VOCATIONAL EDUCATION IN THE 8-4-4 SECONDARY SCHOOL CURRICULUM AND ITS RELEVANCE TO THE JOB PERFORMANCE OF THE SCHOOL LEAVERS IN THE URBAN AGRO-BASED INDUSTRIES.

BY

BICHANG’A, ORPHA KEMUNTO.

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A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE DEGREE OF MASTER OF EDUCATION, KENYATTA UNIVERSITY.

SEPTEMBER, 1996.
DECLARATION

This thesis is my original work and has not been presented for a degree in any other university

ORPHA K. BICHANG’A

This thesis has been submitted with our approval as university supervisors.

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DEDICATION

This thesis is dedicated to my Father Reuben Bichang’a and my Mother, Esther Moraa. They devoted their time and money in my education and constantly encouraged me to advance in my studies.
ACKNOWLEDGEMENTS

I wish to record my indebtedness to individuals and institutions without whose support, encouragement and co-operation this study would not have been possible. I wish to express my gratitude to Kenyatta University for offering me a chance to pursue a course in Curriculum Studies leading to the award of a masters degree. I am particularly grateful to my University Supervisors, Dr. B.W. Kerre, former Director, Centre for Curriculum Studies in Africa, Prof. J.O. Shiundu, Academic Registrar, for their dedicated professional guidance and encouragement they accorded me throughout the study.

I have appreciated the assistance of Dr. O.G.K. Tsuma of Kenyatta University, for giving professional guidance and reading my work at its preliminary stages. I also wish to extend my gratitude to Kenyatta University’s Department of Educational Administration, Planning and Curriculum Development and the entire staff for the moral and material support they accorded me during my studies.

My thanks are due to various groups of people who supplied data for this study. These include; the supervisors and employees working in some selected Agro-based industries situated in Industrial Area, Nairobi. They are greatly thanked for their time they gave freely to answer the many questions put to them and their co-operation for giving information for this study.

I have appreciated the assistance of M. Makanda and E. Muiruri for the typing and shaping of this study. I am also very grateful to all my friends and relatives for their concern and encouragement during this very busy period of undertaking this study.
Finally, my family deserves special attention here. I wish to extend my profound gratitude to my husband, Edward O. Ongiti and daughter Diana M. Moraa for their patience, encouragement, support and understanding during the busy schedules of the entire study.
ABSTRACT

The study was designed to find out the extent to which vocational education offered in the 8-4-4 secondary curriculum equip the school leavers with the basic knowledge and occupational skills that are relevant to the urban Agro based industries. The study also intended to examine some of the issues and problems perceived by the employees as hindrances to effective job performance.

The study was carried out in Nairobi city, Kenya in 1993. The sample of the study comprised: (i) Ninety 8-4-4 Secondary School leavers employed in some selected agro-based urban industries. (ii) The immediate supervisors of the employees in the industries. Two types of research instruments were developed and used in collecting data. These were: Questionnaires and Interview Schedules.

The data analysis revealed that most secondary school leavers were employed in urban industries as: tailors, carpenters, packers, machine operators, cloth printers, ingredient mixers, tea makers, clerks, sales promoters, store keepers and messengers.

In these occupations both manual and mental skills were required, most of which were acquired on the job. This was a clear indication that the secondary school leavers had not acquired sufficient skills in school to enable them perform their duties effectively. Therefore substantive training on the job was mandatory. However, in most occupations there were some correlation between the preparation done in school through prevocational subjects and job requirements.
It was revealed that various constraints were experienced in their occupations. These constraints had some reflections on the working environment and the curriculum. One of the major constraints which had a reflection on the curriculum was lack of sufficient relevant occupational skills. It was concluded that, secondary school leavers had not acquired sufficient relevant occupational skills required in the industrial labour market. On the other hand schools alone would not equip students with all the relevant occupational skills required in the Industrial market.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Title Page</th>
<th>Declaration</th>
<th>Dedication</th>
<th>Acknowledgements</th>
<th>Abstract</th>
<th>List of Tables</th>
<th>Appendices</th>
<th>\textbf{CHAPTER ONE: INTRODUCTION}</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \textit{i} )</td>
<td>( \textit{ii} )</td>
<td>( \textit{iv} )</td>
<td>( \textit{v} )</td>
<td>( \textit{vii} )</td>
<td>( \textit{xii} )</td>
<td>( \textit{xiv} )</td>
<td>( \textit{1} )</td>
</tr>
<tr>
<td>Background to the study</td>
<td>( \textit{1} )</td>
<td>Vocational Education Worldwide</td>
<td>( \textit{2} )</td>
<td>The 8-4-4 System of Education</td>
<td>( \textit{6} )</td>
<td>Education and Youth Unemployment in Developing Countries</td>
<td>( \textit{9} )</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>( \textit{12} )</td>
<td>Rationale of the study</td>
<td>( \textit{13} )</td>
<td>Purpose of the Study</td>
<td>( \textit{14} )</td>
<td>Research Questions</td>
<td>( \textit{14} )</td>
</tr>
<tr>
<td>Assumptions of the Study</td>
<td>( \textit{15} )</td>
<td>Significance of the Study</td>
<td>( \textit{15} )</td>
<td>The Scope and Limitations of the Study</td>
<td>( \textit{16} )</td>
<td>A conceptual Framework</td>
<td>( \textit{17} )</td>
</tr>
<tr>
<td>Definition of Key Terms</td>
<td>( \textit{18} )</td>
<td>Organization of the Thesis</td>
<td>( \textit{19} )</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHAPTER TWO: LITERATURE REVIEW</td>
<td>PAGE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Introduction</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Concept of Relevance</td>
<td>21</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education and Employment</td>
<td>22</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Economic Role of Vocational Education</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Various Views on the 8:4:4 Curriculum</td>
<td>31</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER THREE: METHODOLOGY</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>34</td>
</tr>
<tr>
<td>Location of the Study</td>
<td>34</td>
</tr>
<tr>
<td>The Population</td>
<td>35</td>
</tr>
<tr>
<td>The Sample and Sampling Procedure</td>
<td>35</td>
</tr>
<tr>
<td>Research Instruments</td>
<td>36</td>
</tr>
<tr>
<td>Procedure for Data Collection</td>
<td>38</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>39</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CHAPTER FOUR: ANALYSIS AND PRESENTATION OF DATA</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>40</td>
</tr>
<tr>
<td>Descriptive Information on the 8-4-4 Secondary School Leavers in Urban Industries</td>
<td>40</td>
</tr>
<tr>
<td>Transition Period Between School Completion and Employment</td>
<td>43</td>
</tr>
<tr>
<td>The Current Occupations of the Secondary school Leaver employees in Urban Industries</td>
<td>46</td>
</tr>
<tr>
<td>The required Basic knowledge and skills in the current occupation</td>
<td>50</td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Basic knowledge and occupational skills</td>
<td>53</td>
</tr>
<tr>
<td>acquired in school</td>
<td></td>
</tr>
<tr>
<td>Other Source of Skill acquisition</td>
<td>61</td>
</tr>
<tr>
<td>Constraints Experienced in their Current Occupations</td>
<td>65</td>
</tr>
<tr>
<td><strong>CHAPTER FIVE: SUMMARY OF THE FINDINGS; CONCLUSIONS AND RECOMMENDATIONS</strong></td>
<td>68</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>77</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Population and Employment in Kenya in 1989</td>
<td>10</td>
</tr>
<tr>
<td>4.1</td>
<td>School Leavers in Urban industries according to Provinces</td>
<td>41</td>
</tr>
<tr>
<td>4.2</td>
<td>Pre-vocational subjects learned in school</td>
<td>41</td>
</tr>
<tr>
<td>4.3</td>
<td>Grades Attained by school leavers in K.C.S.E</td>
<td>42</td>
</tr>
<tr>
<td>4.4</td>
<td>Transitional period between school and employment</td>
<td>43</td>
</tr>
<tr>
<td>4.5</td>
<td>The current occupations in Urban Agro-based Industries</td>
<td>46</td>
</tr>
<tr>
<td>4.6</td>
<td>Distribution of Secondary School leavers in Urban Agro-based Industries</td>
<td>47</td>
</tr>
<tr>
<td>4.7</td>
<td>Basic Knowledge and Occupational Skills Acquired in school</td>
<td>54</td>
</tr>
<tr>
<td>4.8</td>
<td>Comparison of the basic knowledge and occupational skills required in the current occupation with the ones acquired in school (as per subject)</td>
<td>56</td>
</tr>
<tr>
<td>4.9</td>
<td>The Use of the basic knowledge and occupational skills learnt in school in the current occupation (as per subject)</td>
<td>60</td>
</tr>
<tr>
<td>4.10</td>
<td>Other Source of Production Skills for Various Occupational Activities</td>
<td>61</td>
</tr>
<tr>
<td>4.11</td>
<td>Constraints Experienced in their current occupations</td>
<td>65</td>
</tr>
</tbody>
</table>
APPENDICES

APPENDIX A: Structure of 8-4-4 system of Education in Kenya ........................................ 87

APPENDIX B: Objectives of Secondary Education in the 8-4-4 System ................................ 88

APPENDIX C: Secondary School Curriculum in Kenya (8-4-4 System) ................................ 89

APPENDIX D: Vocational Subjects offered in Secondary School Curriculum and Some Skills to be attained .......................................................... 92

APPENDIX E: Study Sample of Industries in Nairobi ............................................................. 95

APPENDIX F: The Questionnaire for the Employees .............................................................. 97

APPENDIX G: The Questionnaire for the Supervisors ............................................................ 103

APPENDIX H: Interview Schedule for the Employees ............................................................ 109

APPENDIX I: Interview Schedule for the Supervisors ............................................................ 111
CHAPTER ONE

INTRODUCTION

Background to the Study

Alleviation of poverty and the provision of basic needs has always been a major objective of Kenyan development efforts. In order to make an effective contribution towards the attainment of this objective, the industrial sector would require to urgently develop technological capabilities and capacities with a view to promoting a self-sustaining industrial growth. To this end, vocational education was introduced in the school curriculum mainly to enhance the industrial growth and development.

Secondary schools that offer prevocational courses in conjunction with academic ones have made good progress over the past decade in many developing countries. These innovative secondary schools are neither completely academically oriented nor are they simply vocational training institutions. The diversified curriculum concepts matches academic with some degree of vocational education. Students can develop not only vocational skills in the field of their choice, but also traditional cognitive skills in classes designed to prepare them for higher learning institutions. The stated rationale for such schools is to permit students a wider set of future career options than those offered by the usual academic curricula.

The belief that this hybrid form of secondary schooling is also the best way to balance labour market needs with more equal access to education has led many governments to invest heavily in diversified schools. The World Bank has encouraged such innovations as a development strategy and as a means to make the rapid expansion of secondary education consistent with a better match between skills learned in school and those needed in the labour market (World Bank, 1985).
Unesco has been involved for a number of years in promoting the development of technical and vocational education in many areas of the world. It contends that a much larger place must be given to technical and vocational education, if education is to be responsive to contemporary issues (Unesco, 1978).

**Vocational Education World Wide**

A strong positive association has been well established between each country’s level of economic development and the percentage of vocational education. Yet over 30 years there has been a decline in the share of resources devoted to vocational education within almost all systems. Whereas in 1950, 25% of all the secondary students were in vocational programs, by 1975 the percentage had fallen to 17%. That decline indicates a trend towards less differentiated and more comprehensive forms of secondary schooling of which diversified education is only a part (Bernavot 1983).

In Latin America, formal education is closely tied to market economies with large and public industrial sector. These conditions have made it easy to maintain a strong private academic system with links to universities while supporting vocational schools that directly feed into the job markets. Assisted by the World Bank education projects, diversification has proceeded far in Colombia, the Dominican Republic, Elsalvador, Jamaica, Guyana, Trinidad and Tobago, Brazil and Peru (Castro, 1976).

Diversification of secondary school curriculum has also occurred in Asia and the Pacific in Papua Guinea. A much publicised Secondary Schools Community Extension Project (SSCEP) was launched in 1978 in five provincial high schools in Papua Guinea. It planned to integrate academic and practical subjects to teach students the skills needed for self-employment in their home villages. The project succeeded despite the fact that there were some few problems on the implementation stage (Lillis and Hogan, 1983).
The socialist nations responded to the needs of their industrial economies for a wide range of vocational and academic training with schooling that emphasized highly technical skills. As a result, Eastern block nations focused their efforts on vocational technical education at the expense of a purely academic curriculum. Many socialist governments in developing areas have followed the Soviet example and have emphasized a vocationally oriented curriculum even more strongly in order to meet manpower requirements.

In the African context, both education and training prepared an individual for life. Vocational education was about life and work (Sifuna 1976). With the coming of the Europeans to Africa, Western educationists replaced the African traditional education with formal education whereby vocational education was offered to Africans only. Vocational education was meant to prepare Africans to be the masters’ servants while liberal education was meant to prepare the Asian and European child to acquire higher jobs. Vocational education earned low status as compared to liberal education during the colonial period. The Africans felt that vocational education was not relevant to their needs and did not prepare them to acquire higher jobs as compared to their counterparts (Shieffields, 1971).

Attempts were therefore made through the Fraser Report (1909), the Phelps Stoke Report (1924) and Beacher Report (1949) calling for relevant education for the Africans’ needs, his environment and occupational preparation. Similarly, the Addis Ababa Conference (1961) resolved that there was need to adopt an educational curriculum particularly, primary and lower secondary suited to rural and village life. That education at the first level was to be general and not vocational in nature but to include elements which sought to develop an appreciation of the values of work with the hands as well as the mind and to bring about readiness for practical activity on which vocational and technical education could be built.
Secondary education played an important role in Africa during the colonial period. The emphasis in educational policy had vacillated between training for specific skills and providing merely an overall vocational orientation. Just before independence, there was a shift towards a more academic orientation, in response to the need to educate a competent cadre of civil servants; a system of mass education designed to assist in the process of democratization (Lillis and Hogan, 1983). That is why the time most countries were acquiring independence, it was already widely believed that the best preparation for work was to learn broad categories of skills that could be applied in a variety of work situations. Hence, vocational and technical knowledge was to prepare graduates for additional training on the job.

After independence, most African nations shifted from an emphasis on academic education towards programs that were intended to dampen the rising expectations of students for high education and employment in the prestigious public sector. However, the dilemma in Africa over the past twenty years has essentially been to reconcile a growing social demand for all kinds of education, especially academic education, with what were thought to be the demands of the labour market. Efforts to diversify secondary education in the region stem largely from the nature of African economies. In these largely rural societies; farming, industrial and commercial sectors are not sufficiently developed to utilize the advanced technology generally taught in schools. The modern sector (both public and private) is less and less able to create jobs and there are weak links between school and work. As a result, prevocational courses have been added to traditional academic programs in an attempt to instil in students the concept of self-reliance.

