

S *cursos alternados*

R *чередующееся обучение*

102.* **training centres:** any installation organized and staffed so as to serve an exclusively training function. Such centres might be under the jurisdiction of a ministry of employment or labour, or might be financed and run by an enterprise or group of enterprises.

F *centres de formation*

S *centros de formación*

103.* **training director:** person having senior management responsibility for planning and organizing the training function within an undertaking. Often acts as an adviser to managers and supervisors.

F *directeur de la formation*

S *director de la formación*

R *руководитель (директор) обучения*

104.* **training officer:** person employed by an undertaking (or a group of undertakings) with the main functions of supervising, organizing and/or planning, both training carried out within the undertaking(s) and arrangements made for staff training given outside the undertaking(s).

F *responsable de la formation*

S *encargada de la formación*

R *ответственный за обучение*

VIII. Terms relating to employment

105.* **employment:** any remunerative work, whether for an employer or as a self-employed person.

F *emploi*

S *empleo*

R *занятость*

106.* **occupation:** a broad term denoting any distinct type of manual or non-manual work which can provide a means of livelihood, whether undertaken for an employer or as a self-employed person. The terms ‘trade’, ‘craft’ and ‘artisan trade’ are often used synonymously with respect to manual occupations. The

expressions ‘recognized trade’ or ‘apprenticeable occupation’ are used to denote an occupation which is officially recognized as requiring a specified period of systematic training in order to practise it at skilled-worker level.

F *profession ou métier*

S *ocupación; profesión u oficio*

R *профессия*

107. **job:** the particular occupational function or the specific work engaged in.

F *emploi*

S *empleo*

R *специальность*

108. **labour market:** the processes through which the relation between supply of and demand for labour is determined.

F *marché du travail*

S *mercado de trabajo*

R *рынок труда*

109. **occupational structures:** the organizational patterns of occupations. The structure of any one occupation would be composed, among others, of requirements for access to the occupation, the various employment possibilities offered by the occupation, and the means through which promotion may be achieved.

F *structures de l'emploi*

S *estructuras del empleo*

R *профессиональные структуры*

110. **occupational mobility:** the degree to which occupational structures allow for movement within and among occupations.

F *mobilité professionnelle*

S *movilidad profesional*

R *профессиональная подвижность*

111. **career and job mobility:** the degree to which a particular job or career allows horizontal movement for job or occupational change and vertical movement for promotion.

F *mobilité des carrières et des emplois*

S *movilidad de carrera y empleo*

R *подвижность в рамках служебной карьеры или должности*

112.* **worker:** any person engaged in manual or non-manual work, irrespective of the sector of economic activity or the level of qualification. The term therefore includes salaried employees and persons who are self-employed, and covers various levels of qualifications.

F *travailleur*

S *trabajador*

R *рабочий*

113.* **specialized worker:** a person who has been trained to perform a limited number of skilled functions or operations but who does not possess the all-round technical skills and knowledge required for a recognized trade or other occupation.

F *travailleur spécialisé*

S *trabajador semicalificado*

R *специализированный рабочий*

114.* **skilled worker:** a person who has acquired the full qualifications required for

performance of a recognized trade or other occupation. In some countries and in some occupations the terms 'journeyman' (usually in the artisan trades sector), 'craftsman' and 'tradesman' are used synonymously.

F *travailleur qualifié*

S *trabajador calificado*

R *квалифицированный рабочий*

115.* **supervisor:** a person whose main tasks are the control and supervision of workers. His functions often include planning and giving instructions for the work.

F *agent de maîtrise*

S *jefe de taller*

R *инспектор*

116.* **technician:** a person who requires knowledge and skill of a more practical character than those required of the qualified scientist, engineer or technologist on the one hand, and of a more theoretical character than those required of the skilled worker or craftsman on the other. His education and training are likely to have taken him at least up to a level equivalent to the end of secondary education in a general or technical stream; he may have had post-secondary-level training and corresponding degree or diploma. 'Junior' and 'higher' technician levels may be distinguished though a sharp line can rarely be drawn between them.

F *technicien*

S *técnico*

R *техник*

117.* **middle management:** the lower echelons of executive personnel in commercial and administrative fields, responsible for practical management tasks.

F *cadres moyens*

S *ejecutivo de nivel medio*

R *средний административный персонал*

118. **engineer:** a person who requires knowledge and skills based on a high degree of specialization in one or several scientific, technological or technical fields. The education and training giving rise to his qualifications will have been at university level or its equivalent. According to the nature and level of his education, training and experience, an

engineer may assume responsibilities at various levels: execution, production, organization, high-level management, etc.

F *ingénieur*

S *ingeniero*

R *инженер*

119. higher management: upper-level executive personnel responsible for establishing policy in commercial, industrial or administrative fields.

F *cadres supérieurs*

S *ejecutivo de nivel superior*

R *высший административный персонал*

120. professional or trade organizations: any organization in which membership is based on common occupational interests.

F *organisations professionnelles*

S *organización profesional o gremio*

R *профессиональные организации*

121. unions: professional organizations generally representing the occupational and socio-economic interests of categories or groups of workers.

F *syndicats*

S *sindicato*

R *союзы*

122. paid educational leave: leave granted to an employee to begin or continue a programme of complementary education or training while retaining the whole or part of his salary.

F *congés de formation payés*

S *licencia de estudios con goce de sueldo*

R *оплачиваемый учебный отпуск*

123. occupational hazards: accidents or illness likely to be incurred during the exercise of a particular occupation because of the conditions and demands it entails.

F *risques professionnels*

S *riesgos profesionales*

R *профессиональный риск*

124. safety measures: all measures and precautions taken to ensure safe working conditions and to prevent accidents on the job.

F *mesures de sécurité*

S *medidas de seguridad*

R *меры безопасности*

دليل مصطلحات التعليم التقني والمهني

طبعة مراجعة ١٩٨٤

إعداد شعبة التعليم
المهني والتقني

(١) مصطلحات عامة ذات علاقة بالتربية:

١ - التربية: *education:*

كل الأعمال والمؤثرات الموجهة لتطوير وتنمية القدرات العقلية، والمعلومات والمهارات، والاتجاهات، والسلوك لدى الشخص بأسلوب ينمي شخصية الفرد إلى أقصى حد ممكن، حتى يصبح له قيمة إيجابية للمجتمع الذي يعيش فيه. يستخدم المصطلح للدلالة على مفهوم محدد يعني أي نشاط هادف لنقل المعرفة النظرية والعملية عادة بواسطة وسائل نظامية، واستخدام (تربية) بهذه الطريقة، مساو للمصطلح الفرنسي: *enseignement*.

٢ - التربية مدى الحياة: *lifelong education:*

يشير هذا المصطلح إلى المفهوم الفلسفي الذي ينظر به للتربية على أنها عملية طويلة الأمد تبدأ عند الميلاد وتدوم مدى الحياة، وهكذا يغطي الاصطلاح جميع أشكال تربية الطفولة المبكرة وجميع أنماط ومستويات التربية النظامية وجميع أنواع التربية المستمرة وجميع أصناف التربية اللانظامية. فالتربية مدى الحياة هيكل تصوري يمكن من خلاله الاستجابة للحاجات التربوية للناس من جميع الأعمار كالقدرات والمستويات التعليمية والمهنية، حيث تفهم التربية على أنها عملية مستمرة وليست صفات أو مقتنيات يمكن اكتسابها في أوقات معينة أو بواسطة طريقة واحدة معينة.

٣ - التربية النظامية: *formal education:*

التربية النظامية التي تجرى بطبيعة الحال في المدارس والمؤسسات التربوية الأخرى داخل النظام التعليمي. فالتربية النظامية مبنية بحيث تكون سلسلة من المراحل المتصاعدة الصعوبة، والتخصص.

