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# THE CAREER ASPIRATIONS OF GRADE 12 TECHNICAL SECONDARY SCHOOL PUPILS IN ZAMBIA: A CASE STUDY OF DAVID KAUNDA AND HILLCREST SCHOOLS.

BY

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A DISSERTATION SUBMITTED TO THE UNIVERSITY OF ZAMBIA IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE OF MASTER OF EDUCATION IN EDUCATIONAL PSYCHOLOGY

UNZA LUSAKA 2002.

## DEDICATION

TO MY LATE PARENTS

(MR. NSONDO, E. CHILALA AND MRS. MOOYA, R. CHILALA).

231487

## DECLARATION

I, Chilala Mayumbwayila Michael, do solemnly declare that this dissertation represents my work, and that it has not been previously submitted to the University of Zambia or any other University, and/or higher learning institution, for the award of a degree or any other qualification. Where reference is made to other research work and publications, acknowledgements have been adequately made.

**SIGNATURE** _____

**DATE** 28-02-2002.

## ACKNOWLEDGEMENTS

I would like to express my heartfelt gratitude to Dr. O, C. Chakulimba for supervising my work from the time I started working on this thesis up to its completion, Prof. Lungwangwa for his tireless support, Dr. Luangala and Mr. Mulenga for the guidance, support and encouragement they provided to me during the research period. I would also like to thank Mrs. Kampata, Principal, and all other members of staff at the Zambia Institute of Special Education, for their tireless support and encouragement.

I, at the same time, thank Mr. and Mrs Webster Chilala for their moral and material support in all my life endeavours, and the Ministry of Education, Human Resources Department for supporting my research work. I sincerely thank my wife, Maimbolwa, for the support I have continued to receive from her in my academic endeavours. May I also thank my brothers and sisters for their support, and my late parents Mr. And Mrs Edward Chilala for being my models. I would like also to express my gratitude to the Head Teachers, Guidance Teachers, all other members of staff, and pupils at both David Kaunda and Hillcrest Technical Schools for giving me an opportunity to carry out my study in their schools and providing me with the necessary information. Once again, I thank all those, too numerous to mention, who contributed in one way or another to my completion of this thesis. May the God Lord continue blessing them all.

## ABSTRACT

Although trades and crafts were being taught in some schools in Zambia before and after independence, technical education was formally introduced after Saunders made his report on the issue in 1967. It was at this time that technical schools and other facilities such as trades training institutions were established to meet the need for skilled human resources to facilitate Zambianisation in critical areas of technology and industry. Technical education became popular and almost every pupil wished to go to technical school and take up a technical career afterwards as an engineer, technician or technologist (Wood, 1974).

However, this does not seem to be the case now because admission records at the University of Zambia (UNZA) and the Copperbelt University (CBU) indicate that since early 1990s, the proportion of pupils from technical schools being admitted to technical fields of study has steadily decreased, while that of those being admitted to non-technical fields has steadily increased. This defeats the purpose for which technical schools were established and leads Zambia into what is referred to as 'technological slavery' in the Statement of Policy and Intent document of 1969. In addition, there has been very little research done on the subject in Zambia such that most intervention efforts that have been made may not have been supported by research findings, but instead drew support from political statements.

This study was undertaken to determine whether the grade 12 pupils in technical secondary school intended to apply for training in technical or non-technical fields, and whether there were differences in career aspirations of male and female pupils. It further examined the factors that influence the pupils' career aspirations.

The proportional random sampling method was used to select 104 male and female pupils who took part in the study from David Kaunda and Hillcrest Technical Secondary Schools. Data were collected by use of a questionnaire, the Rothwell Miller Interest Blank and interviews. The collected data was analysed by use of the SPSS package. Chi-Square analysis was used to test the two hypotheses and Factor Analysis was used to determine the factors that influence pupils' career aspirations. Percentages were also used to present analysed data.

The findings of the study were that Grade 12 pupils intended to apply for training in non-technical fields. It was also observed that more male than female pupils intended to apply for training in technical fields, while more female than male pupils intended to apply for training in non-technical fields, as was hypothesised. The pupils' career aspirations were, to a larger extent, influenced by two factors - external rewards and social influence - than by other factors.