Since many African nations have a large public sector and a strong tradition of manpower planning, they have opted to diversify education programs that dilute traditional academic coursework with prevocational subjects. These countries include: Lesotho, Botswana, Ethiopia, Somalia, Uganda, Cameroon, Gabon, Nigeria, Swaziland, Tunisia, Morocco, Ghana, Tanzania and Kenya.
Among the independent African countries, Tanzania was the first country to try and transform its education system to respond to national development needs. Education for self-reliance was introduced, whereby more emphasis was placed on vocational education. This was to enable learners acquire skills which could make them self-reliant. This transformation also aimed at curriculum change which was initiated alongside efforts geared towards revolutionizing the Tanzanian society. Hence the Arusha Declaration was promulgated in February 1967 and since then most graduates have become self-reliant (Temu and Komba, 1988).

In Nigeria, attempts were made to overhaul the structure of the school system in 1982. The curriculum of the previous system followed since independence was said to be basically academic and of a non-vocational nature. Due to various problems associated with the type of education, particularly the alarming rate of unemployed school-leavers; a system of education known as the 6-3-3-4 was introduced in Nigeria as a major departure from the grammar oriented type of education. The country's educational goals were therefore designed in terms of their relevance to the needs of the individual as well as in terms of the kind of society desired in relation to the environment and the realities of the modern world. The vocational education offered in the curriculum included training in knowledge, skills and attitudes that prepared an individual for entering or progressing in a useful vocation. The curriculum incorporated work experiences designed to boost job opportunities and self-reliance (Tawari, 1987). Similarly a study conducted by Okijie (1988) indicated that not much had been achieved by then because the Nigerians were at their initial implementation stage.

In Ghana, the continuation school experiment reviewed the Ghanaian education and set up pre-vocational courses aimed at orienting pupils not destined for secondary schools towards productive occupations. The courses were therefore designed to help pupils who were finishing their formal primary school education to make
important decisions to settle in productive occupational activities in rural areas. This has helped many pupils do productive work in rural areas (Anim, 1983).

**The 8-4-4 System of Education in Kenya**

The 8-4-4- system of education in Kenya is a major innovation since independence in 1963. Its major emphasis is on the provision of vocational education which aims at enabling the learners acquire basic knowledge, practical skills, and attitudes useful for wage or self-employment after leaving school.

The educational system at the time of independence prepared people who would provide manpower to replace the leaving expatriates. But in the early 1970s due to the massive enrolment and completion rate of secondary education, the problem of the educated unemployed rose tremendously. In response to that problem, the educational system had to be reformed in order to solve the problem of unemployment. Various observations and recommendations were to be made to that effect. For instance, the ILO report and Bessey report both of 1972, pointed out that the inadequacy and irrelevance of what was taught and learned in schools was one of the causes of the youth unemployment. The two reports, therefore, advocated for more emphasis on vocational education which would enable the individual understand his/her own environment so as to be a useful member in the society.

Emphasis on vocational education in the curriculum continued to gain more support from various commissions and reports as a remedy to unemployment. The National Committee on Educational objectives and policies (NCEOP 1976) recommended the vocationalizing of educational system as a major measure of eradicating unemployment. Also in the Development Plan (1975-1983), it was suggested that education would be more relevant by increasing emphasis on skills which enhance income-earning opportunities and promote more constructive lifestyles of Kenyan youth.
The above recommendations were complemented by the Mackay Report (1981), which recommended among other things, an overhaul of the former educational system and recommended the 8-4-4 system of education. The Government accepted this recommendation in March, 1982 and directed the then ministries of Basic and Higher Education to start preparations for its implementation in 1985.

The essential elements of the new system were that

(a) the structure would have 8 years of primary, 4 years of secondary and 4 years minimum university education;
(b) the improvement of curriculum content, based on a broadfields approach would put more emphasis on practical and vocational subjects,
(c) the methodology would be a child-centred approach, which involved the consideration of individual differences, and
(d) in evaluation much emphasis would be placed on continuous assessment and ensure that all children at the completion of each level could have acquired basic skills which would enable them earn a living in the society (Republic of Kenya, 1984).

The 8-4-4 system of education was deemed to be one of the solutions to the problem of unemployed school leavers. The old structure was 7 years primary, 4 years secondary, 2 years higher secondary and 3 years minimum university education. This structure which was inherited from the European system was found to be faulty because it failed to address itself to the individual as well as national needs of the Kenyan society. For example, it was academic oriented and prepared its graduates for the non-existent white collar jobs. Lack of vocational bias in its narrow curriculum content encouraged a lot of dropouts whose skills were questionable, and the system of appraisal was not the best. The new system aimed at redressing these shortcomings by enabling its graduates to be self-employed and absorbable in the industrial labour market while the graduates of the old system were not directly employable professionally and technically.
The primary education cycle aims at providing the children with adequate intellectual and practical skills useful for living in both urban and the rural areas. The primary curriculum is based on the following broad principles:

(i) Improving its quality, content and relevance to cater for the majority of the children for whom primary education is terminal.

(ii) Making the eight-year primary education available to all primary school age children.

(iii) Diversifying primary education in order to enhance competence in a variety of development tasks (Republic of Kenya 1984).

Among the subjects offered in Primary Education are Art and Craft, Home Science and Agriculture. It is through the teaching of these practical subjects that pupils will acquire practical skills which should enable them earn a living. Also through the teaching of both the academic and vocational subjects, the stated objectives should be achieved (Kenya National Examinations Council, 1987).

Secondary education aims, at preparing the learners to make positive contribution to the development of the society. They should also choose with confidence and cope with vocational education after school and ensure parity in cognitive, psychomotor and affective skills (Ministry of Education, 1987).

The vocational subjects that are taught in the primary curriculum are enhanced in secondary. These subjects are: Art and Crafts, Agriculture, Home Science and Industrial Education; comprising: building construction, Drawing and design, electricity, metalwork, power mechanics and woodwork. These subjects will enable the pupils acquire the necessary basic skills and knowledge required in the World of Work.
University Education is for those who advance their education after the completion of secondary education. Among the aims of university education is to produce mature and conscientious graduates with ability and desire to contribute to the development of the country.

**Education and Youth Unemployment in Developing Countries**

From the economic point of view education improves the productive abilities of the workforce in all sectors of the economy, where occupational skills and knowledge are required. The Kenyan Government, 1984-'88 Development Plan states that one of the objectives of education is the production of skilled manpower to meet the growing and changing demands of the economy (Republic of Kenya, 1984).

Education must be functional in that it helps the recipient participate more effectively in the development of his own country, by being either wage or self-employed. Unfortunately, this has not been the case in developing countries. For instance, within many low-income nations in Africa, Asia and Latin America, attention is being focused on widespread and growing unemployment among young people. Most of them who are job-seekers have attended schools for varying lengths of time (some, indeed have university degrees) but they cannot find work which matches their aspirations or their potential abilities.

As a result of this situation, questions are being asked; how can an education system be geared more closely to economic and social realities? In particular, what type of education has a more direct effect on generating employment on a wide scale? In response, many countries have opted for the introduction of vocational education in their school systems to see whether the problem of youth unemployment would be addressed (UNESCO, 1979). In that context, the most important factor is the relevance of classroom education to the society in which pupils will build their careers.
The Kenya Government Development Plan of 1974-78 states that:

"One of the largest problems confronting the country is that of employment. The labour force is growing rapidly from an annual influx of school-leavers, whose numbers continue to swell following the enormous expansion of the educational systems in recent years. Although a considerable amount of success has been achieved within the last decade, employment creation will loom large among the economic problems to be solved in the future (p. 38)."

Other studies including those of ILO (1972) found that:

(i) there was a great imbalance in Kenya's economy which led to unemployment and poverty among the labouring masses;
(ii) there was slow growth of employment opportunities in industrial sector;
(iii) there were deteriorating terms of trade between rural and urban sector and
(iv) there was general lack of policy regarding how to change this situation for a more self-reliant expansive economy.

In addition, population is a significant factor in employment in Kenya. For instance Table 1:1 shows several distinguishing demographic features of the population and employment.

**TABLE 1:1: Population and Employment in Kenya in 1989**

(figures in thousands)

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<th>Rural</th>
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<td>Population</td>
<td>18,698</td>
<td>3,959</td>
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<td>Labour force</td>
<td>6,933</td>
<td>1,623</td>
<td>8,556</td>
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<td><strong>Modern Employment:</strong></td>
<td>(As % of Total Employment)</td>
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<tr>
<td>Private Employment</td>
<td>217</td>
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<td>Public Employment</td>
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<td><strong>Total Modern</strong></td>
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<td>Informal Urban</td>
<td></td>
<td>441</td>
<td>441</td>
<td></td>
</tr>
<tr>
<td>Small farms</td>
<td>6,055</td>
<td>-</td>
<td>6,055</td>
<td>26.7</td>
</tr>
<tr>
<td>Informal non-urban</td>
<td>435</td>
<td>-</td>
<td>435</td>
<td>1.91</td>
</tr>
<tr>
<td>Total non-urban</td>
<td>6,490</td>
<td>441</td>
<td>6,931</td>
<td>30.5</td>
</tr>
</tbody>
</table>

| Total Employment         | 6,933| 1,365| 8,298| 100.0|


The information from Table 1:1 shows that a large proportion of the population are of school age and are not counted as part of the labour force. Out of 37.0% labour force, only 16.0% are in modern employment. However, the majority of the employees (30.5%) are working in rural areas mostly in the Agricultural sector. The school leaver's employment problem may also be explained in terms of a simple model: the rate at which young people leave the educational system continually outpaces the capacity of the modernizing economy to provide productive jobs at an acceptable money return, actual or prospective. Although education is not solely responsible for the imbalance between labour supply and demand, it is definitely responsible for one of the problems of structural imbalances, that of matching employment opportunities and expectations.

The irony is that whereas there is abundance of unskilled and semi-skilled people in the country on one hand, the shortage of skilled manpower lingers on the other side. However, the predicament of school leavers has at times been attributed to lack of required skills in the labour market. This indicates that there exists a gap between what is taught in schools and what is required in the labour market.
That is the reason why the educational reforms in most developing countries, like Tanzania, Nigeria, Ghana and Kenya, had a common element. This was occasioned by what was perceived to be an inadequate curriculum that did not equip the school leavers with relevant skills required in the labour market. Hence, attempts to vocationalize the educational system so as to alleviate the unemployment problem, re-orientate student’s attitudes towards rural society, and to transmit skills and attitudes useful in employment.

But so far no research has been conducted to show whether what was intended by vocationalizing the curriculum has been achieved. The present researcher’s attention was therefore drawn to this problem by the fact that the educators, parents and society in general have continued to entertain the feeling that the form four secondary school vocational education should lead to either self or wage employment, having acquired relevant and adequate skills. Unfortunately they have been disappointed by the mass unemployment and under employment of form four school leavers who enter the labour market.

Statement of the Problem

The provision of Relevant Education in Kenyan Schools has been one of the greatest concern for the ministry of education. In its effort to provide relevant education to cater for the needs of the society; 8-4-4 education system was introduced in the Kenyan schools in 1985.

Vocational Education is the major emphasis of the new educational system. Its major objective is to equip the students with relevant basic knowledge and occupational skills useful for either wage or self-employment. If this objective is achieved, then the new system of education would have been considered to be relevant to the needs of the Kenyan society.
The secondary school leavers were generally assumed to have acquired the basic knowledge and relevant occupational skills in school useful in various occupations they were to be engaged in. Yet since the inception of the new education system; it has not been clear whether or not the vocational education curriculum offered particularly at secondary education level equips the school leavers with adequate relevant occupational skills required in various occupations which they are likely to engage in after school.

The Occupational skills so gained by those students who would not gain university entry may lead them to either further training or employment. This attests to the importance of vocational education in one's life and the nation. It is therefore necessary that occupational skills acquired be relevant to work and production.

**Rationale of the Study**

The focus of this study is on the secondary school leavers. The secondary school being the preparatory school fails in its objective when it permits youth to drop out or graduate without positive evidence of realistic occupational knowledge. The occupational concerns of the pupil ought to be an inherent part of the school curriculum. To get a better understanding of the vocational education's external efficiency, we must devote systematic attention to school leaver's experience. An analysis of what they do in different jobs and what personal characteristics or abilities and skills are required is necessary.

It is evident in the researches conducted so far that there are some contradicting views on the long-term effects of vocationalisation of the school curriculum. On one side it is indicated that vocational education is an economically worthwhile investment for individuals and the society. Hence more funds should be spent for its effective implementation. Vocational education is also seen as one of the means of solving the
problem of youth unemployment. On the contrary the other side indicates that vocational education cannot solve the problem of unemployment among the secondary school leavers. That is the school is not the best ground for training, or, providing current job related skills. However, the school plays a leading role in introducing the school leavers to the world of work by providing some basic occupations related skills and most important imparting positive attitudes towards the world of work.

The debate, however, continues about the long-term effects of vocationalisation of the school curriculum. Unfortunately, nothing has been mentioned about the 8-4-4 secondary school leavers who have been wage-employed. The studies done have left a gap between what is taught in school and what is required in the labour market. That gap would be bridged by conducting this study hoping that it would shed some light on the issues pertinent to the continuing debate. It would portray a clear picture on what is taught in school vis-a-vis what is required in the industrial labour market.

**Purpose of the Study**

The study was intended to bring about a recognition and understanding of the basic knowledge and occupational skills acquired in school by the 8-4-4 secondary school leavers and their application in urban agro-based industries.

**Research Questions**

This study attempted to answer the following questions:

1. Which basic knowledge and occupational skills are acquired in school?
2. Which basic knowledge and occupational skills are required in the present occupations?
3. How useful are the basic knowledge and occupational skills acquired in school to the present occupation?

4. Which basic knowledge and occupational skills are learnt on the job

5. What are the other sources of occupational skill acquisition?

6. What are the constraints experienced by the school leavers at their present occupation?

Assumptions of the Study

Before the research was undertaken, the following assumptions were made regarding the 8-4-4 secondary leavers:-

1. The secondary school leavers acquire some basic knowledge and occupational skills in school to enable them perform their jobs effectively

2. The basic knowledge and occupational skills acquired in school may not be enough to enable the school leavers perform their jobs effectively.