ومن حيث المبدأ فإن إكمال كل مرحلة بنجاح يجاز بشهادة تسمح بالدخول للمرحلة التعليمية التالية، والمصطلح الذي يستخدم دائماً كمرادف في اللغة الانجليزية يعني أيضاً باللغة العربية:

٣-١ التعليم النظامي: *formal schooling:*

٤ - التربية المستديمة:

continuing education:

اصطلاح شامل يشير إلى جميع أشكال وأنماط التعليم التي يسعى لها الأشخاص الذين تركوا التعليم النظامي في أي مرحلة وكذلك الذين دخلوا المجال الوظيفي وأخذوا على عاتقهم مسئوليات الحياة-مهما كان تعريف تلك المسئوليات في المجتمع المعني، وهكذا قد يسمح التعليم المستديم للشخص أن يتم مرحلة موازية للتعليم النظامي، ويسمح لشخص آخر أن يكتسب معرفة ومهارات في مجال جديد، ولآخر بانعاش أو تحديث معلوماته في مجال معين، ولآخر في تحسين مؤهلاته المهنية. فالتعليم المستديم، رغم أنه ليس بالضرورة قاصراً على برامج ذات صلة بمجالات العمل أو الاعتبارات الوظيفية، إلا أنه يستهدفه في معظم الأحوال لهذه الأسباب فالمصطلح الفرنسي المكافئ لمصطلح التربية المستديمة يدل على أنه يشمل، ويمكن

ترتيب هذا النوع من التعليم بحيث يقدم ضمن برامج معينة منظمة خارج هذا النظام، أو يتم توفيره على أسس غير نظامية، والمصطلح الذي أحياناً ما يستخدم كمرادف آخر هو:

٤-١ التعليم المتناوب:

recurrent education:

٥ - التعليم غير النظامي:

non-formal education:

اصطلاح يشير إلى التعليم الذي يتم خارج التعليم النظامي سواء على أساس منتظم أو متقطع، وربما يوفر مثل هذا التعليم بديلاً للتعليم النظامي كوسيلة لاكتساب حصيلة دراسية أو مؤهل مهني، وأحياناً ما يستخدم المصطلح التالي كمرادف:

٥-١ التعليم خارج المدرسة:

out-of-school education:

٦ - التعليم العام:

general education:

التعليم المصمم لتطوير مهارات العد والاتصال في مراحل متصاعدة الصعوبة ولتشجيع اكتساب معرفة عامة في مجالات (الأدب، والرياضيات، والعلوم، والتاريخ، والأمور المدنية والتقنية والاجتماعية والجمالية). والتعليم النظامي هو الطريق الطبيعي لتوفير تعليم عام، ولكن يمكن إعطاء هذا التعليم في أنماط أخرى من البرامج المصممة لجماعات ذات حاجات تعليمية خاصة.

٧ - التعليم التقني والمهني:

technical and vocational education:

اصطلاح شامل يشير إلى العملية التعليمية عندما تتضمن، بالإضافة إلى التعليم العام، على دراسة التكنولوجيات والعلوم المتعلقة بها واكتساب المهارات العملية والمعرفة ذات العلاقة بالمهن في القطاعات المختلفة للحياة الاقتصادية والاجتماعية، والأهداف التربوية

للتعليم التقني والمهني تميزه عن «التدريب المهني» الموجه لتطوير المهارات الخاصة والمعرفة المتصلة بها المطلوبة لمهنة معينة أو مجموعة من المهن. وعندما يستخدم كل عنصر من عناصر تركيبة هذا الاصطلاح على حدة فإنه يتخذ معنى محدوداً كما يتضح من النظر إلى ٨، ١.

٨ - التعليم التقني: *technical education:*

هو تعليم مصمم للمرحلة الثانوية العليا والمرحلة الجامعية الأولى لاعداد أفراد المستوى الأوسط من العمالة (التقنيين والادارة الوسطى الخ.)، وعلى مستوى نهاية المرحلة الجامعية لاعداد المهندسين والتكنولوجيين لمراكز ادارية أعلى، ويتضمن التعليم التقني تعليمًا عاماً ودراسات نظرية وعلمية وتقنية والتدريب على المهارات ذات العلاقة، وقد تختلف مركبات التعليم التقني بشكل كبير حسب نوع العمالة المطلوب اعدادها والمرحلة التعليمية.

٩ - التعليم المهني: *vocational education:*

هو التعليم المصمم لاعداد أفراد مهرة ذوى مستوى أدنى من التأهيل لمهنة أو مجموعة من المهن أو الحرف أو الوظائف، وعادة ما يقدم التعليم المهني في المرحلة الثانوية العليا، ويتضمن تعليمًا عاماً وتدريباً عملياً لتنمية المهارات المطلوبة من قبل المهنة المختارة والدراسات النظرية المتعلقة بها، وقد تختلف نسب هذه العناصر المكونة للدراسة اختلافاً كبيراً ولكن التأكيد عادة ما يكون على التدريب العملي. وضمن إطار التعليم مدى الحياة يمكن تمييز ثلاثة جوانب للتعليم التقني والمهني، أنظر ١٠، ١١، ١٢.

١٠ - الجوانب التقنية والمهنية للتعليم العام: *technical and vocational aspects of general education:*

يشير هذا الاصطلاح إلى تلك المكونات لمنهج التعليم العام التي تهيب عناصر التكنولوجيا للطلاب لكي تعرفهم بدور التكنولوجيا في الحياة المعاصرة وتسمح لهم بتنمية مهارات عملية أساسية في التعامل مع المواد والعدد اليدوية البسيطة، وهذا العنصر الخاص بالتعليم العام مصمم أيضاً لأغراض معرفية وإرشادية للاختيارات المهنية والتعليمية النهائية، ولكنها لا تقصد إعداد الشباب لمهنة معينة. وعادة ما تقدم في المراحل الأولى من التعليم الثانوي، أو ربما يستمر تقديمها خلال المرحلة الثانوية كلها. والمصطلحات التالية التي لها الصفة الدولية يمكن استخدامها بشكل مترادف.

١-١٠ التعليم التقني العام *general technical education:*

٢-١٠ الدراسات التقنية والمهنية العامة: *general technical and vocational education:*

٣-١٠ التمهيد التقني والمهني العام *general technical and vocational initiation:*

توجد مصطلحات أخرى في اللغة الانجليزية والتي تظهر في الوثائق الدولية ولكنها تتبع في معظمها استعمالات وطنية مثل «الفنون الصناعية»، و«التعليم المتعدد التقنيات» و«التوجيه التقني» و«التكنولوجيا الأولية» وفي الماضي استخدم أيضاً «التعليم قبل المهني» للإشارة إلى التوجيه المهني وتدريب المهارة العملية بالمراحل الأولى من التعليم الثانوي بصفة عامة. ويجب تجنب استعمال «التعليم قبل المهني» كمرادف للمصطلحات السابقة حيث أنه لا علاقة بين أهدافه وأهداف أو محتوى الأوجه الفنية والمهنية للتعليم العام.

١١ - التعليم التقني والمهني بوصفه إعداد لمزاولة مهنة:

technical + vocational education as preparation for an occupational field:

يشير الاصطلاح إلى جميع أشكال التعليم التقني والمهني والمصممة لاعداد الطلاب للوظيفة في مجالات العمل أو الوظائف أو الحرف التي تتطلب معرفة ومهارات تقنية، وهكذا يميز هذا النوع من التعليم عن «التدريب التقني والمهني» الذي عادة ما يكون تخصصي بطبيعته وموجهاً توجيهياً عملياً بصورة مركزة عن «التعليم التقني والمهني» وعادة ما يقدم هذا النمط من التعليم ضمن النظام التعليمي، ولكنه قد يدمج مع التدريب وبرامج التوظيف، وهو مصمم لاضفاء معرفة عريضة وتنمية مهارات أساسية في مجال مهني مختار ولكنه ذو طبيعة تحضيرية، وطبيعي لا يؤهل الطالب لوظيفة أو مركز معين ضمن هذا المجال، وغالباً ما يتم الحصول على هذه المؤهلات التخصصية من خلال التدريب والخبرة الوظيفية.

١٢ - التعليم التقني والمهني كترية مستديمة:

technical and vocational education as continuing education:

يشير هذا المصطلح إلى جميع أشكال التعليم التقني والمهني-النظامي وغير النظامي-التي تسمح للانسان البالغ أن يحدث أو يحسن معرفته ومهاراته في مجال وظيفته، أو الحصول على مستويات ومؤهلات تعليمية أعلى ضرورة لترقيته، أو لاكتساب المعرفة والمهارات المطلوبة لوظيفة جديدة.