# TABLE OF CONTENTS

Dedication.....i

Declaration.....ii

Acknowledgements.....iii

Abstract.....iv

Table of contents.....vi

List of tables.....viii

**CHAPTER ONE: INTRODUCTION**

Background..... 1

Theoretical Framework of the study ..... 3

Statement of the Problem ..... 4

Significance of the study..... 4

Hypotheses..... 5

Definition 0f terms..... 6

Scope of the study ..... 7

Organisation f the study..... 8

**CHAPTER TWO: REVIEW OF RELATED LITERATURE**

Gender and Career aspirations .....9

Factors that Influence Pupils' Career Choices .....12

**CHAPTER THREE: METHODOLOGY**

Description of the sample .....15

Sampling Procedure .....15

The Research Instruments.....16

The Questionnaire ..... 16
The Rothwell Miller Interest Blank ..... 17
Interviews: ..... 17
Data Collection Procedure ..... 17
Data Analysis Procedure ..... 17
Limitations of the study ..... 18

**CHAPTER FOUR: RESEARCH FINDINGS**

Hypothesis testing ..... 26
Findings from interviews ..... 29
Summary ..... 31

***CHAPTER FIVE: DISCUSSION***

Grade 12 technical secondary school pupils' career aspirations ..... 32
Gender differences in pupils' career aspirations ..... 34
Factors that influence pupils' career aspirations ..... 35
School factors that influence pupils' career aspirations ..... 35
Labour market factors that influence pupils career aspiration ..... 39

**CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS**

Conclusion ..... 40
Recommendations ..... 40
Recommendations for policy and practice ..... 41
Recommendations for further research ..... 42

**BIBLIOGRAPHY:** ..... 43

**APPENDICES:** ..... 45

**LIST OF TABLES** **PAGE**

Table 1.Pupils' Career Aspiration - Technical/Non/Technical. N=IO4..... 28

Table 2.Pupils' Field of Career Choices by Gender. N=104..... 29

Table 3.Pupils' Specific Career Choices. N=104..... 30

Table 4.Pupils' Subject Combination, Career Aspiration and Gender. N=104 32

Table 5.Pupils' Chances of Pursuing Careers of their Choice. N=104..... 33

Table 6.Pupils' Description of Worth of a technical career. N=104..... 33

Table 7.Pupils' Feelings about Taking up a Technical Career. N=104. ..... 34

Table 8.Chi Square Test Results: Career Aspirations. N=104 ..... 35

Table 9.Chi-Square Test Results: Gender vs Career Aspiration N=104 ..... 35

Table 10.Factors Influencing Pupils' Career Aspirations..... 37

Table 11.Correlation Matrix: Factors Influencing Pupils' Career Aspiration..... 3

# CHAPTER ONE

# INTRODUCTION

## Background

In Zambia, as may be the case elsewhere in the world, secondary (high) school education is intended to be a preparatory stage for entry into tertiary education, and for "useful involvement in the life of work" (Ministry of Education, 1977:20). Before 1969, those who had the opportunity to complete Grade 12 (Form Five) were asked to indicate their career preferences. With this in mind, they were placed in the available places for Zambianisation in industry under a Quota Programme which was managed by the Directorate of Civil Service Training (Wood, 1974). Placement was in two stages: on completing Grade 12 (Form Five), school leavers were given temporal jobs; and when results came out the following year, final placement was done to suit their qualifications.

After 1969, the increased numbers of school leavers made it impossible for the directorate to continue with its role of finding jobs for school leavers, hence this service was discontinued. It was at this point that the position of a Careers Master was introduced in schools to help pupils make appropriate career choices and find jobs. At this time, it was recognised that a new situation existed in which demand for the school leavers was widening, but those firms that had been previously

dealing with the directorate had to establish new channels of communication, while those that were just starting to recruit school leavers had no where to start from. Therefore " the job opportunities had widened but the direction for school leavers had disappeared" (Wood, 1974: 12).

On 12th December, 1992, the Permanent Secretary of the Ministry of Education released a circular to change the Careers Master into a Guidance Teacher, while those who were trained in Guidance, Counselling and Placement would be referred to as School Counsellors. This was in response to increasing psychological and social problems that prevented pupils from actively participating in learning activities, which the former Careers Masters were to handle as an added responsibility.

Currently, the Ministry of Education (1996:54) states that "Less than two thirds of a total of 23000 Grade 12 candidates obtain a full pass in school leaver's certificate each year." It further states that only 20% of them gain access to tertiary education, while the rest seek for employment straight away.

Although trades and crafts were taught in some schools before independence, the Zambian Government decided to formally introduce technical education after Saunders produced his report on the issue in November, 1967. Technical schools were introduced specifically to prepare individuals to take up technical careers at higher level after completing their five (5) years of secondary school education.