3. Some of the basic knowledge and occupational skills acquired in school may not be useful in the current occupations.

4. Further training on the job is necessary for mastery of the required skills in the current occupations.

Significance of the Study

The 8-4-4 vocational education curriculum has a lot of potential towards the economic development of a country like Kenya. With the acquisition of occupational skills, the school leavers would be able to utilise the scarce resources in either wage or self-employment. The government is therefore compelled to spend a lot of money towards its success. Such an enormous innovation needs evaluation at various stages in order to be certain of its success. So far no study has been conducted to that effect. There has not been an official summative evaluation of this new system of education. In this
study the job performance of the secondary school graduates was evaluated vis-a-vis their school experiences.

The study will act as a way of evaluating the graduands of the new system of education. Specifically the study sought to find out to what extent the secondary school leavers acquire relevant basic knowledge and occupational skills for their occupations. The findings will determine the extent to which the objectives of vocational education have been achieved.

The information generated in this study would enable Government planners, curriculum developers, decisions on how to make the curriculum more relevant to the needs of the society. It was therefore hoped that this would help the above mentioned parties formulate strategies towards improving the curriculum in order to serve the intended purpose. Finally the study may help increase awareness for any future planning, for vocational education curriculum both locally and nationally.

The Scope, and Limitations of the Study

This study was conducted in some agro-based industries in Nairobi city. The goods manufactured by these industries include; human foods, animal feeds, fibre and textiles, beverages and refreshments, wood and wood products. The respondents for this study were both males and females.

The study covered only Nairobi urban area. A few selected industries were involved. These industries were situated in industrial area which is a small section of Nairobi urban area.

Most of these industries were owned by Asians, who in most cases were not co-
operative during the data collection exercise. Data were therefore collected from a relatively smaller sample. Considering those factors, the findings of this study may not be generalisable to all urban industries.

A Conceptual Framework

The conceptional framework below shows the movement of school leavers from school to employment or training and what takes place there.

![Diagram](image)

Key:

- **S** - School
- **T** - Training Institution
- **E** - Employment
- **e** - education
- **t** - training
- **p** - production

The current situation as demonstrated above indicates that in school the students receive education as the major area of coverage. There is also the acquisition of skills through vocational education that gives them some training which enables them to indulge in some production using the acquired skills.
Some school leavers get employed straight from school. In employment there is mainly production, whereby relevant skills are applied. These skills could either be the ones which were acquired in school or on the job training. While on employment some education is given and training at the same time, which varies from one firm to the other. The aim here is the mastery of the required skills for higher production.

There is also a group of school leavers who join training institutions before employment. In these institutions the major emphasis is on training. Through training the learners are able to acquire some skills which would be useful in employment. There are also some elements of education and production. After the acquisition of skills in training institutions these graduates could get employed. They are therefore likely to apply the skills they had learnt in technical institutions to their current occupations.

Sometimes those who had already been employed could either be sent to technical institutions through apprenticeship or self-sponsorship. After graduation, they could get back to employment. There are incidents also where those who had joined technical institutions direct from school could graduate after which they could get employed and then go back for training in order to advance their skills.

The following terms are used in the study and should be understood as defined below.

**Definition of Key Terms**

**Agro-based Industries:** Those industries which process and produce agricultural products, like: foods, clothes, refreshments and wood products.

**Curriculum:** The sum total of all the experiences and activities encountered by the student under the direction of the
school including Teaching materials and Methodology and all the sequences involved which affect the students.

**Education:**
Education is a social aspect whereby the accumulated wisdom, attitude and knowledge of the society is transmitted from one generation to the next in order to prepare the young for their future membership of the society and active participation in its maintenance or development.

**Employee:**
Secondary school leavers who is wage-employed in Nairobi urban industries.

**Pre-vocational subjects:**
Those subjects in the school institutional programme the content of which is related to specific vocations in such a way that pupils have the opportunity of learning about vocations but not necessarily of acquiring professional skills in them.

**Urban Industries:**
Industries situated within an urban centre like Nairobi Industrial area.

**Vocational education:**
Education offered in 8-4-4 curriculum, which implies the preparation of an individual for an occupation or a career. This entails both liberal and technical aspects of education. Liberal aspects include the philosophical, moral and cultural elements that an individual must have to fit in a given society. The technical aspects would include the knowledge, skills and attitudes required to perform successfully at a given job in a chosen occupation.

**Organization of the Thesis**
The remainder of the study is organized in the following manner.
Chapter II consists of literature related to the study.

Chapter III discusses in detail the methodology adopted in the study. This chapter is very important because it clearly shows how the data was collected from the field and how it was eventually analysed in Chapter IV.

Chapter IV is devoted to the presentation and interpretation of data accruing from the study.

Finally, Chapter V is the presentation of the summary of the major findings, conclusion and recommendations drawn from the study as presented in chapter IV. Recommendations for further study on the same subject of the 8-4-4 school leavers are also presented.
CHAPTER TWO

LITERATURE REVIEW

Introduction

The literature reviewed in this chapter provides an insight into various views comprising: the concept of relevance, education and employment, the economic role of vocational education, assessment of vocational education and employment, and an overview of the 8-4-4 system of education in Kenya.

The Concept of Relevance

If education is considered as one of the main factors contributing to the development of the individual and the nation, then it necessarily follows that it should be relevant to historical, social and cultural traditions of the country, national development goals, socio-economic conditions, environment, natural endowments and the aims and aspirations pertaining to quality of life of the community. In this context, relevance may be considered from three perspectives. First, in relation to the quality of education, there is the need to root it in national values in order to achieve cultural identity. Second, the strengthening of links between education and development. Third, the integration with the world of work and the new environment that is being created by the scientific technological revolution now affecting the lives of people (Lemke, 1981).

In the field of education and its content, there is a strongly held opinion that relevance should only be considered from the point of view of the learner. The relevance of content as a set of values, knowledge and know-how is a basic initial problem confronting curriculum designers, teachers and evaluators alike. They must perceive the very close connection between the various characteristics of contents, which
cannot be balanced unless they are coherent, responsible and flexible. There is always a need to examine the issue of relevance in relation to the purposes of schooling.

It seems clear that there can be no relevance in a curriculum unless it is related to student goals. The success of vocational education can be realised if it is goal-centred education based upon the student’s choice of a goal. And for most youth, goals are most meaningful when they are related to preparation for employment. That is why the 8-4-4 vocational education curriculum aims at preparing the youth for employment by imparting relevant skills.

**Education and Employment**

The relationship between Education and Employment is currently a complex issue especially in the developing countries. For instance, attempts have been made to assess the responsibility of an education system in employment. For the problem of youth unemployment, the general conclusion of one ILO study is fairly typical:

> It is obvious that education is in no way responsible for the problem of overall imbalance (i.e. between labour supply and demand) and changes in the educational system will not change the number of job opportunities. However, education is definitely responsible for one of the problems of structural imbalance, that of matching employment opportunities and expectations (Emmerij, 1972, p. 5).

Education being a source of labour supply should therefore be tailored to the needs of the labour market and made relevant to the needs of the learners and the society as a whole. A functional observation was also made in a summary review by IDRC (1979) that:

> The educational authorities of less developed countries must be persuaded that we still do not know how to make education “relevant” to employment opportunities and that in fact we shall never know until someone conducts controlled field experiments (p. 15).
It is through conducting these field experiments that educationists will be aware of employment opportunities hence try to design a curriculum to that effect.

Attempts have been made through the emphasis on vocational education in the curriculum to be able to solve the problem of unemployment. But the crucial problem the educational planners are normally faced with is inadequate data from systematic research especially the after-school situation of graduates from a particular education system (Cumming et al., 1985).

Some studies have attempted to bring out the situation of after-school graduates. A study by Ogutu (1986) was concerned with the quality of secondary education and its relevance to self-employment in the rural areas in Kenya. The study found that a majority of school leavers had taken an initiative for self-employment as a last resort, after failing to secure wage employment in the modern sector of the economy. The study concluded that the curriculum covered in secondary schools lacked apprenticeship or vocational/technical skills and was consequently not suitable for self-employment in rural areas. The majority (80.6%) of self-employed people acquired the skills for their activities through self-initiative, while only (0.9%) got skills through schools.

Shiundu (1986) in a study of self-employment efforts among primary school leavers in rural Kenya, aimed at investigating the process of entry and participation of school leavers in the informal sector. Out of a total sample of 2007 self-employed people that participated in the study, 254 (12.7%) were secondary school leavers. The study revealed that a majority of self-employed youth acquired their skills for business management through other sources other than the school. About 33% acquired the skills through apprenticeship, while 13.4% acquired the skills through working with parents or relatives.
Though these studies have common features with this present one, there are nonetheless some important differences in terms of focus and methodology. The present study focused on the relevance of vocational education in the 8-4-4 curriculum to job performance of the secondary school leavers in urban industries.

The Economic Role of Vocational Education

Many countries are undertaking the enormous task of restructuring, re-orienting and expanding their educational systems to meet development needs. They are also devoting more and more attention to the role of technical and vocational education (Unesco 1978).

Kaufman (1967, 1968) conducted two case studies in the United States of America, in which he compared the cost-effectiveness techniques of vocational education and non-vocational education in secondary schools. The labour market performance of graduates of vocational curricula was compared to the labour market performance of non-college-attending graduates of non-vocational curricula, particularly the academic curricula. The findings indicated that over a six-year period following graduation, vocational graduates earned $3,456 more than graduates of the non-vocational curricula, specifically the academic curricula. Also during the six-year period, vocational graduates were employed 4.3 months more than graduates of the non-vocational curricula. The conclusions of the study were that vocational-technical education is an economically worthwhile investment for individuals and for society and that, most importantly, additional public funds should be spent on the vocational-technical curricula rather than non-vocational-technical curricula in senior high schools.

concluded that an analysis of the earnings profiles of area-school graduates for the years 1965 through to 1968 revealed first, that private rate of return on investment in vocational-technical education is astonishingly high. Second, that public cost-utility ratio indicates a positive rate of return. Third, that vocational-technical education in Florida has a positive rate of return exceeding returns to capital in the rest of the U.S. economy. Fourth, if monetary indices are accepted as a measure of effectiveness, extra public funds should be distributed towards vocational-technical education in order to maximize private and public benefits. Fifth, and finally returns appear to be higher in specialized programs than in broad occupational programs.

Similarly, studies carried out in South America support the view that vocational education has better returns to society and individually compared to general education (Metcalf, 1985; Luaglo, 1985).

A tracer study carried out on Industrial Education students who had graduated from Kenyan secondary schools one year later revealed that Industrial Education as a subject offered in secondary schools had proved to be of higher value than general education to the school leavers. They had better opportunities in securing vocational careers besides further training possibilities. The subject was also regarded as an important link in the adaptation of the young Kenyans into a more technological society. However, several studies have indicated that not much has been achieved in introducing vocational education in the curriculum in solving the problem of youth unemployment (Norman et al., 1974).

In industrialized countries, the attempts of national assessment campaigns to portray the benefits of vocational education have not been successful. None of the recent national assessment crusades at the secondary level in the U.S.A. could provide sufficient proof of the impact of vocational education courses. As a result, we must still be uncertain about the effects of vocational education (Copa et al., 1983).
In developing countries, there is still the threat of fundamental disillusionment about the potential of vocational education for national development. After the euphoria over the possibility of nation building through literary campaigns and general education, the second wave of educational reforms in prevocational/vocational education has created some unrealistic expectations (Unesco, 1980).

Furthermore, many countries have attempted to introduce more vocational courses in secondary education by developing technical and vocational schools or streams only to discover that schools which prepare pupils for academic courses, and qualify them for higher education continue to have greater prestige than vocational schools.

The idea that the expansion of vocational education in secondary schools could solve the problem of unemployment among school leavers by changing their career aspirations has been criticised by one writer, as the vocational school fallacy in development planning. He argues that far from being unrealistic, school pupil's perception of actual job opportunities and the relative salaries to be expected in different jobs is often very accurate (Foster, 1966). Foster argues that:

... agricultural education and vocational instruction in the schools is not likely to have a determinative influence on the occupational aspirations and destinations of students ... (p. 151).

Attempts to vocationalise secondary education in several countries, for instance, Latin America, has demonstrated that the curriculum reform by itself, can achieve little and if university education continues to provide access to the most highly paid jobs, then vocational schools will continue to have lower prestige than general or academic secondary schools (Schiefelbein, 1976).

Case studies carried out by Corazzini’s (1966) and Taussig (1968) in New York city, attempted to assess the economic benefits of the system’s vocational schools when
compared with community’s regular high schools. The findings of these two case studies were:

(i) Vocational education when compared to other high school programs is relatively expensive.

(ii) There are no significant differential wage rates in entry jobs for persons with or without vocational education.

A study by Unesco (1980) in seven countries on vocational learning concluded that vocational education in the form of pure skill training could no longer claim that it satisfactorily fulfills the task of preparation for work. Therefore, it should not be assumed that vocational education is an automatic solution to the problem of unemployment.

Okijie (1988) conducted a study on the economics of vocational education in Nigeria. He sought both student’s and teachers’ opinions regarding the capability of vocational courses which are components of the curriculum to improve school leavers’ job marketability. The results revealed that both students and teachers disagreed that vocational education would provide jobs. They also disagreed that vocational education would offer incentives for upward social mobility. They equally did not accept the view that vocational curriculum could offer better opportunities for employment than the academic curriculum.

Kerre (1991) concludes that the economists, the majority who have carried out research on the role of vocational education and training in economic development have lacked tools to evaluate the full impact of vocational education and training. He further remarked that, vocational education’s contributions to one’s social adjustment and personal improvement have yet to be assessed.

A study was conducted in Sri Lanka, where practical subjects were injected into the existing curriculum with the aim of developing integrated studies as well as orienting the
school towards local opportunities for self-employment. It was observed that community opinion moved against pre-vocational studies. Parents felt that they were not sending their children to school to learn traditional craft and others which they had access to outside school. For such parents, the school primarily provides an opportunity to allow their children not to end up in traditional occupations. The pre-vocational studies, therefore, encountered massive problems in implementation (Cumming, 1985).

Although vocational education in the U.S served only 12% of the students of secondary school age, recent debate has focused on increasing its relevance as a means of reducing the imbalance expected in the labour market. Advocates of vocational schooling want to provide students with such skills, and they also want schools to stimulate the work environment for future job satisfaction and higher productivity (Haddad, 1979).

Opponents of vocational education among them, Grubb (1979) argue that employers should be the judges of its effectiveness. Most employers according to the observers, do not prefer vocational over academic school graduates. Also most students seldom find jobs in areas for which they were specifically trained. The economic value of vocational education as a panacea for the ills of structural unemployment can therefore be challenged.