١٣ - التربية الخاصة:

special education:

جميع أشكال التعليم العام أو المهني المتاح للمعوقين جسمانياً أو عقلياً، أو لغير المتوافقين اجتماعياً، والأشخاص المتخلفين أو المتأخرين الذين لا يمكن تحقيق حاجاتهم التربوية من خلال المناهج المعتادة أو الممارسات التعليمية العادية.

١٤ - المعاق: *handicapped*

الشخص الضعيف في تكوينه الجسماني أو العقلي بشكل مؤقت أو دائم سواء بشكل خلقي أو على أثر مرض أو حادث نتج عنه عدم اكتمال اعتماده على النفس أو إعاقة تعليمه أو عمله.

١٥ - التقييم: *evaluation*

يشير إلى عمل أو نتيجة تقدير النوعية، واستحقاق أو كفاءة أي ناحية من نواحي العملية التعليمية من حيث مدى تحقق الأهداف المرغوبة والمحدد لها، وهكذا يستعمل هنا مصطلح (التقييم) مرتبطاً بتقدير فعالية النظام التعليمي ككل أو أي ناحية معينة منه.

(٢) مصطلحات ذات علاقة بالنظم والبنى التربوية:

education system:

١٦ - النظام التعليمي:

البنية الهيكلية الشاملة التي يقدم من خلالها التعليم بجميع أنواعه ومستوياته ومراحلها للجمهور.

education authorities:

١٧ - السلطات التربوية:

هي سلطات على المستويات الوطنية أو المحلية وتستمد قوتها من التشريع، وهي مسئولة عن تطبيق وتطوير السياسات التربوية وفق أحكام التشريع المطبقة.

educational administration:

١٨ - الادارة التربوية:

هو الجهاز المسئول عن تنفيذ السياسات التربوية على جميع المستويات، من المستوى القومي إلى مستوى المؤسسة التربوية.

evaluation service:

١٩ - جهاز التقييم:

هو جهاز تشمله الادارة التربوية ويقوم بصفة مستمرة بمراجعة وقياس أداء وكفاءة النظام التربوي كله أو أي جزء منه، وحسب ما تتطلبه نتائج تلك الأعمال يقوم الجهاز بدفع التجديدات أو التغييرات اللازمة كما يقوم هذا الجهاز بوضع ومراقبة مستويات الأداء المثلى على المستوى الوطني.

accreditation service:

٢٠ - جهاز الاعتراف بمستوى البرامج التربوية:

هو جهاز تشمله الادارة التربوية ويقوم بالتأكد من أن البرامج والمواد والمؤسسات التعليمية سواء العام منها أو الخاص تحقق مستويات الأداء والأهداف المنصوص عليها في التشريعات.

non-governmental organizations:

٢١ - المنظمات غير الحكومية:

يشير هذا الاصطلاح إلى جميع الهيئات المنظمة التي ليست جزءاً من الهياكل الحكومية فكل من نقابات العمال، واتحادات الموظفين، وجمعيات المعلمين ومنظمات الشباب

ومجالس الآباء هي أمثلة لهذه التشكيلات التي قد تتعاون مع السلطات العامة لحل المشاكل المتعلقة بالتربية، بالإضافة إلى ذلك، قد تكون المنظمات الغير حكومية ذات نشاط على المستوى الاقليمي أو الدولي.

٢٢ - نظام التعليم النظامي: *formal education system:*

يبدأ تنظيم التعليم النظامي بالمرحلة الابتدائية وينتهي بأعلى المراحل الجامعية، ويدل اصطلاح نظام التعليم النظامي ضمناً على احتوائه على بنى تعليمية ثابتة ومعدة لتحقيق تقدم مطرد داخل النظام حيث تحدد فيه أعمار معينة يجب أن يبلغ الأفراد عندها مراحل دراسية معينة.

٢٣ - النظم أو البنى المفتوحة: *open systems or structures:*

هو تنظيم التعليم بحيث لا يحول دون تارك التعليم النظامي من الدخول إليه مرة ثانية في مرحلة لاحقة. فالنظم أو البنى المفتوحة مصممة لتسمح بمزج التعليم والتوظيف لزيادة الاختيارات التعليمية المتاحة ولتسهيل التعليم المستمر.

٢٤ - الترابط (المعابر): *articulation:*

هي نقاط الاتصال بين مراحل وبرامج التعليم من ناحية أو بين التعليم وسوق العمل من ناحية أخرى وتسمح بالحركة بين برامج المرحلة الواحدة أو بين التعليم وسوق العمل.

٢٥ - التعليم الابتدائي: *primary education:*

فترة التعليم النظامي التي تبدأ عادة حول سن ٦ سنوات والتي يتبع فيها جميع الأطفال برنامج عام مصمم لتدريس المهارات الأساسية. وقد تختلف هذه المرحلة التعليمية في الطول من خمس سنوات إلى ثمان سنوات، وبعض برامج تعليم الكبار المصممة لتدريس مهارات القراءة والكتابة والمهارات العددية الأساسية يمكن تصنيفها كتعليم المرحلة الابتدائية.

٢٦ - التعليم الثانوي: *secondary education:*

فترة التعليم النظامي التي تلي التعليم الابتدائي، والتي يلزم إكمالها للاستمرار في التعليم العالي، وقد يطول التعليم الثانوي من خمس إلى ثمان سنوات معتمداً على عدد السنوات التي خصصت للتعليم الابتدائي، وبصفة عامة مجموع التعليم الابتدائي والثانوي الاجمالي هو من عشر إلى اثني عشر سنة من الدراسة، وتظهر الاختلافات الرئيسية بين نظم التعليم النظامي أول ما تظهر في التنظيم الخاص بالتعليم الثانوي بخصوص مرحلة

العمر التي يتحول فيها الطلاب من برنامج عام إلى برامج منفصلة - مسارات - على سبيل المثال، كلاسيكي، عام، فني، علمي، الخ...، وعادة ما ينقسم التعليم الثانوي إلى مرحلتين: أنظر ٢٧، ٢٨.

٢٧ - المرحلة الأولى من التعليم الثانوي: *lower secondary education*:

هي الجزء الأول من التعليم الثانوي (تتكون عموماً من ثلاث سنوات) التي يتبع فيها برنامج عام، وفي بعض النظم ينفصل الطلاب في هذه المرحلة إلى مسارات مختلفة ولكن تمثيلاً مع اتجاه إطالة التعليم الإلزامي، يوجد ميل أكيد في تجنب التشعب حتى المرحلة العليا من التعليم الثانوي، ومرحلة التعليم الثانوي الأدنى في معظم النظم هي المرحلة التي يعد فيها الطلاب للانخراط في تعليم أكثر تخصصاً في المرحلة التي تليها وذلك حسب ميولهم واستعداداتهم وأدائهم المدرسي. وفي معظم البلدان يعتبر السن الذي يتم فيه الطلاب هذه المرحلة هو حدود السن المفروضة للتعليم الإلزامي.

٢٨ - المرحلة العليا من التعليم الثانوي: *upper secondary education*:

هي الجزء الأخير من التعليم الثانوي (تتكون عموماً من ثلاث سنوات) الذي يقدم في منهجها اختيارات مختلفة، وقد تختلف البنى الخاصة بهذه التشعبات بشكل كبير. وقد تنظم المرحلة الثانوية العليا على شكل شعب منفصلة تماماً أو مناهج محورية مع مقررات اختيارية تتناسب مع التفضيل المختار.