However, enrolment records at both the University of Zambia and Copperbelt University indicate that since the early 1990s, the proportion of those who were admitted to technical fields from Technical Secondary Schools has

steadily reduced, while that of those admitted to non-technical fields has increased.

Therefore, the purpose of this study was to determine whether Grade 12 pupils intended to apply for training in technical or non-technical fields after completing grade 12, and whether there are gender differences in the pupils' career aspirations. The study also aimed at determining the factors that influence the pupils' career aspirations.

**Theoretical Framework of the Study**

This study is based on Super's self-concept theory of 1957, and Cochran's theory of a career problem. Super's self-concept theory argues that an individual's career pattern is determined by parental socio-economic background, mental ability, personality characteristics, and opportunities to which he / she is exposed. Going by this theory, it is expected that when pupils have been exposed to technical schooling, they would most likely aspire for technical careers.

According to Cochran, (1994), a career problem is signalled by the divergence of career lines of intention and action, and indicates lack of coherence between previous life experiences, current action, and expected

experiences for the future. In line with this theory, those pupils who are in technical schools and aspiring for non-technical careers may be considered to have career problems because their future career expectations would seem to be not coherent with their previous experiences in technical schools.

## Statement of The Problem

According to admission records at the University of Zambia and Copperbelt University, the proportion of technical secondary school leavers seeking training in technical fields has steadily decreased, while that of those seeking training in non-technical fields has increased since early 1990s. This defeats the purpose for which technical schools were set up, and slowly leads Zambia into a situation where the field of technology may be dominated by foreign experts, thereby breeding what the Technical Education Committee (1969) refers to as 'technological slavery.'

## Significance Of The Study

The research findings may assist the policy makers and planning officers in the Ministry of Education to ensure that the educational programmes offered by technical schools relate to human resources needs of Zambia's technological sector. This may be achieved either through establishment of the technical schools that will offer purely technical programmes (Ministry of Education, 1996), or by revising the curriculum of the technical schools currently being followed. The information generated may also assist the Ministry of Education, Department of School Guidance Services to establish and implement career guidance and counselling programmes that may help technical secondary school pupils identify and pursue technical careers after completing Grade 12.

## Hypotheses

It was hypothesised that:

1. Grade 12 pupils in technical secondary schools are more likely to apply for training in technical than in non-technical career fields.

2. More male than female pupils aspire for technical careers, while more female than male pupils aspire for non-technical careers.

3. Factors related to labour market have more influence on Grade 12 pupils' career aspirations than factors related to school.

4. School related factors positively correlate with labour market related factors *in influencing Grade 12 technical secondary school pupils' career* aspirations.

## .Definition of Terms

Career Aspiration: An activity or set of activities an individual wishes to carry out for the purposes of earning a living.

Educational Guidance: This will refers to the process of providing assistance and advice in schoolwork by use of instruction, testing and counselling.

Child Guidance This is the process of assisting the children in solving their emotional, educational and behavioural problems to promote their holistic development.

Career: A career is an activity or set of activities an individual carries out for the purposes of earning a living.

Counselling: Counselling is the process of interviewing, testing, challenging, prompting, and probing another person to enable him/her solve own problems and plan for the future.

Technical Career: A career that requires the application of fairly specific learned skills for accomplishing specific goals.

Skill: This refers to the capacity of an individual for carrying out complex and well organised behaviour patterns in a smooth and adaptive way to achieve a specific goal.

Trade: The term trade refers to a skill performed for the purposes of earning a living either by selling the skill or selling its end products.

Technology: Technology refers to an aspect of culture that applies findings, skills and principles of systematic investigation to the identification and solution of problems. It is broader than science, and more general than engineering.

Role: A role is any pattern of behaviour involving certain rights, obligations and duties that an individual may be expected, trained, or encouraged to perform in a given situation.

## Scope of the Study

The study involved a total number of one hundred and four (104) resident full-time pupils, 48 females and 56 males. It excluded academic production unit (APU) pupils because they do not qualify to be in technical schools on regular basis, hence their involvement may have affected the findings of the study negatively. Fifty-five (55) of the one hundred and four (104) were selected from David Kaunda, while the other forty-nine (49) were selected from Hillcrest Technical Secondary School. The findings of this research may not be generalised because the sample is too small to be representative of the total Grade 12 technical secondary school population in Zambia. They however apply to the two schools and may be a basis for further studies involving all technical schools in Zambia.