In Brazil, a 1970 law required all secondary schools to introduce vocational subjects in addition to academic curriculum, with the ultimate aim of imparting occupational skills to all high school graduates. According to Castro (1983), this countrywide school reform that was to offer practical content to all students turned out to be a failure.

A study of schools in Kenya, however, produced negative preliminary results. A tracer
study of industrial school graduates did not reveal any employment advantage over a control group of academic secondary school graduates (Norman et al., 1984). Moreover, the per student cost of industrial schools is about double that of academic schools. In a similar vein, a comparative study of manual training schools in China and India indicates the later reversal of such educational policy in both countries (Zacharia and Hoffman, 1984). While Biede (1970) has argued that investment in vocational education is a major factor in economic development.

Meyer (1976) using data from more than 100 countries reported that secondary school enrolment was a principal factor affecting economic development in the years 1950-75. Extending Meyer's analysis, Benavot (1983) related secondary enrolment rates to the GNP by distinguishing vocational from traditional academic secondary education. Benavot reasoned that if vocational education was the most productive form of schooling, there should be a relationship between a country's level of economic development and the vocational share of formal education at the school level.

Opponents of the establishment of strong vocational education programs in the schools raise the question of what kind of vocational education could be sensible. They hold that the automation will render today's skills useless in the industrial complex of tomorrow. A common prediction is that job skills will change three times in the life of early workers. Industrial leaders are quoted as urging the schools to leave the learning of technical skills to on-the-job training and provide pupils who are well-grounded in the humanities and commercial skills. Studies show that the greater number of workers lose their jobs in industry through their inability to get along with people rather than show inability to do work (Dalmas et al., 1974).

The advocates of general education urge curriculum planners to leave general education intact and keep vocational education component as small as possible. They suggest that the purpose of the secondary school is to prepare the youth for the fullness
of living and that the preparation for vocational proficiency should be left to other institutions and agencies (Ibid).

The common problem among the developing countries concerns high rates of unemployment. Even though vocational education was regarded in this context as a powerful device in fighting unemployment, it has become more and more obvious that vocational education can provide skills if well implemented but cannot generally provide jobs.

On the contrary, many countries have found that though reforms have been introduced within the education system, parents and their children prefer courses of study of an academic nature which may lead to the higher status professions. There is also the problem of maladjustment between education and employment which is closely linked to that of rigidity to structure in attitudes concerning the educational system. There is that mentality that education at secondary school level should lead to white-collar jobs. More so, there is the implementation problem of vocational education, whereby there is lack of facilities for projecting future manpower requirements, particularly in the area of future economic development.

The above mentioned factors made several countries report that vocational technical programs were not adequately preparing young people for employment in their occupational fields or were not at all preparing them in the fields of real employment opportunities. This is an area in which future studies should particularly focus on. In conclusion, there is a considerable debate over and conflicting evidence about whether vocational education imparts knowledge and skills unlike those found in secondary academic setting. Because the consequence for employment and for national economic development are considerable, the question should therefore be fully examined.
Various Views on the 8-4-4 Curriculum

Since the inception of 8-4-4 curriculum in 1985, most people, especially parents, have shown dissatisfaction with the new system. Many have argued that the system was never pilot-tested, was hurriedly implemented, lacked adequate time to re-train the teaching personnel, it is too expensive, and has no sufficient teaching and learning facilities. For instance, Kaine (1990) conducted a study on factors influencing the implementation of the 8-4-4 prevocational curriculum in Kenyan schools. He compared the schools in the City of Nairobi and Nyandarua District. The study revealed that most schools faced a problem of lack of basic facilities and equipment, hence pupils disliked the vocational subjects. This may have hindered the students from acquiring the required skills for employment.

A study by Sifuna (1990) on the 8-4-4 education system in Kenya with emphasis on prevocational subjects in primary schools, investigated on the pupils, teachers and student-teachers’ views on the acquisition of skills for employment in Agriculture, Home Science and Art and Craft. The study revealed that the three groups were of the opinion that although these subjects are given emphasis in the school curriculum, they do not achieve the stated objectives. The study revealed that 86.2% of the pupils, 51.2% of the teachers and 70.4% of the student-teachers stated that the pupils had not acquired the right skills in Art and Craft. while 60.3% of the pupils felt that they had not acquired skills for self-employment.

Both teachers and student-teachers did not think that pupils acquire skills for wage employment or self-employment in a school setting. Similarly, 79.5% of the pupils did not think that they had acquired the right skills in Home Science. However, for some reasons, 69% of the teachers thought that the pupils acquire the right skills in Home Science. All the three groups were of the view that the teaching of Home Science and Agriculture does not necessarily lead to the acquisition of skills for wage employment or self-employment.
Maneno (1992) argued that the 8-4-4 system of education should be streamlined so as to orient the learners to the world of work. Such a remark was made after realizing that the new education system was not being realistic on achieving the set objectives, especially that of equipping the students with skills that will enable them be either self or wage employed.

Similarly, Kinyanjui (1992) was of the opinion that teachers and parents should be made aware of the impact of the new system on the economy, higher education and the pupil’s needs so that the system’s effectiveness may be evaluated.

In response to the dissatisfaction of the public and educationists concerning the new system of education, the Government acknowledged that there were faults with the system and agreed to trim the curriculum (Kamotho, 1992). Kamotho expressed the view that the principal aim of the 8-4-4 system of education of offering pupils skills that would enable them acquire jobs in the formal sector or self-employment in the jua-kali enterprises could not be attained. It was also found that the aims of pre-vocational/practical subjects were over-ambitious and yet materials and physical facilities were not available. Therefore, the number of compulsory subjects in secondary education was reduced from ten to eight, also the ministry deleted certain topics that were redundant or unrelated to the fulfilment of the set objectives. However, education did not undergo serious changes because only a few topics were removed from the curriculum.

To make a follow-up on the changes which were made in 1992 on the 8-4-4 curriculum in order to achieve it’s objectives, Wamahiu (1993) stressed the fact that these changes have failed to realise the objectives. He further argues that:

There is no point of insisting that every school must teach vocational subjects when only 25 percent of them have facilities to do so (p. xx)
This implies that proper implementation of vocational subjects had not taken place. If that is the case then the set objectives, especially that of equipping pupils with skills for employment is far from being fully achieved. That being the case, there is a need to know how the 8-4-4 secondary school leavers are adjusting themselves to the world of work in industry through conducting this study.
CHAPTER THREE

METHODOLOGY

Introduction

This was a survey study which involved the tracing of the 8-4-4 secondary school leavers employed in Nairobi urban industries. The method used in collecting data in order to elicit the desired information is described in this chapter.

An attempt is made to report on the location of the study, the target population, the sample and sampling procedures. Research instruments, procedure for data collection and finally the processing and presentation of data are also discussed.

Location of the Study

This study was conducted in Nairobi which is the Capital city of Kenya with a total land area of 3,528 square kilometres. Nairobi is in the Central part of Kenya, and is bounded to the north and partly to the west by Central Province, to the south and partly to the west by Rift Valley Province and to the eastern by the Eastern province. The land potential in Nairobi can be divided into high and low potential, consisting of 16,000 and 38,000 hectares respectively (Republic of Kenya, 1987:92).

According to the 1979 Population Census, Nairobi had a population of 827,775 up from 509,286 in 1969 and a density of 1,210 persons per square kilometre. The 1989 Census was 1,356,000 whereas the 1993 forecast was 1,698,000 (Republic of Kenya, 1979: ).

Nairobi city is an industrial town with wage employment being the dominant activity. The industries occupy a large area which is referred to as industrial area. Some of those
industries deal with the manufacturing of various products; including foods, clothes and textiles, wood products, chemicals, metals, electrical products. These industries have provided jobs for many people from all over the republic.

Nairobi was considered as a location for this study because it has various types of industries concentrated in one place (industrial area). This enabled the researcher to move from one industry to the other without wasting much time. Nairobi being a capital city of Kenya, most school leavers from all over the republic flock there seeking for employment. Therefore, most provinces would be represented hence the responses from the secondary school leavers working in these industries would not be biased to Nairobi only.

The Population

The target population comprised ninety 8-4-4 secondary school leavers and twenty immediate supervisors employed in urban agro-based industries.

The Sample and Sampling Procedures

The sample was obtained on the basis of their availability in a given industry. The sample comprised 90 secondary school leavers working in Nairobi urban industries and 26 immediate supervisors, from 26 industries.

In order to obtain the names of the industries situated in Nairobi, the Business Directory of 1992 and the Ministry of Industry were consulted. All the names of industries were listed down. Then a total of ninety, 8-4-4 secondary school leavers were identified in the 26 industries and all formed the study sample. A smaller sample of 30 were randomly selected for interviews. One immediate supervisor, from each of the 26 industries automatically qualified to be a sample for this study making a total of 26 supervisors. Of the 26 immediate supervisors only 20 were available for this
study.

**Research Instruments**

Two types of research instruments were developed and used in collecting data: the questionnaires and interview schedules. A detailed discussion of each of the instruments is as follows.

1. **The Questionnaire for Employees**

   The questionnaire for the employees was used for collecting data from the secondary school leavers employed in Nairobi urban industries. The questionnaire was divided into three parts. Part one (item 1-8) was seeking information on the family background of the respondent; Part two (item 9-10) on the school achievement and Part three (item 11-22) on the transition period and the current occupation. In total there were 22 both data blank and closed items. Some closed items had part (i) and (ii) whereby in the former an answer would be stated and in the latter a reason to the stated answer would be given. This gave the respondents an opportunity to express themselves freely. Hence a more comprehensive information was gathered.

   These items were constructed in regard to the research questions stated in Chapter One. Through these items the desired responses would be elicited. The respondents were asked either to tick the correct response or freely respond to the items in the questionnaire.

2. **The Questionnaire for the Supervisors**

   This instrument was used in collecting data from the immediate supervisors of the employees working in Nairobi urban industries. The questionnaire was divided into three parts. Part one (item 1-7) sought information on the family and academic background of the respondent; Part two (item 8-13) on the industry; their products and recent technological innovations; Part three (Item 14-21) sought information on the
supervisors' opinion on the 8-4-4 secondary school leavers and their job performance.

The questionnaire contained both data blank and closed items. In total, there were 21 items. After the respondents had ticked the correct information in the closed items, they would again be asked to give a reason as part (b) of the same item. These items were used in order to give the respondents liberty to respond freely and exhaustively. The information elicited through these items would answer some of the research questions stated in Chapter One.

3. Interview Schedule for the Employees

This instrument was used to collect more data from the secondary school leavers employed in Nairobi urban industries. The information gathered here would supplement the one gathered through a questionnaire.

The instrument contained 17 data blank items and one closed item. These items required the researcher to fill in the correct information as given by the respondents. The information given through these items aimed at answering the research questions which were based on the research problem. This information would be compared with the one given through the questionnaires to establish the respondents' consistence and reliability.

4. Interview Schedule for the Supervisors

This instrument was used to collect more data from the immediate supervisors of the employees. The information gathered through this instrument would provide more information to the one already in the questionnaires. There were 13 data blank items and one closed item. The researcher filled in the correct responses from the respondents. More information on the relevant skills required and training of the employees was sought through this instrument.
5. Pilot-testing of the Instruments

The research instrument were first pilot-tested on ten employees and five supervisors from five industries. All of them were randomly selected. This sample which was used for pilot-testing never participated in the study.

The pilot-testing was to verify the validity and reliability of the instruments. Similarly, the interview schedule for both the employees and the supervisors was pre-tested on the same number as of the questionnaires. Their discussions and suggestions added more information to the instruments. Pilot-testing was done in February 1993 by starting with the employees and then their immediate supervisors. After which these instruments were re-evaluated, modified, and used for the study.

Procedure for Data Collection

After pilot-testing of the instruments in February 1993 and ensuring their validity and reliability, data collection started in April 1993. All data were collected by the researcher.

A preliminary routine introduction of the researcher and the research was done to the industry management. Then prior arrangements were made with the Personnel Manager, who availed the required respondents. The respondents were left with the questionnaires to fill in at their own time. After that the researcher collected duly filled questionnaires the following day and conducted the interview at the same time. The responses given were recorded directly in the spaces provided in the interview schedule.

After collecting the duly filled questionnaires, and conducting the interview, the researcher code marked the instruments for identification and facilitation for the data processing exercise.
Data Analysis

The collected data were assembled and checked by the researcher and organised for analysis. A code book was developed for each instrument and the coded information was manually analysed. All responses for both the data blank and closed items in both the questionnaires and interview schedules were code-numbered depending on the variety of responses given. Data collected were then analysed and presented in descriptive form according to the theme of the research. Data were also presented in tables, figures and in percentages.
CHAPTER FOUR

ANALYSIS AND PRESENTATION OF DATA

Introduction

In this chapter results of the study are analysed according to the research questions outlined in Chapter One. Data presented gives the background information on the 8-4-4 secondary school leavers. Their current occupations in urban industries are presented and well analysed. The sources of the acquisition of the required skills and the use of the prevocational subjects learnt in school are also presented. Lastly, the constraints experienced by the secondary school leavers in their current occupations are identified and discussed.

Descriptive Information on the 8-4-4 Secondary School Leavers in Urban Industries

The study revealed that a majority of the 8-4-4 secondary school leavers in urban industries were males in terms of gender distribution. Of the 90 employees, 67.5% were males and 32.5% females. This probably implied that most females had not ventured much into the industrial sector. Regarding their marital status most of them 78.8% were found to be single, especially males. This may be attributed to the fact that most of them had not been employed for long or rather they had not saved enough to enable them maintain a family. Their ages were between 20 and 25 years.

These school leavers had come from various provinces to work in Nairobi. On that basis, it was deemed important to find out how various provinces were represented. Table 4:1 indicates the distribution of the school leavers according to provinces.
The information from Table 4.1 indicates that almost all provinces were represented in this study, apart from North Eastern. This supports the justification for selecting Nairobi as a sample for this study.

The 8-4-4 secondary school leavers were assumed to have taken one or two pre-vocational subjects in school. The information from tables 4.2 indicates that the prevocational subjects learnt in school were Agriculture, Home science, Commerce, and Woodwork. Detailed information is given in Table 4.2 below.

### Table 4.2: Pre-Vocational Subjects learned by the Secondary School Leaver Employees

<table>
<thead>
<tr>
<th>Pre-vocational Subject</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>48</td>
<td>53.3</td>
</tr>
<tr>
<td>Home science</td>
<td>22</td>
<td>24.4</td>
</tr>
<tr>
<td>Commerce</td>
<td>10</td>
<td>11.1</td>
</tr>
<tr>
<td>Woodwork</td>
<td>10</td>
<td>11.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>90</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>
The majority of school leavers 77.7% had studied Agriculture and Home Science in school. It was therefore assumed that they have acquired some occupational skills in those two subjects which would have enabled them be either wage or self-employed. The same case with those who had taken Commerce and Woodwork.