٢٩ - التعليم الثانوي الشامل: *comprehensive secondary education*:

تنظيم للتعليم الثانوي - تبناه العديد من البلدان - ويقدم منهجاً عريضاً يندمج فيه التعليم العام والعلمي والتقني وذلك ليستجيب لحاجات الطلاب ذوي الاستعدادات أو الاهتمامات المختلفة، وعادة ما تكون بعض الموضوعات الدراسية في أفرع معينة من المعرفة مثل: الرياضيات، والعلوم، والتكنولوجيا، والآداب إجبارية. فيما عدا ذلك، واعتماداً على المستقبل التعليمي والوظيفي وكذلك على قدرات واستعدادات الطلاب فإنه يتاح لهم موضوعات اختيارية يكمل بها منهجهم. هناك بعض المصطلحات الأخرى التي غالباً ما تستخدم كمرادفات هي:

٢٩-١ التعليم الثانوي المتكامل *integrated secondary education*:

٢٩-٢ التعليم الثانوي المتعدد الأغراض *multi-purpose secondary education*:

٢٩-٣ التعليم الثانوي المتعدد التقنيات *polytechnical secondary education*:

٣٠ - المسالك: *streams*:

تشير إلى الاتجاهات المختلفة للتخصصات المتاحة بالمرحلة الثانوية في بعض النظم

التعليمية التي يلتحق فيها الطلاب بالمسالك التي تسير اهتمامهم وقدرتهم مثل: عام، وكلاسيكي، وعلمي، ومهني وتقني. وقد تختلف المرحلة التي يوجه فيها الطلاب إلى المسالك المختلفة حسب نظم التعليم المختلفة. ففي بعض النظم تكون المسالك مرنة، منظمة بحيث يمكن للطلاب أن ينتقلوا من مسلك إلى آخر طوال مرحلة التعليم الثانوي، وفي بعضها الآخر تكون المسالك منفصلة بشكل أكثر صرامة لا يمكن إزائها أن يلتحق الطلاب بمسلك مختلف عن ذلك الذي تخصص فيه أولاً.

وعادة ما يكون كل مسلك مصمم بحيث يؤدي إلى هدف معين-فالمسلك الكلاسيكي أو العلمي يؤدي إلى الجامعة. أما التقني فيؤدي إلى تعليم تقني أعلى، والمهني إلى سوق العمل-وفي حالات عديدة فإن إكمال أي من هذه المسالك يؤدي إلى الحصول على شهادة خاصة به.

٣١ - تعليم المرحلة الثالثة:

tertiary education:

التعليم الذي عادة يتطلب الالتحاق به اتمام التعليم الثانوي أو اختيار مرحلة تعليمية مساوية، وعادة ما يكون هذا النوع من التعليم تخصصي جداً في طبيعته ويؤدي إلى مؤهلات عليا في المجال المختار، وغالباً ما يستخدم المصطلح التالي كمرادف.

٣١-١ التعليم العالي:

higher education:

يمكن تمييز مرحلتين أو دورتين في تعليم المرحلة الثالثة الدورة الأولى عادة ما تكون مدتها سنتان وقد تستخدم كمطلب مسبق للدخول إلى الدورة الأعلى أو قد تؤدي إلى شهادة معينة عند استكمالها.

٣٢ - التعليم بعد المرحلة الثانوية:

post-secondary education:

مصطلح غالباً ما يستخدم ليشير إلى هذه البرامج التي تنتهي بشهادة معينة في نهاية الدورة الأولى من تعليم المرحلة الثالثة.

٣٣ - التعليم الجامعي:

university education:

عادة ما يطبق هذا الاصطلاح على الدوريتين الأولى والثانية لتعليم المرحلة الثالثة ككل بالإضافة إلى الدراسات التالية بعد هذه المرحلة.

٣٤ - نظام الوحدات المعتمدة:

credit system:

النظام الذي يقدر به للبرامج التعليمية وفترات التدريب العملية تقدير معين، مكون من عدد من الوحدات الدراسية المعتمدة ذات قيمة معينة أيضاً. ويتم حساب الوحدات الدراسية المعتمدة لمقرر دراسي معين ضمن الحصيلة الكلية عند إكمال المقرر الدراسي أو الفترة التدريبية، اجبارية كانت أم اختيارية، بنجاح. وعند الحصول على الوحدات

المساوية للقيمة الاجمالية المعينة للبرنامج يمنح الاعتراف في شكل شهادة أو درجة علمية أو دبلوم، وعند الحصول على الوحدات الدراسية سواء تم اكتسابها خلال مراحل مبكرة أو عن طريق برنامج فإنها تبقى في السجل كدليل على الانجاز السابق ولا تضيع عند الانقطاع عن الدراسة ويسهل هذا النظام متابعة التعليم العالي على أساس متقطع أو في مؤسسات تعليمية مختلفة.

٣٥ - نظام المعادلات: *system of equivalencies:*

هو نظام يشمل تحديد فترات التوظيف أو التدريب أو الخبرة السابقة أو الاختبارات المجتازة بنجاح التي يمكن اعتبارها جزءاً من التحصيل الدراسي الاجمالي المطلوب للحصول على دبلوم أو مؤهل معترف به، وقد يطبق هذا حتى، مثلاً، عندما تكون المعرفة المختبرة عن طريق امتحان لم يتم الحصول عليها من خلال برنامج تعليمي نظامي. لذلك تحتسب قيمة الوحدات المعتمدة الممنوحة على أساس وحدات مكافئة مكتسبة في برنامج تعليمي.

وعلى المستوى الدولي، فإن هذا المصطلح يدل على العملية والمعايير التي من خلالها يتم الحصول على الدرجات العلمية الاكاديمية أو المهنية في بلد ما والتي قد يعترف بها وتقبلها بلاد أخرى لديها نظم تعليم مختلفة وتشريعات مغايرة.

٣٦ - التعليم التقني والمهني كل الوقت:

full-time technical and vocational education:

هو برنامج تعليم تقني ومهني يتطلب حضور الطلاب في جميع الأوقات وفقاً للبرامج الزمنية الموضوعة من قبل المؤسسات التعليمية المعنية.

٣٧ - برامج الدراسة والعمل: *work-study programmes:*

برامج تعليم تقني ومهني تجمع الدراسة والعمل معاً (بمكافأة أو بدون)، وتقدم هذه البرامج خبرة عملية في مجال المهنة المختارة وبصفة عامة فهي تنظم وتدار من قبل مؤسسة تعليمية لا من قبل جهات العمل و«التعليم لمستقبل وظيفي»، و«التعليم التعاوني» هي مصطلحات لهذا التنظيم الذي ينسجم مع الاستخدام الوطني.

٣٨ - التعليم التقني والمهني لبعض الوقت:

part-time technical and vocational education:

برامج تقنية ومهنية تقدم داخل مؤسسات تعليمية لا كمال تدريب الذين يعملون فعلاً في وظائف، ويمكن أيضاً أن يشير هذا المصطلح في بعض النظم التعليمية إلى البرامج المكثفة للتعليم الفني والمهني، وهي تنظم بصفة عامة في شكل دراسات مسائية،

وتقدم لأشخاص مرتبطين فعلا بوظائف على أساس السماح لهم بالحصول على درجات مساوية لتلك التي يتم الحصول عليها من خلال تعليم تقني ومهني لكل الوقت.

٣٩ - المؤسسة التعليمية: *educational institution:*

هي أي مؤسسة تعليمية (مدرسة، كلية، جامعة، الخ) يقدم فيها برامج للتعليم سواء لكل الوقت أو بعضه.

٤٠ - المدرسة المهنية: *vocational school:*

هي مدرسة على مستوى المرحلة الثانوية يقدم فيها تعليم مهني على أساس كل الوقت أو بعضه.

٤١ - المدرسة التقنية: *technical school:*

هي أي مؤسسة تعليمية - بصفة عامة مرحلة ثانوية - التي تقدم برامج للتعليم التقني تهدف أساساً لتدريب تقنيين من المستوى المتوسط، وغالباً ما تكون هذه البرامج مشابهة جداً لتلك المقدمة عادة في المدارس المهنية، حيث أن التمييز نادراً ما يتم في اللغة الانجليزية بين المدارس المهنية والتقنية. أما في النظام الفرنسي فالتمييز موجود بين وتشير إلى المدارس ذات طابع عملي أكثر و وتشير إلى مدارس ذات برامج نظرية تقنية أكثر كثافة وتؤدي إلى الحصول على شهادة وتشير إلى مدارس ذات برامج نظرية تقنية أكثر كثافة وتؤدي إلى الحصول على شهادة

٤٢ - معهد تدريب معلم التعليم التقني: *technical teacher training:*

مؤسسة تعليمية تكون عادة بالمرحلة الجامعية، وتقدم برامج إعداد أولى لمدرسي التعليم التقني والمهني وقد تقدم برامج تدريب أثناء الخدمة أيضاً.