## Organisation of Study

Chapter one covers the introduction, statement of the problem, purpose of the study, significance of the study, hypotheses and definition of terms. Chapter two deals with the Literature Review. Chapter three discusses Methodology which covers the Description of the sample, Sampling Procedures, Research Instruments, Data Collection and Analysis Procedures, and Limitations of the study. Chapter Four deals with the presentation of Research Findings and Hypotheses Testing. Chapter Five discusses the research findings, while Chapter Six covers Conclusions and Recommendations.

# CHAPTER TWO

## REVIEW OF RELATED LITERATURE

This chapter deals with the review of literature related to vocational choice. Literature on career aspirations from the Zambian context was limited and difficult to access, therefore, most of the literature used in this study is based on samples that are from the western world (The United States of America and Western Europe). The first part of this literature review relates to gender differences in the career aspirations of pupils, while the second part of it discusses the factors that influence pupils' career aspirations.

### Gender and Career Aspirations

Abrams, Sparkes and Hogg (1985) carried out a study to determine the influence of sex of siblings on adolescents' academic and career aspirations. The findings were that young women's choice of careers in science decreased while young men's choice of careers in science increased the larger each of the two population samples became. These results indicate that more male than female adolescents aspire for technical academic and career pursuits. The study, however, does not provide any explanation in relation to factors that may be behind the obtained results

Similarly, Looft (1971) carried out a study on school age boys and girls to determine gender differences in their career aspirations. The results of the study were that boys aspired to a broader range of career options than girls. The other findings were that more girls stereotypically selected teacher, nurse, secretary, or mother roles, while more boys selected technical, management and other high responsibility careers. The implications of this are that more male than female adolescents were aspiring for technical careers. Archur (1985) also carried out an investigation into junior and senior high (secondary) school students' interest to pursue career aspirations versus family options. The study proved that girls were more likely to explore traditional family rearing options than boys, and that girls' interest in non-traditional options increased from grade six through to grade twelve.

The implication of these results may be that, of those that did not reach the sixth grade, more male than female pupils would strive to pursue a career of any kind. The results also imply that there is a reduction in the difference between the career aspiration of boys and girls that have gone up to grade six and above because the proportion of girls that aspire for non-traditionally feminine careers increases. The above findings with the study carried out by Franken (1983) on pre-scholars and elementary scholars to determine their career aspirations, in which there was discernible evidence that the range of career options for girls increases towards non-traditional roles as they go higher in schooling. The reason was that school promotes development of common aptitudes, attitudes, interests and goals among schoolmates. It was also argued that the higher individuals go in education, the more they discover and understand their potentialities independent of social influence from the teachers, parents and peers.

However, when McNulty and Borgen (1988) examined adolescents' aspirations in a Canadian High School sample, they found that grade, gender, and locus of control did not significantly influence discrepancies in ideal versus realistic aspirations, although they influenced the career aspirations of the pupils. These results imply that grade, gender and locus of control neither influence pupils' choice of career they may not attain (ideal careers) nor do they influence pupils' choice of careers they may attain (realistic careers). The findings of this study, therefore, suggest that the three mentioned factors (grade, gender, locus of control) may influence a pupils' career choice, without consideration of whether the career is attainable or not by the particular pupil.

Four years later, Miller and Stanford (1987) carried out a study of the poor black elementary school children to determine their career aspirations. They found that both sexes preferred highly visible and traditionally sex-stereotypical occupations, and that boys cited a broader range of occupational choices than girls.

In addition, when Arbona and Novy (1991) carried out a study on the career aspirations of black Mexican American and white college freshmen, the study revealed more gender than ethnic differences in students' career aspirations and that the differences followed traditional gender patterns.

The above literature suggest that the male pupils have a wider range of career options, and aspire more towards science and technical careers than their female counterparts. The literature also suggests that the differences in the career aspirations of the male and female pupils follows the traditional sex-stereotypical

occupations, and that the proportions of females interested in science and technical careers increases the higher one goes in education.

The researchers have not only tried to determine the career aspirations of pupils, they have also carried out research to determine the factors that influence the pupils' career aspirations. Some of the studies carried out to determine factors that influence career have yielded results as discussed below:

**Factors that Influence Pupils' Career Choices**

Marjoribanks, as quoted in Susan (1990), carried out a study on an Australian adolescent population to determine ecological factors that influence pupils in their career choices. The findings of the study were that these include family environment, occupational status of the provider, parental expectations, and youth's school attitudes. In another study carried out by Allen (1961) on 2024 young men in Liverpool, it was observed that fewer than 10% of those coming from grammar and modern secondary schools, and just over 21% of those from technical secondary schools had found their first jobs mainly through the help of the school. The other findings were that between 38% and 45% of the adolescents had relied on their families to find their first employment.