Further, it was of great importance to find out the grades attained in the Kenya Certificate of Secondary Education. This is because in the Kenyan education system examination results play a great role in the job placement and for further education; an element which the 8-4-4 education system is trying to eliminate. But we find that to date that element has not been eliminated. Table 4.3 presents the Grades attained by school leavers in K.C.S.E.

Table: 4.3: Grades attained by school leavers in K.C.S.E

<table>
<thead>
<tr>
<th>Grade</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0</td>
<td>--</td>
</tr>
<tr>
<td>A-</td>
<td>0</td>
<td>--</td>
</tr>
<tr>
<td>B+</td>
<td>0</td>
<td>--</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>B-</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>C+</td>
<td>0</td>
<td>--</td>
</tr>
<tr>
<td>C</td>
<td>20</td>
<td>22.2</td>
</tr>
<tr>
<td>C-</td>
<td>18</td>
<td>20.0</td>
</tr>
<tr>
<td>D+</td>
<td>20</td>
<td>22.2</td>
</tr>
<tr>
<td>D</td>
<td>18</td>
<td>20.0</td>
</tr>
<tr>
<td>D-</td>
<td>4</td>
<td>4.4</td>
</tr>
<tr>
<td>E</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

Total 90 100.0
The information from Table 4:3 reveals that 11.0% of the employees had attained grade 'B-' and 'B+' respectively. These grades would have enabled them join the Kenyan public universities at that time. But due to the fact that most of them were from poor family backgrounds, they resorted to employment in order to support their families. In order to solve the problem of students from poor backgrounds, the Kenyan government had introduced the Bursary Fund Scheme. Unfortunately due to the great number of such poor students, most of them still fail to get those bursaries.

**Transition Period Between School Completion and Employment**

After the completion of a four-year course in secondary school, some school leavers join further institutions of learning, others get employed, yet others remain jobless. This study was concerned with those secondary school leavers who get employed in urban industries. The transitional period of this group of school leavers is shown in Table 4:4.

**Table 4:4:** Transitional period Between School Completion and Employment  \( n = 90. \)

<table>
<thead>
<tr>
<th>Year of school Completion</th>
<th>Transitional period (In years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1) n</td>
</tr>
<tr>
<td>1989</td>
<td>16 (17.8)</td>
</tr>
<tr>
<td>1990</td>
<td>6 (6.6)</td>
</tr>
<tr>
<td>1991</td>
<td>14 (15.5)</td>
</tr>
<tr>
<td>1992</td>
<td>12 (13.3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48 (53.3)</strong></td>
</tr>
</tbody>
</table>
The information from Table 4:4 indicates that 53.3% of the school leavers were employed after one year of graduation. While 32.2% after two years, and 14.4% after three years. The respondents who were employed after one year indicated that they had no anticipation for better jobs or joining higher institutions of learning. They therefore had to seek for jobs in order to sustain themselves and their families. The other group who got employed after 2-3 years, indicated that they had anticipated better jobs or join higher institutions of learning before employment. Some of them had to go first through a technical institution before getting employed.

The period between completion of school and employment had an important bearing on this study. It was revealed that 45% of the school leavers spent this time in seeking for employment. The kind of jobs they were seeking for were mostly white collar jobs which are scarce. Those who were looking for jobs in various industries ended up being frustrated because they were turned down due to lack of relevant skills. However, 20% of the school leavers had been employed elsewhere. They had therefore shifted from one place to another, seeking for better working and payment terms.

Those who had worked as casual workers 5% would seek for other employment once their contract expired. Yet 25% of the school leavers were neither seeking for jobs nor employed elsewhere during this transition period. They indicated that they had not decided what to do after the completion of school. They spent this time in assisting their parents or guardians at home not knowing what was awaiting them in the labour market. After employment some 5% had gone for further training in technical institutions through apprenticeship.
The implications this information has on the vocational education curriculum is that these students were not well prepared well for the world of work. That is to say that the school leavers are not fully equipped with the basic knowledge and occupational skills which would enable them perform their jobs effectively.

One of the major requirements for the deployment of the school leavers was, the completion of form four. Other requirements like basic knowledge and occupational skills were also considered. These were required in areas like tailoring, carpentry, baking, accounts clerk and sales promoters. Otherwise departments like, packaging, storekeeping, tea-making, machine operation, cloth printing, ingredient mixing and office messengers, were employed on the basis that they were form four graduates. It therefore implied most of the occupational skills they had acquired in school were not fully applied in their current occupations.

This finding supports, Grubb’s 1979, finding which concluded that most students seldom find jobs in areas for which they were specifically trained.

The secondary school leavers were employed in different industries. The industries which participated in this study manufactured the following products;

(i) food and animal feeds,
(ii) clothes and textiles,
(iii) baking of cakes, scones and bread
(iv) wood furniture
(v) beverages and soft drinks
(vi) cereals, cereal flours and flakes.
The jobs which they occupied in these industries are shown in Table 4:5.

### Table 4:5: The Current Occupations of the Secondary School Leavers in Urban Agro-based Industries

<table>
<thead>
<tr>
<th>Current Occupation</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tailoring</td>
<td>16</td>
<td>17.7</td>
</tr>
<tr>
<td>Packaging</td>
<td>12</td>
<td>13.3</td>
</tr>
<tr>
<td>Carpentry</td>
<td>10</td>
<td>11.1</td>
</tr>
<tr>
<td>Accounts Clerk</td>
<td>9</td>
<td>10.0</td>
</tr>
<tr>
<td>Store Keeping</td>
<td>9</td>
<td>10.0</td>
</tr>
<tr>
<td>Tea Making</td>
<td>9</td>
<td>10.0</td>
</tr>
<tr>
<td>Salesmanship</td>
<td>7</td>
<td>7.7</td>
</tr>
<tr>
<td>Baking</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>Machine Operation</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>Cloth Printing</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Mixing of Ingredients</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>Messenger</td>
<td>2</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>90</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The information from Table 4:5 indicates that 42.2% of the school leavers were working in sections which needed prior knowledge and relevant skills. These sections were; tailoring, carpentry, accounts clerk, salesmanship and baking. The workers were supposed to have acquired relevant skills required in their current occupations either in school or elsewhere. However, it was revealed that the skills which were acquired
in school were not sufficient. The skills acquired in school could either be enhanced through training on the job or in a technical institution through apprenticeship. This implies that the vocational education curriculum did not fully equip the school leavers with sufficient skills to enable them perform their jobs effectively. This finding also negates the first assumption of this study that the secondary school leavers acquire some skills which would enable them perform their jobs effectively. At the same time, it supports the second assumption which states that the skills acquired in school are not adequate to enable the school leavers perform their jobs effectively.

Further analysis was done on the distribution of the secondary school leavers in these urban industries. Table 4:6 presents the distribution of these employees in the industries.

Table 4:6: Distribution of Secondary School Leaver Employees in Urban Industries

\[ n = 90 \]

<table>
<thead>
<tr>
<th>Type of Industries</th>
<th>Current occupations</th>
<th>n</th>
<th>%</th>
<th>Total%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and Animal</td>
<td>Accounts clerk</td>
<td>2</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Store Keeping</td>
<td>3</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Packaging</td>
<td>3</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mixing of Ingredients</td>
<td>2</td>
<td>2.2</td>
<td>11.0</td>
</tr>
<tr>
<td>Type of Industries</td>
<td>Current Occupations</td>
<td>n</td>
<td>%</td>
<td>Total %</td>
</tr>
<tr>
<td>--------------------</td>
<td>---------------------</td>
<td>----</td>
<td>----</td>
<td>---------</td>
</tr>
<tr>
<td>Clothing and Textiles Industries</td>
<td>Measuring and cutting of garments</td>
<td>4</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Garment making</td>
<td>8</td>
<td>8.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ironing finished garments</td>
<td>4</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Packaging</td>
<td>4</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cloth printing</td>
<td>3</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Machine operation</td>
<td>3</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Salesmanship</td>
<td>5</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accounts Clerk</td>
<td>4</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Store Keeping</td>
<td>4</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tea making</td>
<td>6</td>
<td>6.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td></td>
<td>49.5</td>
<td></td>
</tr>
</tbody>
</table>

<p>| Baking Industries | Measuring the Ingredients | 2  | 2.2 |         |
|                  | Baking                 | 3  | 3.3 |         |
|                  | Packaging              | 3  | 3.3 |         |
|                  | Salesmanship           | 2  | 2.2 |         |
|                  | Accounts Clerk         | 2  | 2.2 |         |
|                  | Tea Making             | 3  | 3.3 |         |
|                  | <strong>Total</strong>              |    | 16.5|         |</p>
<table>
<thead>
<tr>
<th>Type of Industries</th>
<th>Current Occupations</th>
<th>n</th>
<th>%</th>
<th>Total %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverages and Packaging</td>
<td></td>
<td>2</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Soft Drink Store keeping</td>
<td></td>
<td>2</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Industries Machine Operation</td>
<td></td>
<td>2</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Office Messenger</td>
<td></td>
<td>2</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>8.8</strong></td>
</tr>
<tr>
<td>Cereals, cereal Mixing of flours and flakes Ingredients</td>
<td></td>
<td>1</td>
<td>1.1</td>
<td></td>
</tr>
<tr>
<td>Office Messenger</td>
<td></td>
<td>2</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Industries Joinery</td>
<td></td>
<td>5</td>
<td>5.5</td>
<td><strong>11.0</strong></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>90</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The information from Table 4.6 reveals that most secondary school leavers (49.5%) were employed in the clothing and textile industries. In almost all industries most workers were not employed on permanent terms. This forced them to move from one industry to another seeking for employment. Sometimes the shifting could be on different jobs. This meant that a skill which was learnt in a particular industry could be declared redundant in another.

Sometimes the employers would find it expensive to employ the school leavers on permanent basis. So they preferred deploying them on temporary basis. Because of this movement from one industry to the other, the employees were not very enthusiastic in learning the required skills when being trained on-the-job. As such their job performance was not very effective.
If the 8-4-4 vocational education curriculum could equip the school leavers with a particular skill required in the labour market, then the above stated problem could be eliminated. On the other hand, it can be argued that, there would not be a particular skill required in all industries. Rather, a skill which was deemed relevant two years ago may be declared redundant in three years to come. This is due to the advancement of technology. In most cases, the schools only introduce and make the students aware of what is required in the labour market.

The Required basic Knowledge and Skills in the Current Occupations in the Urban Industries

The current occupations were analysed in Table 4:5. They ranged from Tailoring, packaging, carpentry, accounts clerk, store-keeper, tea-maker, salesmanship, baking, machine operation, cloth-printing, mixing of ingredients and office messenger.

In tailoring, the following basic knowledge and skills were required.

- Understand the use and care of the sewing machine.
- Understand parts of a sewing machine and their functions.
- Understand various classes of fibres and the kind of thread to use on them.
- Understand the construction and finishing processes involved in fabric manufacture hence demonstrate.
- Understand and make different types of stitches.
- Select suitable fabric for the chosen garment.
- Using the right measurements to cut out and make the selected garment using appropriate stitches and sewing notions.
- Be able to take body measurements correctly.
- Identify the fabric for ironing from those which don’t require ironing and ironing according to the pattern.
The packaging section depended on what was being packed. For those in the clothing industry, they had to understand the fabric of the finished garment, how it was to be ironed and pack according to the instructions from their immediate supervisor. In this section, the employees learn on-the-job; depending on the specified system of packing.

The following knowledge and skills were required in the wood furniture industry where carpenters were involved.

- Understand proper usage of tools and other items.
- Identification, selection and utilization of available timber.
- Understanding various types of timber and boards for the construction of items.
- Identification and selection of correct measurements of wood and making-out tools.
- Understand how to use the measuring and marking out tools safely.
- Identify the skills involved in timber preparation.
- Be able to cut or drill holes in timber correctly and safely.
- Decorate patterns and shapes using the correct tools.
- Assemble work piece using appropriate widening joints.
- Selecting appropriate finishing materials and using them correctly and safely; for example, polish, paint.
- Wood filing, formica etc.

The Accounts Clerk section required the following basic knowledge and skills:

- Proper understanding of types of production.
- Know the factors affecting supply of and demand for a product.
- Know the various terms and means of payment and when it is appropriate to use them.
- Communicate effectively both verbally and in writing.
- Maintain business records in a systematic manner.
- Apply the book-keeping equation in calculating the network of a business.
- Record assets, liabilities and capital in a balance sheet.
- Balance the ledger accounts.
- Interpret financial statements.
- Understand the banking system.

In store-keeping the following knowledge and skills were required:
- Keep essential records of equipment, machines and stationery.
- Give an account of all items signed in and out of the store.

The tea-makers were given basic steps in making tea and in most cases learned on-the-job. Therefore, no prior knowledge and skills were required. The same applied to the work of an office messenger, so long as she/he was familiar with the place and could communicate effectively both orally and in written Kiswahili and English and was a form four graduate. One would be employed on the above stated basis.

Machines varied from one industry to another depending on what was being produced. Therefore, all machine operators working in the industries at that time (5.5%) were trained on the job. No prior knowledge and skills were required in this section. On the basis of the advancement in technology, the machines which were being used in sixties were not the same ones which were being used in the nineties. Therefore machine operators, need continuous training to keep abreast with the rapid advancement of technology.

In the section of mixing ingredients, the skills required depended on the product produced. The ingredients could be measured and the workers would mix them according to the given instructions. Therefore, no prior knowledge and skill was
required instead the employees would learn on-the-job.
The employees were also trained on-the-job in cloth printing section. The supervisors indicated that the skills involved were not taught in schools, instead they used to teach their employees. The employees were required to have studied “Fine Art” in school. Otherwise the process of cloth printing was taught in the industry, by the immediate supervisors concerned.

As a salesman, one was required to have studied, commerce and achieved the following: knowledge and skills:

- Identify human wants and know-how to satisfy them.
- Understand various methods of sales promotion.
- Relating production processes to utility of goods and services.
- Understand the concepts of supply and demand for a product.
- Know the role of distribution outlets in regard to supply of goods and services in home trade.
- Identify the factors that influence a good sale of a commodity.
- Explain the factors that influence the increasing scale of production.
- Communicate effectively both verbally and in writing.

The Bakery Industry required the following basic knowledge and skills in:

- Identification of different flour mixtures and raising agents.
- Explain how different raising agents are introduced into flour mixtures.
- Use various methods of incorporating fat into flour.
- Make cakes, pastries, bread and scones.