٤٣ - المعاهد العليا للتعليم التقني: *higher technical education institutions:*

يشير هذا المصطلح إلى المعاهد التي تقدم برامج التعليم التقني بالمرحلة الجامعية وتشمل كلا من معاهد ما بعد المرحلة الثانوية والمعاهد ذات المستوى الجامعي الكامل.

٤٤ - المعاهد التقنية لما بعد المرحلة الثانوية: *post-secondary technical institutions:*

يشير هذا المصطلح إلى المعاهد التي تقدم برامج التعليم التقني المصممة لإكمال الدورة الأولى من المرحلة الجامعية فعلى سبيل المثال، برامج التدريب المتقدمة للتقنيين.

extension services:

٤٥ - خدمات الارشاد:

تعليم غير نظامي يمكن من خلاله الحصول عن طريق الاتصال المباشر على معرفة فنية ويقدم في مؤسسة مركزية للأبحاث أو التعليم وذلك لأصحاب المهن الممارسين (مثل، المزارعين أو الحرفيين أو التجار) من خلال تدريس وتوجيه عملي يقوم به مختصون متنقلون.

community centre:

٤٦ - المركز الاجتماعي:

مؤسسة ينتفع بها جميع أعضاء المجتمع وعادة ما تخدم عدد من الأهداف التي يقوم بإيجادها متطوعين-اجتماعية، ترفيهية، تعليمية، الخ. وغالباً ما تتوفر التسهيلات في مثل هذه المراكز لبرامج التعليم غير النظامي.

(٣) مصطلحات ذات علاقة بمحتوى التعليم الفني والمهني:

subject

٤٧ - المحتوى: *content:*

جوهر أو مادة الموضوع لبرنامج تعليمي ككل أو لواحد من أجزائه. وفيها يخص التعليم الفني والمهني فإن المحتوى لا يتضمن المعرفة الجوهرية التي يجب اكتسابها فقط وإنما المهارات العملية كذلك.

٤٨ - فرع الدراسة (المادة): *discipline:*

مجال للدراسة، مثل: الرياضيات، الأدب، الهندسة الميكانيكية، العلوم، الخ.

٤٨-١ الموضوع: *subject:*

مصطلح مرادف لفرع الدراسة، ولكن قد يكون له أيضاً المعنى الأضيق لأحد جوانب الموضوع أو المجالات الدراسية المعنية داخل فرع الدراسة فعلى سبيل المثال في نطاق الهندسة الميكانيكية-مقاومة المواد، وفي نطاق الرياضيات- الجبر أو حساب المثلث.

٤٩ - المنهج: *curriculum:*

برنامج منظم لكل من الدراسات النظرية والعملية، يعتبر إكمالها بنجاح ضرورياً لتحقيق أهداف تعليمية معينة تتطابق مع مستويات مختلفة من المعرفة والتأهيل.

٥٠ - المنهج المحوري: *core curriculum:*

عادة ما يستخدم هذا المصطلح في التعليم الثانوي رغم أنه يمكن أن يطبق في برامج التعليم العالي، ويشير إلى المنهج المنظم الذي يعتبر أساسياً واجبارياً لجميع الطلاب في برنامج تعليمي معين بغض النظر عن مجالات تخصصهم أو إهتماماتهم.

٥١ - الموضوعات المحورية: *core subjects:*

تشير إلى العناصر المختلفة «للمنهج المحوري»، وبشكل خاص للموضوعات الفردية ذات الاهتمام العام لجميع الطلاب داخل نظام تعليم متنوع بغض النظر عن شعبهم أو توجيههم (مساراتهم الدراسية).

٥٢ - المقرر: *course:*

وحدة تعليمية داخل المنهج تعالج موضوعاً أو فرعاً من فروع المعرفة بأسلوب منظم ومتفق عليه: محاضرات، عمل بالمختبرات تدريب بالورش، الخ. وتتناسق سلسلة من مثل هذه المقررات (مثل: الرياضيات، الفيزياء، والكهرباء) بهذا الأسلوب لتشكيل «المنهج».

٥٣ - مخطط المقرر الدراسي: *syllabus:*

تخطيط مبدئي لعناصر المقرر يعرض بشكل منطقي مسائر للصعوبة المتنامية (المساعدة).

٥٤ - تطوير المنهج: *curriculum development:*

هي عملية تنظيم ودمج وتنسيق المقررات المختلفة التي تشكل المناهج لكي تؤدي إلى مستويات مختلفة من المعرفة والتأهيل، وتتضمن مثل هذه العملية أيضاً التجريب العلمي وتقييم المحتوى واختبار مدى الفاعلية، وكذلك اختيار طرق ومواد التعليم والتعلم المناسبة.

٥٥ - مدخل فروع المعرفة المتداخلة: *interdisciplinary approaches:*

طرق تنظيم المنهج كوحدة متكاملة أو لتدريس مقرر معين مع تجاهل الحدود التخطيطية بين فروع المعرفة وتوطيد أواصر جديدة بينها. بعض المصطلحات المستخدمة غالباً لتعبر عن هذا المعنى هي:

multi-disciplinary approaches: ٥٥-١ مدخل فروع المعرفة المتعددة

integrated approaches: ٥٥-٢ المدخل المتكامل

٥٦ - المعرفة المهنية: *professional knowledge:*

المعرفة الشاملة المطلوبة للتأهيل المهني ومن أجل ممارسة مهنة معينة.

٥٧ - المعطيات النظرية للدراسة التقنية: *technical theory:*

تشير إلى الجزء النظري المتعلق بفرع معرفة معينة، المقابلة لنواحيها العملية (مثل: في الميكانيكا-نظرية محركات الاحتراق الداخلي).

٥٨ - مهارات مهنية: *professional skills:*

المهارات التي يجب اكتسابها للحصول على المؤهلات المهنية ولممارسة مهنة معينة.

٥٩ - تدريب عملي: *practical instruction:*

يشير هذا المصطلح إلى النواحي العملية والتجريبية للمقررات والمناهج التي من خلالها قد تكتسب مهارات مهنية في التعليم التقني والمهني.

٦٠ - فترة التدريب العملي: *practice period:*

هي فترة، عادة ما تكون اجبارية، تقضى في مكان العمل الذي تطبق فيه مهارات عملية مكتسبة حديثاً وخبرات أولية في استخداماتها.

٦١ - التخصص: *specialization:*

المجال أو الفرع الدراسي الذي يركز فيه الفرد دراساته، من الناحيتين النظرية والعملية، لكي يحصل على مستوى معين من التأهيل.

٦٢ - التكنولوجيا المتوسطة: *intermediate technology:*

تكنولوجيا متطورة بشكل معين بغرض الاستجابة لحاجات تنمية اقتصادية معينة (على سبيل المثال، في الصناعة والزراعة)، وحيث قد لا تطبق التكنولوجيا المتقدمة أو تكون غير ذات نفع، وفي بعض البلدان أثرت التكنولوجيا المتوسطة على برامج التعليم التقني والمهني... أنظر أيضاً:

٦٢-١ التكنولوجيا المطوعة: *adapted technology:*

٦٣ - مهارات الاتصال: *communication skills:*

يشير هذا المصطلح إلى الأساليب الشفهية والكتابية والسمعية البصرية المستخدمة في الاتصالات الناجحة، وللقدررة على استعمال هذه الأساليب، وفي حالة التعليم المهني مثلاً، فقد يهتم بالرسم الفني.

(٤) مصطلحات ذات علاقة بعملية التعليم والتعلم

teaching and learning methods:

٦٤ - طرق التعليم والتعلم:

هي أي طرق يستخدمها المدرس لتسهيل نقل المعلومات والمهارات واستخدامها الدارس لكسب هذه المعلومات والمهارات. وبفضل استخدام هذا المصطلح المركب عن المصطلح المبسط « طرق التدريس » الذي يدل ضمناً على طريق ذي اتجاه واحد في العملية التعليمية، وذلك لأنه تعبير أكثر دقة لحقيقة أن التعلم جزء ملازم يتعذر فصله عن التعليم.

problem-solving approach:

٦٥ - مدخل حل المشاكل:

هي طريقة للتعليم والتعلم يعرض بها الموضوع على هيئة مشكلة تحتاج إلى حل، على أن توضع تحت تصرف الطالب جميع الوسائل والمعلومات الضرورية، ودور المدرس في هذه الطريقة هي إرشاد المتعلم إلى اكتشاف الحلول بنفسه بدلاً من تزويده بالاجابة الجاهزة.

self-education:

٦٦ - التعلم الذاتي:

يشير هذا المصطلح إلى الطرق التعليمية التي يكتسب المتعلم من خلالها المعرفة والمهارات بنفسه دون التدخل من قبل المدرس.

programmed instruction:

٦٧ - التعلم المبرمج:

إحدى طرق التعلم الذاتي حيث يعمل الطالب بمفرده وحسب معدل تقدمه الشخصي من خلال مادة (مطبوعة أو مسجلة على شريط أو فيلم) تحتوي أجزاء متعاقبة مؤلفة مسبقاً والتي تقوده خطوة خطوة إلى الهدف المنشود عبر مجموعة استجابات محددة، والمقررات الدراسية المبرجة مرتبة بطريقة يجب على ضوئها اتقان كل جزء من الأجزاء المتعاقبة قبل أن يواصل الطالب تقدمه إلى الجزء الذي يليه.

teaching and learning materials:

٦٨ - مواد التعليم والتعلم:

جميع المواد المستعملة في عملية التعليم والتعلم لتساعد في نقل أو اكتساب المعرفة والمهارات. فبالإضافة إلى المواد السمعية والمرئية المستخدمة في جميع أنماط التعليم، فإن التعليم التقني والمهني يستعمل مواد تعليم وتعلم مثل: العدد، والآلات، والنماذج المصغرة أو المكبرة والنماذج التجريبية، والمواد الخام (خشب، معادن) وجميع الأجهزة التي يشتغل بها الطلاب في المختبرات والورش.

teaching aids:

٦٩ - المعينات السمعية والبصرية:

يشير هذا المصطلح إلى الأدوات التي يستعملها المدرس في المحاضرة والشرح والعرض الايضاحي، ويشمل المصطلح مثلاً، السبورات، الرسومات البيانية، الشرائح، الأفلام وجميع أنواع آلات العرض ونماذج الشرح، الخ.

educational technology:

٧٠ - تكنولوجيا التربية:

الطرق التكنولوجية ونتائجها المطبقة لحل المشاكل الناجمة عن عملية التعليم والتعلم، وكتيجة لتكنولوجيا التعليم تم تطوير المصطلحين رقمي ٧١، ٧٢ من بين الكثير.

multi-media systems:

٧١ - النظم المتعددة الوسائل:

انتفاع منظم بمواد التعليم والتعلم تجمع بين أداتين أو أكثر من أدوات نقل المعلومات، مثل، دفتر عمل مطبوع مع شرائط تسجيل وشرائح.

computer assisted instruction:

٧٢ - تعليم مدعم بالكمبيوتر:

طريقة تعليم يستخدم فيها الكمبيوتر من خلال وصلات خاصة يمكن أن يستخدمها الطلاب كآلة تعليم توزع من خلالها الدروس المبرمجة، ويمكن اعتبار الكمبيوتر أحد عناصر نظم الأوساط المتعددة.

workshop:

٧٣ - الورشة:

مكان بالمؤسسة التعليمية توضع فيه العدد والآلات ويصمم لأغراض التعليم والتعلم للمهارات العملية المطلوبة في برنامج التعليم الفني والمهني.

mobile unit:

٧٤ - الوحدة المتحركة:

ورشة متنقلة غالباً ما تكون عبارة عن سيارة شحن كبيرة أو أكثر مجهزة تجهيزاً خاصاً بحيث تصل بسهولة إلى مؤسسات أو مراكز تعليمية مختلفة غير مجهزة بالتجهيزات الضرورية للتدريس العملي.

centralized workshop:

٧٥ - الورشة المركزية:

ورشة ذات موقع مركزي تخدم طلاب مؤسسات تعليمية متعددة.

educational achievement:

٧٦ - إنجاز تربوي:

مدى تحقيق أي فرد للمستويات القياسية التربوية الموضوعة لأي مستوى أو نمط تعليمي، والمصطلح المرادف له هو:

educational performance:

٧٦-١ الأداء التربوي

(٥) مصطلحات ذات علاقة بالتوجيه:

٧٧ - التوجيه: *guidance:*

هي عملية معاونة الأفراد في تحديد اختياراتهم بشأن تعليمهم وتوظيفهم بناء على تقدير شامل لاهتماماتهم ومواهبهم وقدراتهم وإنجازاتهم بالإضافة إلى توفير المعلومات الكاملة بشأن العواقب التي تترتب على اختيار اتجاه دراسي أو مجال وظيفي معين وكذلك توفير معلومات واقعية عن الفرص المتاحة.

٧٨ - التوجيه التربوي: *educational guidance:*

هو التوجيه المقدم للشباب والراشدين من قبل هيئة مؤهلة لمساعدتهم في اختيارهم واستكمالهم بنجاح للبرامج الدراسية الأكثر ملاءمة لمواهبهم وإهتماماتهم مع الأخذ في الاعتبار إنجازاتهم الدراسية السابقة بالإضافة إلى وظائفهم المستقبلية أو ما قد يكون لديهم من خطط وظيفية.

٧٩ - التوجيه المهني: *vocational guidance:*

هو عبارة عن مساعدة الأفراد، من خلال توجيههم، في معرفة ما يلائمهم من فرص للدراسة والتدريب والعمل وتسهيل، من خلال تقديم المشورة، عملية التخطيط لمستقبلهم الوظيفي.

كما يشمل التوجيه المهني تقويم الأفراد من خلال اختبارات مقننة وتحليل نتائج تلك الاختبارات بالإضافة إلى توفير المعلومات عن التعليم والتدريب وفرص العمل وكذلك إلحاق الأفراد ومتابعتهم في إماكن دراستهم أو عملهم، ويمكن تنفيذ البرامج المتخصصة للتوجيه المهني في المدارس ومراكز التدريب ومشروعات العمل. كما يمكن تنظيم تلك البرامج لمجموعات خاصة من السكان.

٨٠ - مستشارو التوجيه: *guidance counsellors:*

هم الأعضاء المدربون لهيئة التوجيه والمسؤولون عن توفير التوجيه من خلال مساعدة

الأفراد على تقدير إهتماماتهم ومواهبهم وقدراتهم بالإضافة إلى توفير المعلومات المناسبة للأفراد والجماعات اللازمة لاتخاذ قراراتهم.

aptitude tests:

٨١ - اختبارات القدرات:

هي اختبارات قد تم تصميمها لتمكن من التعرف على الاستعدادات وذلك لاستخدامها في التوجيه وليس في قياس الانجاز.

(٦) مصطلحات ذات علاقة بأعضاء هيئة التدريس ومؤهلاتهم وتدريبهم:

teacher:

٨٢ - المعلم:

هو شخص تم تعيينه في وظيفة رسمية بغرض إرشاد وتوجيه الخبرات التعليمية للتلاميذ والطلاب في مؤسسة تربوية سواء كانت عامة أو خاصة، وعادة ما يكون هذا الشخص قد اجتاز برنامج إعداد مهني في مؤسسة لاعداد المعلمين وحصل بمقتضاه على مؤهل مناسب.

instructor:

٨٣ - المدرس العملي:

يطلق هذا المصطلح في العادة على الشخص المسئول عن تعليم الجوانب العملية من برنامج للتعليم الفني والمهني، عادة ما يكون المدرسون العمليون مهنيون جيدين ممن تتوفر لهم المؤهلات الأكاديمية اللازمة للمعلم.