The employees in the baking section were expected to have achieved prior basic knowledge and skills listed above in school or elsewhere before employment. Unfortunately not all skills had been acquired in school. Instead most skills were acquired through training on the job or elsewhere. On the other hand it can be suggested that the schools cannot be able to equip the students with all the relevant
skills required in the labour market. Instead, schools introduce the students to the pre-vocational subjects which would enable them pursue higher education or with the basic knowledge and skills which would enable them be either wage, or self-employed. After the school leavers have been employed then the skills which were acquired in school would be enhanced through training on the job. The third assumption of this study which states that the skills acquired in school need to be enhanced through training on the job gains support in what has hitherto been revealed.

**Basic Knowledge and Occupational Skills acquired in School.**

Skills include mental and manual elements. Some skills are of mechanical nature and easily learned, but require a great deal of practice for perfection. Others involve the mastery of a complex process. Yet once they have been mastered do not call for prolonged practice, for instance, use of farm tools and woodwork tools. Some skills demand a high degree of physical expertness for example, accurate measurement of wood and garment.

Table 4.7 indicates the basic knowledge and occupational skills in school as per subject.

<table>
<thead>
<tr>
<th>Knowledge and Skill acquired</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methods of crop production and storage</td>
<td>15</td>
<td>31.3</td>
</tr>
<tr>
<td>Types of farming methods</td>
<td>10</td>
<td>20.8</td>
</tr>
</tbody>
</table>

Table 4.7: Basic Knowledge and Occupational Skills Acquired in School as per Subject

(a) Agriculture n = 48
Use of farm tools | 10 | 20.8  
Types of cultivating | 8  | 16.7  
Care of livestock | 5  | 10.4  

| **Total** | 48 | 100.0 |

(b) **Home Science n = 22**

<table>
<thead>
<tr>
<th>Knowledge and Skills Acquired</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection, use and care of fabrics for various uses</td>
<td>10</td>
<td>45.5</td>
</tr>
<tr>
<td>Making of items for home and income generating activities</td>
<td>8</td>
<td>36.4</td>
</tr>
<tr>
<td>Maternal and childcare</td>
<td>2</td>
<td>9.1</td>
</tr>
<tr>
<td>The use, storage and preservation of foods</td>
<td>2</td>
<td>9.1</td>
</tr>
</tbody>
</table>

| **Total** | 22 | 100.0 |

(c) **Commerce n = 10**

<table>
<thead>
<tr>
<th>Knowledge and skills acquired</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relating the effects of a simple transaction to a balance sheet</td>
<td>3</td>
<td>30.0</td>
</tr>
<tr>
<td>Balancing the ledger accounts</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>Various methods of sales promotions</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>Communicating effectively both verbally and in writing</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>Understanding the concept of supply and demand for a product</td>
<td>1</td>
<td>10.0</td>
</tr>
</tbody>
</table>

| **Total** | 10 | 100.0 |
(d) Woodwork $n = 10$

<table>
<thead>
<tr>
<th>Knowledge and Skills acquired</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constructing some basic functional items e.g. stools, chair and table</td>
<td>3</td>
<td>30.0</td>
</tr>
<tr>
<td>Proper use and care of basic woodworking tools and equipment</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>Designing wood products</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>Ability to read and interpret simple working drawings</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>Measuring and marking-out wood for construction</td>
<td>1</td>
<td>10.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>10</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Before further analysis was done it was deemed important to compare the required basic knowledge and occupational skills in the current occupations with the acquired basic knowledge and occupational skills in school. This kind of comparison would show clearly those skills which were needed, those which had been acquired in school and those which had not been acquired in school.

Table 4:8: Comparision of the required basic knowledge and occupational skills with the acquired basic knowledge and occupational skills in school.

| Basic knowledge and occupational skills required in the current occupations (Tailoring, Baking and Carpentry) | Basic knowledge and occupational skills acquired in school (As per subject:- Homescience and woodwork). |
(a) Tailoring

- Understand the use and care of the machine.
- Understand various classes of fibres and the kind of thread to be used on them.
- Understand and make different types of stitches.
- Using the right measurements be able to cut out and make selected garments using appropriate stitches and sewing notes.
- Be able to take body measurements correctly.
- Identify the fabric for ironing from those which don't require ironing and iron according to the pattern.

Baking

- Identification of different flour mixtures and raising agents
- Demonstrate how different raising agents are introduced into the flour mixtures.

Homescience

- Ability to use and care for the machine.
- Understood various classes of fibres and the kind of thread to be used on them
- Ability to make different types of stitches

Homescience

- Ability to identify different flour mixtures and raising agents
- Ability to make Mandazi and some cakes.
• Use various methods of incorporating fat into flour.
• Be able to make cakes, pastries, bread and scones.

(b) Carpentry

• Understand proper use of tools and other items
• Identification, selection and utilization of available timber for the construction of various furniture.
• Identification and selection of correct measurements of wood and making out tools.
• Assemble work piece using appropriate widening joints
• Selecting appropriate finishing materials and using them correctly and safely.

Woodwork

• Understood proper use of some tools and other items
• Ability to identify, select and use available timber to make some tools, chairs and tables.
• Ability to cut and drill holes in timber and decorate some patterns and shapes correctly and safely.
• Ability to select finishing materials and use them correctly and safely.

The information from this comparison indicates that there are some skills which were required in the current occupations and yet they had not been acquired in school. For instance; in tailoring; the school leaver were required to use the right measurements to cut out and make the selected garment using appropriate stitches and sewing notes.
This skill had not been acquired in school. They were also required to take body measurements correctly and at the same time identify the fabric for ironing from those which did not need ironing and iron according to the pattern. These skills had not been acquired in school. The industrial management were therefore obliged to train the school leavers on the jobs inorder to master the required skills.

In baking the school leavers were able to identify different flour mixtures and raising agents. They were also able to make mandazi and some simple cakes. But they were not able to fully demonstrate how different raising agents are introduced into the flour mixtures. They had not also mastered the methods of incorporating fat into flour, leave alone the making of assorted cakes, pastries, bread and scones. Therefore training on the job was mandatory.

The 8 - 4 - 4 secondary school leavers who were employed as carpenters had acquired some skills to enable them make some simple furniture like stools, chairs and tables. However, they were not able to identify, select correct measurements of wood and make the desired furniture. They were not also able to make all decorations and shapes on the furniture made. The school leavers had not acquired skills on the assembling work piece using appropriate widening joints. The supervisors had to work with them to ensure that the missed skills has been acquired.

Further investigation was done on the use of the basic knowledge and occupational skills acquired in school through pre-vocational subject to the current occupations.
Table 4:9: The Use of the basic knowledge and occupational skills learnt in school in the current occupations (as per subjects)

<table>
<thead>
<tr>
<th>Rating</th>
<th>Agriculture (n = 48)</th>
<th>Home Science (n = 22)</th>
<th>Commerce (n = 10)</th>
<th>Woodwork (n = 10)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>n</td>
<td>%</td>
<td>n</td>
</tr>
<tr>
<td>Very useful</td>
<td>3</td>
<td>6.2</td>
<td>7</td>
<td>31.8</td>
<td>2</td>
</tr>
<tr>
<td>Fairly useful</td>
<td>8</td>
<td>16.6</td>
<td>8</td>
<td>36.4</td>
<td>3</td>
</tr>
<tr>
<td>Useful</td>
<td>7</td>
<td>14.5</td>
<td>4</td>
<td>18.1</td>
<td>3</td>
</tr>
<tr>
<td>Not useful</td>
<td>30</td>
<td>62.5</td>
<td>3</td>
<td>13.6</td>
<td>2</td>
</tr>
</tbody>
</table>

According to the information given in Table 4:9, 41.1% of the school leavers indicated that the pre-vocational subject learnt in school was not useful in their current occupations. The basic knowledge and skills acquired in school were not relevant to their job performance. Most of these school leavers were those who studied Agriculture as a prevocational subject in school and were working as tailors. Such school leavers could have been advantaged if they had worked in an agricultural environment. However, (23.3%) indicated that the subject was fairly useful. This applied to those who learnt Home Science and were employed as tailors or bakers. Other subjects were woodwork and Commerce. Here the school leavers were employed as carpenters and accounts clerks or Salesmen respectively. In this section, (17.7%) indicated that the pre-vocational subject was very useful or useful to their current occupations. It implied that some of the skills applied in the current occupations were acquired in school.

The usefulness here referred to both attitude towards manual work, basic knowledge and occupational skills. After studying the pre-vocational subjects, students were able to appreciate manual work and would enjoy it as compared to the old mentality of
appreciating only white collar jobs. The few skills acquired in school were enhanced at their places of work through training on-the-job.

It is therefore evident that the schools had not provided sufficient skills for effective job performance. This finding in this study supports the Unesco (1980) study in seven countries on vocational learning which concluded that vocational education in the form of pure skill training could no longer claim that it satisfactorily fulfils the task of preparation for work. But the fact that the school leavers had learnt pre-vocational subjects in school enabled them to perform their jobs with a positive attitude.

**Other Source of Skill acquisition.**

Apart from the scholar equipping the school leavers with occupational, other sources of skill acquisition were identified. This information is presented in Table 4.10.
Table 4:10: Other Source of the Production Skills for Various Occupational Activities

(a) Tailoring (n=16).

<table>
<thead>
<tr>
<th>Knowledge and skill acquired</th>
<th>On-the-Job n(%)</th>
<th>Technical Institution n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding various classes of fibre and the kind of thread to be used on them</td>
<td>-</td>
<td>2(12.5)</td>
</tr>
<tr>
<td>Understanding the construction and finishing process involved in fabric manufacture</td>
<td>-</td>
<td>2(12.5)</td>
</tr>
<tr>
<td>Select suitable fabric for the chosen garment</td>
<td>2(12.5)</td>
<td>-</td>
</tr>
<tr>
<td>Cutting-out and joining a garment using correct measurements</td>
<td>6(37.5)</td>
<td>-</td>
</tr>
<tr>
<td>Methods of ironing different fabrics</td>
<td>4(25.0)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12 (75.0)</strong></td>
<td><strong>4 (25.0)</strong></td>
</tr>
</tbody>
</table>

(b) Accounts Clerk (n=9)

<table>
<thead>
<tr>
<th>Knowledge and skill acquired</th>
<th>On-the-Job n(%)</th>
<th>Technical Institution n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of production</td>
<td>-</td>
<td>2(22.2)</td>
</tr>
<tr>
<td>Various terms and means of payment and their appropriate use</td>
<td>-</td>
<td>1(11.2)</td>
</tr>
<tr>
<td>Maintenance of business record</td>
<td>2(22.2)</td>
<td>-</td>
</tr>
<tr>
<td>Interpretation of financial statements</td>
<td>2(22.2)</td>
<td>-</td>
</tr>
<tr>
<td>Banking system</td>
<td>2(22.2)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6 (66.6)</strong></td>
<td><strong>3 (33.4)</strong></td>
</tr>
</tbody>
</table>
### (c) Store-keeping (n=9)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting of all items received and dispatched</td>
<td>4 (44.5)</td>
</tr>
<tr>
<td>The keeping of essential records of equipment, machines and stationery</td>
<td>5 (55.5)</td>
</tr>
</tbody>
</table>

**Total:** 9 (100.0)

### (d) Salesmanship (n=7)

<table>
<thead>
<tr>
<th>Activity</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding various distribution outlets in regard to the supply of goods and services in business.</td>
<td>1 (14.2)</td>
</tr>
<tr>
<td>Identifying factors that influence a good sale of a commodity</td>
<td>3 (42.9)</td>
</tr>
<tr>
<td>Identifying factors that influence the increasing scale of production</td>
<td>-</td>
</tr>
<tr>
<td>Relating production processes to utility of goods and services</td>
<td>-</td>
</tr>
</tbody>
</table>

**Total:** 4 (57.1) 3 (42.9)
(e) Bakery (n=5)

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of different flour mixtures and raising agents</td>
<td>2(40.0)</td>
</tr>
<tr>
<td>Making cakes, pastries, bread and scones</td>
<td>3(60.0)</td>
</tr>
</tbody>
</table>

5 (100.0)

(f) Carpentry (n=10)

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understanding various types of timber and boards and what they can construct</td>
<td>1(10.0)</td>
</tr>
<tr>
<td>Cutting and drilling holes in timber correctly and safely</td>
<td>2(20.0)</td>
</tr>
<tr>
<td>Decorating patterns and shapes using the correct tools</td>
<td>5(50.0)</td>
</tr>
<tr>
<td>Proper selection of finishing materials and how to use them correctly and safely</td>
<td>2(20.0)</td>
</tr>
</tbody>
</table>

10 (100.0)
The information from Table 4:10 indicates that six occupations (tailoring, accounts clerk, store-keeping, salesmanship, bakery and carpentry) required prior knowledge and basic skills. The study also revealed that out of 56 employees working in those sections, 46 (82.1%) had acquired some occupational skills on-the-job training, while 10 (17.8%) acquired the skills in a technical institution. Therefore, other source of skill acquisition as revealed here are: training on the job and in a technical institution. Other occupations like, packaging, machine-operation, cloth printing, mixing of ingredients, office messenger and tea-making, did not need prior knowledge and occupational skills because the employees had to be trained on the job.

**Constraints Experienced in the Current Occupations**

Despite the fact that the school leavers had been employed and were able to perform their jobs, the findings show that they experienced some constraints. Table 4:11 shows the constraints experienced in the current occupations.

**Table 4:11: Constraints Experienced in their Current Occupations**

<table>
<thead>
<tr>
<th>Constraint</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of occupational relevant skills</td>
<td>20</td>
<td>22.2</td>
</tr>
<tr>
<td>Lack of job experience</td>
<td>18</td>
<td>20.0</td>
</tr>
<tr>
<td>Long duration of training on the job</td>
<td>12</td>
<td>13.3</td>
</tr>
<tr>
<td>Lack of relevant job promotions</td>
<td>10</td>
<td>11.1</td>
</tr>
<tr>
<td>Lack of technical knowledge on how to handle machines</td>
<td>8</td>
<td>8.8</td>
</tr>
<tr>
<td>Not fully prepared to take up the job</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>High competition from those with relevant skills</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>Little confidence from employers</td>
<td>5</td>
<td>5.5</td>
</tr>
<tr>
<td>Long factory working hours</td>
<td>4</td>
<td>4.4</td>
</tr>
<tr>
<td>Discrimination by employers</td>
<td>3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

The information from Table 4:11 indicates that majority of the school leaver employees lacked relevant occupational skills. This implies that schools therefore had not fully equipped the school leavers with relevant occupational skills required in the labour
market. This means that vocational educational curriculum has not fully achieved its objective of equipping the learners with relevant occupational skills to enable them to be either wage or self-employed.