٨٤ - معلم المعلم: الأستاذ المناط به إعداد المدرس التقني والمهني:

technical teacher educator:

هو الشخص المسئول عن الاعداد المهني والتدريب في أثناء الخدمة لمعلم التعليم التقني والمهني وقد تتغير الألقاب والمؤهلات المطلوبة بالنسبة لمعلم المعلم التقني وذلك من نظام تعليمي إلى آخر ولكنهم جميعاً يكونون عادة من خريجي الجامعة.

technical teacher education:

٨٥ - إعداد أطر التعليم التقني:

هي برامج دراسية تقدم بصفة عامة في المستوى الجامعي وتؤدي إلى التخرج كمعلم للتعليم التقني والمهني، وقد تتكون مثل هذه البرامج أساساً من دراسات في مجال علم نفس طرق التدريس إذا اشترط للقبول بها إتقان مجال التخصص الدراسي إلى جانب الخبرة العملية في العمل. وبالإضافة إلى دراسات طرق التدريس فإنه يمكن تصميم برامج تعليم المعلم التقني على أساس متكامل بحيث توفر فرص تطوير التأهيل في المجال التقني بالإضافة إلى الخبرة العملية في العمل. وعادة ما تصمم البرامج المتكاملة لخدمة الذين

يسعون لاستكمال دراستهم فور تخرجهم من المرحلة الثانوية وذلك من أجل مواجهة الحاجة الملحة لأعضاء هيئة التدريس في التعليم التقني والمهني. وفيما يلي مصطلحات مرادفة:

technical teacher preparation:

٨٥-١ إعداد أستاذ التعليم التقني

technical teacher training:

٨٥-٢ تدريب أستاذ التعليم التقني

practice teaching:

٨٦ - فترة التدريس العملي:

هي فترة من التدريس تحت الاشراف حيث تكتسب فيها الخبرة المهنية بتوجيه من معلم متمرس. وتكون هذه الفترة مطلباً معتاداً كجزء من البرامج الدراسية في مجال طرق التدريس ويجب أن تكون نتيجة تقويم أداء الطالب المعلم فيها ايجابية حتى يتمكن من الحصول على المؤهل اللازم لممارسة التدريس.

production units:

٨٧ - الوحدات الانتاجية:

هي ورش ملحقة بالمؤسسات التعليمية التي تقدم برامج لتدريب المعلم التقني قبل الخدمة أو أثناءها حيث يمارس ويحسن فيها الطالب المعلم المهارات العملية في مجال تخصصه وذلك بإنتاجه الفعلي لمعدات و مواد دراسية.

supervisory services:

٨٨ - مرافق التفتيش:

هي الجهة المسؤولة في الادارة التربوية عن تقويم أداء الهيئة التدريسية وتوفير الارشاد للمعلمين بهدف تحسين نوعية وكفاءة التدريس كما أنها تقوم بتقديم توصياتها بشأن الترقيات.

(٧) مصطلحات ذات علاقة بالتدريب

٨٩ - التدريب* : *training*:

هي الأنشطة التي تهدف إلى توفير المهارات، والمعارف والاتجاهات اللازمة للتعين في وظيفة، أو في مجموعة من الوظائف ذات العلاقة، أو لممارسة أي دور وظيفي في أي مجال من النشاط الاقتصادي، وفي حدود هذا المصطلح العريض يمكن تسجيل عدد من المصطلحات المشتقة أو يمكن تقسيم مجال المصطلح إلى مصطلحات أدق ويعتمد في ذلك على أغراض ومستويات التدريب وعلى أعمار المتدربين أو أي صفات أخرى للمتدربين وكذلك على المكان الذي يقوم فيه التدريب... الخ.

٩٠ - التدريب الأولي* : *initial training*:

هو أول برنامج تدريب كامل لازم لوظيفة معينة، وعادة ما يقسم إلى جزئين «تدريب أساسي» يتبعه «تدريب تخصصي».

٩١ - التدريب الأساسي* : *basic training*:

هو تدريب يهدف إلى منح الأساسيات اللازمة لوظيفة أو مجموعة من الوظائف بغرض تأهيل المتدرب للتعين الفوري، أو لتوفير الأساس اللازم «تدريب تخصصي». ويمكن الاعتراف به، ولكن لا يحدث ذلك دائماً، كمرحلة متميزة من «التدريب الأولي». ويمكن أن يكون جزءاً من «إعادة التدريب».

٩٢ - التدريب المتقدم* : *further training*:

هو أي نوع من التدريب يلي ويكمل التدريب الأولي، وهو مصطلح شامل قد يغطي بعض أو كل الصور التالية: «رفع المستوى»، أو «التدريب الإضافي»، «التحديث»، «التدريب التنشيطي»، «تدريب المتخصصين».

٩٣ - تدريب رفع المستوى أو التدريب الإضافي* : *upgrading or supplementary training*:

هو التدريب الذي يوفر المهارات والمعرفة الإضافية وذلك لزيادة مرونة وحرية حركة

الغامل أو لتحسين مستوى أدائه، وفي بعض الأحيان يكون الغرض منه توفير المزيد من المؤهلات اللازمة لممارسة وظيفة إضافية معترف بها أو ذات علاقة، وقد يؤدي، ولكن هذا ليس ضرورياً، إلى الترقى.

٩٤ - إعادة التدريب*:

retraining:
هو التدريب من أجل اكتساب المهارات والمعرفة اللازمة لممارسة وظيفة أخرى مختلفة عن الوظيفة التي تدرب عليها الغامل في البداية، وقد يتطلب فترة من التدريب الأساسي يعقبه التخصص.

٩٥ - تحديث المعلومات*:

updating:
هو تدريب يهدف إلى جعل مهارات ومعرفة الغامل حديثة لتتناسب مع الجديد في مجال وظيفته من حيث التطوير والخامات والعدد والعمليات... الخ.

٩٦ - التدريب داخل مجال العمل*:

training within the undertaking:
هو أي تدريب يتم توفيره في داخل المكان الذي يعمل به المتدرب، وقد يقدم ذلك (بممارسة الوظيفة) أو (التدريب خارج الوظيفة) التي يعد من أجلها، ويجب فهم المصطلح التالي الذي يظهر في توصية اليونسكو على أنه مكافئ له:

٩٦-١ تدريب في نطاق الوظيفة

training within employment:

المصطلحات التالية تستخدم في كثير من الأحيان بصورة مترادف «تدريب داخل المصنع»: في حالة إعطاء التدريب داخل وحدة إنتاجية، «تدريب أثناء الخدمة» أو «تدريب داخل المنزل»- في حالة التدريب الذي يعطي داخل مجال العمل وذلك في القطاع الثالث مثل: البنوك، التأمين، التدريس، أو أي مجال وظيفي عام آخر.

٩٧ - التلمذة المهنية*:

apprenticeship:
هي فترة من التدريب الطويل الأمد يتم تنفيذها بصورة أساسية داخل مكان العمل ويحكمها قانون وضعي أو عرف شفهي أو عقد مكتوب يعرض التزامات متبادلة على كل من الطرفين المشتركين في هذا العمل وهما، المتدرب وعادة صاحب العمل الذي اضطلع بمسئولية تقديم «التدريب الأولي» للمتدربين وذلك بالنسبة لوظائف معترف بها يلتحقون بها كمتدربين صناعيين.

٩٨ - التدريب بممارسة الوظيفة*:

on-the-job training:

هو تدريب داخل نطاق العمل ويتم تنظيمه في مكان عمل عادي ويتم فيه إنجاز أعمال حقيقية ذات قيمة تجارية، وذلك من أجل التدريب والممارسة.

٩٩ - التدريب خارج الوظيفة* :

هو تدريب يتم تحت إشراف مجال العمل ويتم تنظيمه اما خارج أماكن العمل ، وأما إذا أعطى داخل أماكن العمل فيتم تنظيمه في أماكن معدة خصيصاً لأغراض التدريب (ورش تدريبية، فصول دراسية... الخ).

١٠٠ - تسريح لفترة، تسريح ليوم* :

block release, day release:

هو النظام الذي يسمح بمقتضاه للمتدرب بالتغيب عن العمل بأجر أو بدون أجر من أجل حضور برنامج لبعض الوقت لدراسة الموضوعات ذات العلاقة والموضوعات العامة المكونة لجزء من برنامج التدريب الخاص به، ويمكن تنظيمه بحيث يكون: عدد من الساعات (عادة يوم أو يومين كاملين) كل أسبوع-«تسريح ليوم»، أو لعدد من الأسابيع أو الشهور كل سنة-«تسريح لفترة».

١٠١ - التدريب مع العمل* :

sandwich training:

هو نوع من التدريب يتكون من فترات من التدريب في مدرسة مع فترات من التدريب داخل مجال العمل، وقد يكون قبول المتدرب على أساس التسجيل لكل الوقت بالمدرسة «قاعدته المدرسة» أو أن يوظف من قبل جهة العمل «قاعدته جهة العمل» وقد يتفاوت طول الفترات الزمنية، التي غالباً ما تكون متساوية في طولها بالنسبة للبرنامج الواحد، ولكن ذلك ليس ضرورياً، ما بين عدة أسابيع إلى عدة شهور وربما أطول من ذلك.

١٠٢ - مراكز التدريب* :

training centres:

هي أي منشأة تنظم وتزود بالعاملين بحيث تقدم خدمات تدريبية بحتة، مثل هذه المراكز يمكن أن تكون تحت إشراف وزارة التوظيف أو العمل أو قد تمول وتدار من قبل مؤسسة أو عدة مؤسسات اقتصادية.

١٠٣ - مدير التدريب* :

training director:

هو شخص يشغل منصباً قيادياً ذا مسؤوليات إدارية ليقوم بتخطيط وتنظيم النواحي التدريبية في جهة عمل، وكثيراً ما يقوم بدور المستشار للمديرين والمشرفين.

١٠٤ - مسئول التدريب* :

training officer:

هو شخص يستخدم من قبل جهة عمل (أو مجموعة من جهات العمل) بغرض واحد وهو القيام بالإشراف والتنظيم والتخطيط للتدريب في داخل جهة العمل (أو جهات العمل) وللترتيبات التي تتم لتدريب هيئة العمل خارج جهة العمل.

(٨) مصطلحات ذات علاقة بالعمل

١٠٥ - العمل*: *employment:*

هو أي عمل ذي عائد مالي سواء أكان ذلك العمل يؤدي لحسابه أو للغير.

١٠٦ - المهنة*: *occupation:*

هو مصطلح عريض يدل على أي نوع متميز من العمل اليدوي أو غير اليدوي والذي يمكن أن يوفر مقومات الحياة سواء لحسابه أو للغير، وتستخدم المصطلحات التالية كمرادفات فيما يخص الوظائف اليدوية «حرفة»، و«صناعة»، و«حرفة فنية». أما التعبيرات «حرفة معترف بها» أو «وظيفة يمكن التلمذ فيها» فإنها تستخدم للدلالة على وظائف معترف بها رسمياً على أنها تتطلب فترة محددة من التدريب النظامي حتى يمكن ممارستها على مستوى العامل الماهر.

١٠٧ - الوظيفة: *job:*

هو مصطلح يشير إلى مهام وظيفية محددة أو الأعمال المرتبطة بها.

١٠٨ - سوق العمل: *labour market:*

هي العملية التي تحدد من خلالها العلاقة بين العرض والطلب على العمال.

١٠٩ - البنى المهنية: *occupational structures:*

هي الهياكل التنظيمية للمهن وقد تتكون بنية أي مهنة، ضمن مكونات أخرى، من المتطلبات اللازمة لشغل المهنة وفرص العمل الممكنة التي تتيحها المهنة، والطرق التي يمكن من خلالها تحقيق الترقى.

١١٠ - حرية الحركة المهنية: *occupational mobility:*

هي القدر من الحركة التي تسمح بها البنى المهنية بين المهن.

١١١ - حرية الحركة في مجال العمل والوظيفة: *career and job mobility*:
هي القدرة من الحركة الأفقية التي يُسمح بها مجال عمل أو وظيفة ما. لتغيير الوظيفة أو المهنة والحركة الرأسية للترقي.

١١٢ - العامل*: *worker*:

هو أي شخص يشتغل بعمل يدوي أو غير يدوي بدون اعتبار لقطاع النشاط الاقتصادي أو لمستوى التأهيل. لذلك فإن المصطلح يشمل الموظفين المأجورين ومن يؤدون أعمال حرة ويغطي كذلك مستويات متعددة من المؤهلات.

١١٣ - العامل المتخصص*: *specialized worker*:

هو شخص تم تدريبه على أداء عدد محدود من المهام أو العمليات التي تتطلب مهارة ولكنه لا يمتلك المهارة والمعرفة التقنية الشاملة اللازمة لخدمة أو وظيفة معترف بها.

١١٤ - العامل الماهر*: *skilled worker*:

هو شخص حصل على التأهيل اللازم لأداء مهام حرفة أو وظيفة معترف بها، وفي بعض البلاد وكذلك في بعض المهن يجري استخدام المصطلحات التالية كمرادفات: «عامل اليومية» (عادة في قطاع الحرف الفنية)، و«صانع»، و«حرفي».

١١٥ - المشرف*: *supervisor*:

هو شخص تكون مهامه الأساسية هي المراقبة والإشراف على العمال وفي معظم الأحيان يتضمن عمله التخطيط وتوجيه التعليمات بشأن العمل.

١١٦ - التقني*: *technician*:

هو شخص يحتاج معرفة ومهارة ذات طبيعة أكثر عملية من تلك التي يحتاجها العالم المؤهل أو المهندس أو التكنولوجي من ناحية، وذات طبيعة نظرية أكثر من تلك التي يحتاجها الصانع أو العامل الماهر من ناحية أخرى. ومن المرجح أن يكون تعليمه أو تدريبه قد ارتفع به إلى مستوى يعادل نهاية المرحلة الثانوية في مسارها العام أو التقني، وقد يكون قد حصل على تدريب في مستوى ما بعد الثانوية وما يقابله من درجة علمية أو دبلوم، ويمكن التمييز بين التقني «المبتدئ»، و«المتقدم» إلا أنه من النادر إمكان وضع خط فاصل بينهما.

١١٧ - الإدارة المتوسطة*: *middle management*:

هي الصف الأدنى من الموظفين التنفيذيين في المجالات التجارية والإدارية المسؤولون عن المهام الإدارية العملية.

*engineer:***١١٨ - المهندس:**

هو شخص يحتاج معرفة ومهارات ذات أساس على درجة عالية من التخصص في فرع أو فروع من المجالات العلمية أو التكنولوجية أو ما يعادله ووفقاً لمستوى تعليمه وتدريبه وخبرته فإنه يمكن للمهندس الاضطلاع بالمسؤولية على مستويات متعددة. التنفيذي، والانتاجي، والتنظيمي، ومستوى الادارة العليا... الخ.

*higher management:***١١٩ - الادارة العليا:**

هم أفراد المستوى التنفيذي الأعلى، المسؤولون عن رسم السياسات في المجالات التجارية والصناعية والادارية.

*professional or trade organization:***١٢٠ - المنظمات المهنية والحرفية:**

هي أي منظمة تكون عضويتها معتمدة على اهتمامات وظيفية مشتركة.

١٢١ - النقابات*unions:***الاتحادات العمالية:**

هي منظمات مهنية تمثل بوجه عام مصالح وظيفية واجتماعية اقتصادية لنوعيات أو مجموعات من العمال.

*paid educational leave:***١٢٢ - الاجازة الدراسية المدفوعة الأجر:**

هي أجازة تمنح للمشتغل لكي يبدأ برنامجاً دراسياً و تدريبياً ويحصل خلالها على أجره كاملاً أو على جزء منه.

*occupational hazards:***١٢٣ - المخاطر المهنية:**

هي حوادث أو مواقف تزيد احتمالات الاصابة بها أثناء ممارسة مهام مهنة معينة بسبب الظروف والواجبات التي تفرضها هذه المهنة.

*safety measures:***١٢٤ - احتياطات الأمان:**

هي كل الاجراءات والاحتياطات التي تتخذ لتأمين ظروف عمل آمنة ولتجنب وقوع الحوادث أثناء العمل.