It was further revealed that these school leavers had no job experience, because they had been employed direct from school. Therefore they had to spend a lot of time in being trained on the job. They would have had experience if in school they had a session where they would be sent to relevant industries for practicals (attachment). Something which never took place and needs to be addressed.

The long duration of training on the job resulted from the fact that the school leavers had no relevant skills or rather no sufficient skills. They therefore had to spend many days in training with less pay.

The employers felt that the school leavers were not sufficiently prepared for the job. They therefore spent most of their time training and supervising them which means that the employees were not left with any room for innovativeness. Instead, they were to work for long hours under strict supervision. As such the employees were not getting relevant job promotions. A problem which hindered their effectiveness in performing their jobs.

The school leavers also suffered from lack of technical knowledge on how to handle machines. This also made the employers spend a lot of time training them on the job with less pay. If the school leavers had been exposed to such industries for attachment then they would not have had that problem.

The industrial labour market required skilled manpower for higher production. Since the 8-4-4 secondary school leavers had not acquired enough relevant skills in school, they therefore suffered from high competition from their counterparts who had qualified from technical institutions with relevant skills. It was indicated that due to that
fact the employers discriminated the school leavers. The employers had more confidence in those who had relevant skills as compared to the 8-4-4 secondary school leavers.

The employers were interested in high production in their industries. This meant that these semi-skilled workers had to work for long hours in order to attain the desired goal of the employer, of, high production. In such an environment the school leavers felt that they were being overworked and yet earned less.

Some of the cited constraints experienced by the 8-4-4 secondary school leavers had some implications on the vocational education curriculum. The contents in the curriculum lack the focus of what is required in the industrial labour market. That is why the secondary school leavers lacked the relevant skills required in the industries. The relevant occupational skills were to be acquired at the implementation stage of the curriculum. This study serves as an evaluation of the vocational curriculum at its final stage.

There were some constraints which were not directly related to the curriculum. For example, lack of job experience, lack of relevant job promotions, little confidence from employers and discrimination from employers. These constraints were both personal and partly related to the curriculum. They were partly related to the curriculum because if at the implementation stage the students had been sent to various industries for attachment they would have had some job experience. The secondary school leavers would have learnt relevant skills which would have enabled them not be discriminated against. They would have therefore had job promotions in their places of work. In order to realise the desired objective of the 8-4-4 vocational education curriculum, which is to equip the students with relevant basic knowledge and occupational skills for either wage or self-employed, more attention has to be given to the implementation stage.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

Vocational education curriculum aims at equipping the learners with basic knowledge and occupational skills necessary for wage or self-employment. The skills acquired in school are therefore to be applied in the current occupations. This study set out to investigate the extent to which vocational education in the 8-4-4 curriculum is relevant to the job performance of the secondary school leavers in the urban industries.

The purpose of this study was to find out whether the vocational education offered in the 8-4-4 secondary school curriculum equips the students with the basic knowledge and relevant occupational skills that are required in the urban agro-based industries.

The study was conducted in Nairobi urban area. Through random sampling, a few agro-based industries were selected as a sample for this study. The sample comprised the 8-4-4 secondary school leavers and their immediate supervisors.

Two research instruments were used in collecting data. Those were: (i) Questionnaire and interview schedule for employees, (ii) questionnaire and interview schedule for immediate supervisors. These instruments were first of all pilot-tested to ensure their validity and reliability. Data from the field were collected, processed, analysed and presented by the researcher.

The major limitation to this study was that it was done in Nairobi urban centre which is relatively a smaller area as compared to all industries in other urban areas. However, most respondents hailed from almost all the provinces apart from North Eastern.

Summary of the Major Findings

The summary of the major findings are as per the research questions in Chapter One.

Most of the 8-4-4 secondary school leavers in urban industries were performing manual work. They were employed as tailors, carpenters, bakers, packers, machine operators, cloth printers, ingredient mixers and tea-makers. A smaller number were employed as accounts clerks, store-keepers, salesmen and office messengers.

It was revealed that most of the 8-4-4 secondary school leavers did not occupy managerial jobs or high technical jobs, like technicians. The kind of jobs most of these school leavers were doing did not require prior knowledge or occupational skills. However, in tailoring, the baking and carpentry, prior knowledge and occupational skills were required.

The Required Occupational Skills in the occupations

Apart from tailoring, carpentry, baking, accounts clerk and salesmanship, the rest of the occupations did not require prior acquisition of skills. All the employees were to be trained on the job. Therefore, different occupational skills were required for different industries.

The required basic knowledge and occupational skills in the current occupations:

(a) Tailoring:

(i) Understand the use and care of the sewing machine.

(ii) Understand various classes of fibre and the kind of thread to be used on them.
(iii) Understand and make different types of stitches.
(iv) Using the right measurement be able to cut out and make the selected garment using appropriate stitches and sewing notes.
(v) Be able to take body measurements correctly.
(vi) Identify the fabric for ironing from those which do not require ironing and iron according to the pattern.

Of the above required skills the school leavers had acquired the following occupational skills in school:

* Use and care of the machine
* Understanding of various classes of fibre
* The making of different types of stitches.

Unfortunately the school leavers had not acquired the following occupational skills:-

* Using the right measurements to be able to cut out and make the selected garment, using appropriate stitches and sewing notes.
* Taking body measurements correctly.
* Identifying the fabric for ironing from those which do not require ironing and iron according to the pattern.

(b) Baking

(i) Identification of different flour mixtures and raising agents.
(ii) Demonstrating how different raising agents are introduced into the flour mixtures.
(iii) The use of various methods of incorporating fat into flour
(iv) Ability to make cakes, pastries, bread and scones.

The school leavers had acquired the following basic knowledge and occupational skills in school:-

* Ability to identify different flour mixtures and raising agents.
* Ability to make mandazi and some cakes.
The following occupational skills had not been acquired in school.
* Demonstration on how different raising agents are introduced into the flour mixtures.
* Various methods of incorporating fat into flour.
* Ability to make the assorted cakes, pastries, bread and scones

(c) Carpentry

(i) Understand proper use of tools and other items.
(ii) Identification, selection and utilization of available timber for the construction of various furniture.
(iii) Identification and selection of correct measurements of wood and making out tools.
(iv) Ability to cut or drill holes in timber decorate patterns and shapes using the correct tools.
(v) Ability to assemble work piece using appropriate widening joints.
(vi) Ability to select appropriate finishing materials and using them correctly and safely.

The school leavers had acquired the following basic knowledge and occupational skills in school:-

* Understanding of proper use of some tools and items.
* Ability to identify, select and use available timber and to make some stools, chairs and tables.
* Ability to cut and drill holes in timber and decorate some patterns and shapes correctly and safely.
* Ability to select finishing materials and use them correctly and safely.

The following occupational skills had not been acquired in school.
* Identification and selection of correct measurements of wood and making out of tools.
* Assembling work piece using appropriate widening joints.
* Ability to make a variety of tools using the available timber.

**Other source of relevant acquisition of basic knowledge and occupational skills**

Most occupational skills which had not been acquired in school were learnt either on the job training or in a technical training institution through apprenticeship. For instance, in tailoring most school leavers had not acquired skills in the cutting and making of some garments using the right measurements. This skill was mastered through training on the job. The taking of correct body measurements and identification of the fabric for ironing; were acquired by both training on the job and in a technical training institution. These two sources of skill acquisition applied to other occupations like, capentry and bakery, where some skills had not been acquired in school.

**The Constraints Experienced by the 8-4-4 Secondary School Leavers in their Current Occupations**

The secondary school leavers experienced various constraints in their current occupations. These constraints were related to the acquisition of required occupational skills and their working environment. The major constraint was lack of some relevant occupational skills. This constraint made the school leavers not obtain higher jobs. They therefore had to spend a lot of time on being trained on the job.

This constraint had some implications on the vocational education curriculum and the individual's attitude towards the prevocational subject studied in school. The constraints associated with their working environment were long working hours, discrimination and little confidence by the employers. They had no relation to the curriculum and have to be treated separately.
Conclusions:
From the summary of the major findings stated above, various conclusions can be made:-

For the school leavers whose occupations were relevant to the prevocational subject studied in school had some relevant occupational skills which they applied in their current occupations. However, not all the required skills had been attained in school.

It was observed that there was a mismatch of job placement in industrial labour market. For instance, some school leavers who had studied Agriculture as a prevocational subject and had acquired some Agricultural skills, were working as office messengers. For this group of people there was no relevance of what was studied in school and the current occupation. Therefore their prevocational subject was not useful at all. It could have been useful if they were employed in an agricultural environment.

The basic knowledge and occupational skills acquired in school for those who get employed in related fields are not adequate. Therefore the industrial management was obliged to train the school leavers on the job and in technical institutions through apprenticeship.

There is an over emphasis on schools providing relevant occupational skills required in the industrial labour market. It has been made clear that schools alone can never provide all the required skills. That is why the school leavers would either be further trained on the job or in a technical institution. It is difficult for the schools to constantly provide relevant occupational skills required in the industrial labour market. This is because different occupations require different occupational skills. Furthermore, due to the advancement in technology, the required occupational skills do change. The occupational skills which were relevant the previous year may be declared redundant in the succeeding years.
The actual training for relevant occupational skills takes place on the job. The schools introduce the students to the prevocational subjects and makes them aware of what may be required after school. In the process some basic knowledge and occupational skills are acquired, which are enhanced by training on the job. This applies to those who get employed in occupations related to the prevocational subject studied in school.

Conclusively it can be stated that most secondary school leavers had not acquired relevant basic and occupational skills in school. Training on the job and in a technical institution enabled them acquire the required occupational skills required in their current occupations. For this group of people vocational education curriculum in the 8-4-4 system of education was not relevant to their job performance. But it was relevant to those who got employed in occupations related to the prevocational subject studied in school.

**Recommendations**

On the basis of the major findings and conclusions summarised above, the following recommendations are made:

There is a critical need for the government to take leadership in clarifying to the public the goals and objectives of vocational education in the 8-4-4 curriculum. This goal clarification will enable the public and all clientele served not to be over ambitious on what vocational education could achieve.

Vocational education should be treated with respect and should be conceived and designed as an interrelated aspect with general education of the curriculum.

Vocational education should be made more practical by sending the students to
workshops or industries for attachment. This can be done during vacations. During this period, the students would be exposed to the practical working experience and the tools used. The supervision and instruction should be done by the industry supervisors after which a report should be written to the schools. This approach will enable the students develop some positive attitude and interest in the subject hence be willing to pursue it after school. At the same time, some constraints experienced by the school leavers will be minimized.

Students should be allowed to specialise in a particular prevocational subject so as to come out with enough skills for a particular occupation. For instance, a student with woodwork skills should be employed as a carpenter. That is the only way vocational education can develop and maintain output standards.

In order to avoid the problem of mismatch of job placement in the industrial labour market, the number of students taking a particular pre-vocational subject should be related to the number of persons needed in either the business world, industrial sector, commerce and government.

The industrial sector should always inform the government of their technological advancement and the skills required in order for the curriculum planners to include the relevant content which would enable them get the required manpower. Vocational educational curriculum should be redesigned so as to provide broad preparation according to occupational clusters to enable the youth to move horizontally to various occupations and vertically to higher responsibilities as future opportunities develop. This will require not only curriculum reconstruction but a concerted program on the part of business, industry, labour unions and governmental agencies all in cooperation with the schools. In this manner schools will produce qualified manpower required in the industrial labour market.
There should be more technical training institutions where school leavers could be trained. This will enable them acquire relevant occupational skills required in the industrial labour market.

With those recommendations, it is hoped that there will be improvement of a sound vocational program in the educational institutions designed to prepare the youth for employment in a technical society, rather than mere vocationalising of general education in such a manner as to make it more interesting but little more productive.

Recommendations for further Research

For future areas of research, it can be noted that factors investigated in this study were not exhaustive. The findings of this study could be enhanced if more research was done to cover the secondary school leavers of the 8-4-4 system from technical institutions and find out whether they acquire adequate relevant skills required in the industrial labour market.
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APPENDIX A

STRUCTURE OF 8-4-4 SYSTEM OF EDUCATION IN KENYA

[Diagram showing the structure of the 8-4-4 education system in Kenya]

KEY:
- DP: DIPLOMA
- H: HIGHER

APPENDIX B

OBJECTIVES OF SECONDARY EDUCATION IN THE 8-4-4 SYSTEM (4 YEARS)

Secondary education will:
(i) Lead to all round mental, social, moral and spiritual development of the learner.
(ii) Prepare the learner to make positive contribution to the development of society.
(iii) Enable the learner to choose with confidence and cope with vocational education after school.
(iv) Build a firm foundation for further education.
(v) Ensure parity in the cognitive, psychomotor and affective skills for all students at this level in the country.
(vi) Lead to the acquisition of attitudes of national patriotism, self-respect, self-reliance, co-operation, adaptability, sense of purpose, integrity and self-discipline, respect and consideration for others, loyalty and service to home, society and the nation.

APPENDIX C

SECONDARY SCHOOL CURRICULUM IN KENYA (8-4-4 SYSTEM)

At the secondary level, the subjects offered include the following:

(a) Forms I and II: (Junior Secondary)

All students take 13 subjects:

1. English ........................................... 6 periods per week
2. Mathematics ................................. 6 periods per week
3. Kiswahili ......................................... 5 periods per week
4. Biology ........................................... 3 periods per week
5. Physics ........................................... 3 periods per week
6. Chemistry ......................................... 3 periods per week
7. History and Government ................... 3 periods per week
8. C.R.E. ............................................. 3 periods per week
9. S.E. and Ethics ................................. 2 periods per week
10. Geography ....................................... 3 periods per week
11. One applied subject: Group (v) 4 periods per week.
12. One other subject: Group (vi) 3 periods per week.
13. Physical Education 1 period per week.

(b) Forms III and IV: (Senior Secondary)

The students take 8 teaching subjects from the following groupings:

1. Languages: ............................... English
               Kiswahili
2. Mathematics: .................................
3. Sciences: ................................ Biology
               Physics
               Chemistry
               Physical Science
               Biological Science
4. Social Sciences
   Humanities: Geography
   History and Government
5. One other group (vi) 4 periods per week.
6. Physical Education 1 period per week.

(c) Alternate 2
1. English 8 periods per week
2. Mathematics 7 periods per week
3. Kiswahili 5 periods per week
4. Chemistry/Biology 5 periods per week
5. Physics/biology 5 periods per week
6. One humanity 3 periods per week
7. One applied group 5 periods per week
8. One other group (vi) 4 periods per week
9. Physical Education 1 period per week.

Group (v) Applied/practical skills subjects
   Woodwork
   Metalwork
   Leatherwork
   Building construction
   Ceramics
   Power Mechanics
   Drawing and Design
   Aviation technology
   Electricity
   Agriculture
   Home Science
   Motor mechanics
   Art and Design.
Group (vi) other subjects

- Arabic
- Commerce
- French
- Economics
- German
- Typing and
- Music
- Office practice
- Accounting

The 8 subjects are selected from the above groupings as follows:

Alternate 1:
1. English 8 periods per week
2. Mathematics 7 periods per week
3. Kiswahili 5 periods per week
4. Physical Science 5 periods per week
5. Biological Science 5 periods per week
6. One humanity 3 periods per week
7. One applied group 5 periods per week

# APPENDIX D

## VOCATIONAL SUBJECTS OFFERED IN SECONDARY SCHOOL CURRICULUM AND SOME SKILLS TO BE ATTAINED

<table>
<thead>
<tr>
<th>Vocational Subjects</th>
<th>Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Woodwork</strong></td>
<td>develop skills in proper use and care of basic woodworking tools and equipment</td>
</tr>
<tr>
<td>2. <strong>Home Science</strong></td>
<td>acquire relevant knowledge and skills in Home Science to make items for home and income generating activities</td>
</tr>
<tr>
<td>3. <strong>Art and Design</strong></td>
<td>apply knowledge, skills, concept and attitudes fundamental to art and design</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Agriculture</strong></td>
</tr>
<tr>
<td>5.</td>
<td><strong>Metalwork</strong></td>
</tr>
<tr>
<td>6.</td>
<td><strong>Building</strong></td>
</tr>
<tr>
<td>7.</td>
<td><strong>Power Mechanics</strong></td>
</tr>
<tr>
<td>8.</td>
<td><strong>Electricity</strong></td>
</tr>
</tbody>
</table>

*Note: only one skill to be acquired from a subject has been indicated above.*
## APPENDIX E

### STUDY SAMPLE OF INDUSTRIES IN NAIROBI

<table>
<thead>
<tr>
<th>Product</th>
<th>Industry</th>
<th>Number of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foods and Animal Feeds</td>
<td>Unga Feeds Ltd</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Wonder Feeds</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Nestle foods</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>House of Manji</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Clothing and Textiles</td>
<td>Wild Elegance</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Chui Industry</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Straight-Line Ltd.</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Maridadi Fabrics</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Pleated Industry</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Kenya Uniform</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Tinga Tinga</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clothing</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Sunflag textiles</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Midco textiles</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45</td>
</tr>
<tr>
<td>Baking: cakes, scones and Bread</td>
<td>Mother’s favourite</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Mini-Bakeries</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Master favourite</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
<tr>
<td>Category</td>
<td>Company</td>
<td>Count</td>
</tr>
<tr>
<td>---------------------------</td>
<td>--------------------------------</td>
<td>-------</td>
</tr>
<tr>
<td>Beverages and soft drinks</td>
<td>Smithline consumer</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Nestle foods</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Coca-cola Ltd</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Tru-foods</td>
<td>3</td>
</tr>
<tr>
<td>Cereals, Cereal flours</td>
<td>PJ products</td>
<td>1</td>
</tr>
<tr>
<td>and flakes</td>
<td>House of Manji</td>
<td>1</td>
</tr>
<tr>
<td>Wood furniture</td>
<td>Kenya wood Ltd</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Undugu society of Kenya</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Wood makers</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Slumberland</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Woodway Industries</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Furniture enterprises</td>
<td>1</td>
</tr>
</tbody>
</table>
APPENDIX F

THE QUESTIONNAIRE FOR EMPLOYEES

INSTRUCTIONS

In this questionnaire, you are asked to provide some information about yourself, your academic background, and your experience in your present occupation in this industry.

You are assured that the information collected will be kept confidential and used only for research purposes.

Please tick ( ) the most appropriate box or fill in the blank spaces provided as accurately and honestly as you can.

I thank you in advance for your cooperation.
QUESTIONNAIRE FOR EMPLOYEES

PART I

1. Name ..............................................................................................................
2. Sex ............... Marital Status ..............................................................
3. Age ................................................................................................................
4. Home District .......... Province .........................................................
5. When did you complete your school education? ...........
6. Name of the school you attended? ........................................
7. What qualifications did you get? .........................
8. (a) Have you undergone any training in a technical institution?
        Yes ( )
        No ( )
(b) If the answer is Yes, when and where?

PART II

9. (a) Which of the following practical subjects/optional subjects did you do in your secondary school level?
     1. Home Science ( )
     2. Agriculture ( )
     3. Accounts ( )
     4. Commerce ( )
     5. Music ( )
     6. Industrial Education Subjects:
        (b) How useful is the subject to your present job?
            1. Very useful ( )
(c) What criteria did the employer use to secure you this job?

1. Just form four certificate ( )
2. Good grades in form four ( )
3. My personality during the interview ( )
4. The fact that I had done pre-vocational subjects in school ( )
5. Trade Test Certificate ( )

Tick the most appropriate

17. (a) Is this the kind of job you intended to do after your form four?
   Yes ( )
   No ( )

(b) If No, specify the one you would have preferred

.................................................................

18. (a) Is the knowledge you attained in school enough to assist you establish a business of your own?
   Yes ( )
   No ( )

(b) If the answer is Yes, why did you opt for wage employment?

.................................................................

19. Do you feel you would have obtained whatever work you are doing without the benefit of having done pre-vocational subjects in school?
   Yes ( )
   No ( )

20. (a) Do you feel there is need to go for training first before being employed?
   Yes ( )
   No ( )

(b) Give reasons ...............................................

.................................................................

.................................................................

21. The following are some of the constraints experienced by the employees in various industries; which of these affected you? .
Rate them on the scale given below.

Difficulties experienced by employees in their current occupation

<table>
<thead>
<tr>
<th>Constraint</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Lack of relevant occupational skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(b) Lack of job experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(c) Long duration of training on the job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(d) Lack of relevant job promotion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(e) Lack of Technical knowledge on how to handle machines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(f) Not fully prepared to take up the job</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(g) High competition from those with relevant skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(h) Little confidence from employers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i) Long factory working hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(j) Discrimination by employers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

A = Very Much  
B = Much  
C = Not much  
D = A little  
E = Never

22. What recommendations would you give to the Ministry of Education in terms of a request which you think would adequately prepare the form four school leavers for the industrial labour force.

(i) .................................................................
(ii) .................................................................
(iii) .................................................................
Thank you very much for your cooperation and assistance in completing this questionnaire.
APPENDIX G

THE QUESTIONNAIRE FOR THE SUPERVISORS

INSTRUCTIONS

In this questionnaire, you are asked to provide some information about yourself, your industry, and your employees.

You are assured that the information collected will be kept confidential and used only for research purposes.

Please tick ( ) the most appropriate box or fill in the blank spaces provided as accurately and honestly as you can.

I thank you in advance for your cooperation.
PART I

1. Name ...................................... ................................
   (surname) (Other Names)

2. Sex ......................... Marital Status .................

3. Age ..............................................................

4. Nationality .........................................................

5. When did you join this industry?
   1. Less than one year ago
   2. Between 1-2 years
   3. Between 2-3 years
   4. Between 3-4 years
   5. Over 5 years

6. (a) Were you trained for the job you are handling?
   Yes
   No

   (b) If Yes, when and where were you trained?

       ............................................. and ..................................

7. What is your highest academic qualification?

       ........................................................................

PART II

8. What is the name of this firm?

       ........................................................................

9. When was it started? ..............................................

10. Which products do you make?
    (i) ........................................................................
    (ii) ........................................................................
    (iii) ........................................................................

11. (a) What is your total labour force? ......................

    (b) Among them how many are:

       (i) Permanent ..........................................

       (ii) ............................................................

       (iii) ............................................................

       (iv) ............................................................

       (v) .............................................................
12. Do you consider any of the following as your recruitment criteria?
   (a) Trade Test Certificate Yes ( ) No ( )
   (b) Learner’s documents Yes ( ) No ( )
   (c) Job experience/expertise Yes ( ) No ( )
   (d) Other criteria (i) ........................................ (ii) ........................................ (iii) ........................................

13. (a) How has your firm changed over the last four years in terms of technology and size?

<table>
<thead>
<tr>
<th>No significant change</th>
<th>Moderate change</th>
<th>Great change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) To what extent do you think the 8-4-4 curriculum of secondary schools changed to match changes in technology in your organization and industry?

<table>
<thead>
<tr>
<th>Not significant</th>
<th>Moderate</th>
<th>Great</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PART III

14. (a) How many 8-4-4 employees do you have ......................
(b) Among them, how many have undergone training in a technical institution before employment? .................................................................
(c) How many were employed direct from school, without undergoing any training? .................................................................
(d) Of the two groups, that is, trained and untrained, whom would you prefer? ......................
Give reasons to the answer given in (d) above
(i) ..............................................
(ii) ..............................................

15. Do you think school leavers right from school have been equipped with appropriate skills for employment or self-employment?
Yes ( )
No ( )

Give reasons to your answer .................................................................

16. Do you have the 7:4:2:3 secondary school leavers among your employees?
Yes ( )
No ( )

17. Using the table below indicate the job performance of the 8-4-4 employees in your industry.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Performance of the 8-4-4 employees</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Accuracy</td>
<td></td>
</tr>
<tr>
<td>Speed</td>
<td></td>
</tr>
<tr>
<td>Independence</td>
<td></td>
</tr>
<tr>
<td>Versatility</td>
<td></td>
</tr>
<tr>
<td>Innovativeness</td>
<td></td>
</tr>
<tr>
<td>Trade Knowledge</td>
<td></td>
</tr>
<tr>
<td>Vertical Mobility</td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td></td>
</tr>
<tr>
<td>Horizontal Mobility</td>
<td></td>
</tr>
<tr>
<td>Human relations</td>
<td></td>
</tr>
<tr>
<td>Supervisory skills</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** 1. Fair; 2. Fairly good; 3. Good 4. Very good; 5. Excellent;
18. Do the courses offered at secondary school curriculum reflect what is expected in the labour market?
   1. Very Much ( )
   2. Much ( )
   3. A little ( )
   4. Not at all ( )

19. Are you happy with the performance of 8-4-4 employees now working in the field?
   1. Very Happy ( )
   2. Happy ( )
   3. Not Very happy ( )
   4. Not Happy at all ( )

20. What particular problems do you experience with 8-4-4 employees?
   (i) ..............................................................
   (ii) ..............................................................
   (iii) ..............................................................
   (iv) ..............................................................

21. What recommendations would you give to the Ministry of Education in terms of a request which you think would adequately prepare the form four school leavers for the labour market?
   (i) ..............................................................
   (ii) ..............................................................
   (iii) ..............................................................
   (iv) ..............................................................
   (v) ..............................................................

Thank you for your cooperation and assistance in completing this questionnaire.
APPENDIX H

INTERVIEW SCHEDULE FOR EMPLOYEES

INSTRUCTIONS

The correct answers should be filled in the space provided.

1. Name of the industry .......... Category .......... 
2. Name of the employee .............................................
3. Sex ............... Marital Status ....................... 
4. Age ............................................................
5. Highest academic qualification of:
   (i) Father ............... or guardian ............... 
   (ii) Mother ............................................................
6. What is the occupation of:
   (i) Father ............... or guardian ............... 
   (ii) Mother ............................................................
7. Last school attended ............ in which Province.
8. Vocational subject done ..........................................
   grade attained ..................................................
9. The skills attained in school (i) ..................
    (ii) ..................
    (iii) ..................
10. The present occupation ..........................................
11. Is there any relevance between the vocational subject done in secondary school and the present occupation?
    ............................................................... 
12. Does your present occupation require any training?
    ............................................................... 

13. What are the relevant skills required in your present occupation?
   (i) ........................................................................
   (ii) ........................................................................

14. Have you mastered the required skills?
   Yes
   No
   ( )
   ( )

   If Yes, how did you acquire them? Through:
   (i) On-the-job training ...........................................
   (ii) Apprenticeship ..............................................
   (iii) Any other (specify) ........................................

15. Why did you opt for this job? .................................
   ........................................................................

16. What are your future aspirations? ..........................
   ........................................................................

17. List some of the problems you encounter in carrying out your duties in this firm:
   (i) ........................................................................
   (ii) ........................................................................
   (iii) ........................................................................

18. What can you recommend to the Ministry of Education in relation to vocational subjects done in secondary schools and the required skills in the industrial force:
   (i) ........................................................................
   (ii) ........................................................................
   (iii) ........................................................................

Thank you for your cooperation.
APPENDIX I

INTERVIEW SCHEDULE FOR THE SUPERVISORS

INSTRUCTIONS

The correct answers should be filled in the spaces provided.

1. Name of the industry .......... category .................
2. Name of the supervisor .........................
3. Sex ....................... Marital Status ...................
4. Age ..............................
5. Highest academic qualification ......................
6. Trained or Untrained ............... specify area of specialization ........................................

7. List the products manufactured by this industry:
   (i) ................................ (v) ................................
   (ii) ................................ (vi) ................................
   (iii) ................................ (iv) ................................

8. Specify the required skills in your industrial labour force
   (i) ................................ (iv) ................................
   (ii) ................................ (v) ................................
   (iii) ................................

9. Do the 8-4-4 entrants have the required skills?

.................................................................

10. Which vocational subject done in school forms one of the requirements of your recruitment?

.................................................................

.................................................................

11. Do you train your employees?
    Yes (   )
    No (   )
If Yes, how is it done?
(i) On-the-job training ........................................
(ii) Apprenticeship ............................................
(iii) Any other (specify) .....................................

12. What are the advantages and disadvantages of training on-the-job?
Advantages .........................................................
Disadvantages ......................................................

13. What are the advantages and disadvantages of apprenticeship?
Advantages .........................................................
Disadvantages ......................................................

14. If you have any programmes on apprenticeship do you recruit 8-4-4
degree apprentices? ............................................

15. Which problems do you encounter when dealing with these employees?
(i) .................................................................
(ii) .................................................................
(iii) .................................................................

16. What are some of the recommendations you would make to the Ministry of
Education concerning vocational subjects taught in schools and the skills
required in the labour force?
(i) .................................................................
(ii) .................................................................
(iii) .................................................................
(iv) .................................................................

Thank you for your cooperation.