In a similar study carried out in England and Wales by the School Council (1968) based on national samples of school leavers from secondary schools, it was observed that 63% of the respondents aged fifteen found jobs through parents and relatives. The findings by Marjoribanks, and the School Council of England and Wales, suggest that families play an important role in determining career pursuit and career development of their children. The findings of the same studies

also indicate that although school may determine career development of a child, it may not be very influential in determine career choice without the supplement of family support to the career pursuits of the school leaver.

Mudenda (1992) conducted a study on a Zambian sample to determine the aspirations of 792 Grade nine and Grade eleven secondary school pupils in Lusaka and Southern provinces. Among other findings, the results of the study revealed that career guidance services in schools were not much utilised in the area of career pursuit, but pupils opted to get advice from guardians/parents and peers. Similarly, Kayungwa (1999) carried out a study of 960 primary and secondary school pupils in Zambia to determine their attitudes and awareness of guidance and counselling services. The findings of the study proved that although most of the pupils were aware of the existence of the guidance and counselling services in their schools, many of them do not know the types of services being offered, and very few of them have utilised the services on offer.

Arbona and Novy (1991) carried out a comparative study of career aspirations to the jobs available in the labour market on black Mexican and White American college freshmen. The results of the study revealed that with only a few exceptions, the career aspirations of students resembled the distribution of jobs in the labour market. The results of this study ruled out colour or racial differences from the list of factors that may influence career aspirations of pupils/students.

In Zambia today, training opportunities are limited and seem to be more diversified in commercial and other areas than in the technical field. The Ministry of Science, Technology and Vocational Training (MSTVT), the University of Zambia (UNZA) and the Copperbelt University (CBU) are among the main

providers of technical education. In terms of accessibility, it is stated that the rapid population growth that ranges from 2.7-3.1% per annum has outstripped the capacity of the economy to expand facilities and programmes within the sector. Therefore, enrolment in training institutions, including the two universities cannot increase because "with the existing facilities and resources, these establishments have reached the limits of their capacity to provide education of reasonable quality" (Ministry of Education, 1996: 10). Because of lack of expansion of facilities, enrolment in technical education and vocational training institutions has continued to stagnate.

**Summary**

The above literature suggests that vocational preferences and occupational environments change with time and experience (Super, 1957). The literature also suggested that school factors, labour market factors and home background factors are among the most influential in pupils' career aspirations and choices.

# CHAPTER THREE

# METHODOLOGY

## Description Of the Sample

Out of a total target population of 640 Grade 12 pupils at David Kaunda and Hillcrest Technical Schools in 1999, a sample of 104 was used for the study. Of these, 55 (52.9%) were from David Kaunda while 49 (47.1%) were from Hillcrest Technical Secondary Schools. Fifty-six (53.8%) were male while forty-eight (46.2%) were female. Concerning subject combinations, thirteen (12.5%) were taking natural science subjects only; thirty-two (30.8%) were taking a combination of natural sciences and technical subjects and fifty-nine (56.7%) were taking a combination of natural sciences and art subjects. The age range of the pupils was 16 – 21 years of age.

## Sampling Procedure

Lists of pupils taking the following subject combinations were used for selection of the sample: Natural Science subjects only, a combination of Natural Sciences and Arts subjects, and a combination of Natural Sciences and Technical subjects. The names of male and female members in each of the above three

categories were written in alphabetical order to allow for proportional random sampling. Then the total numbers of male and female pupils to be selected were calculated on the basis of the male to female population ratio in each of the three categories, bearing in mind that each category had to contribute proportionally making a total of 60 pupils per school and 120 pupils from the two schools. When this was done, names of pupils to take part in the study were selected randomly from the lists, starting with first name for each sex in each category and following odd numbers until the required sample size was achieved.

**The Research Instruments**

Three research instruments were used for data collection: The Questionnaire, the Rothwell Miller Interest Blank and the Interviews.

**The Questionnaire:**

A 10 item self administered questionnaire was designed for the pupils and it was sub-divided in three sections; A, B, and C. Section (A) was aimed at collecting data about the school, demographic data and subject combinations. Section (B) was meant for collection of data about whether pupils intended to apply for training in technical or non-technical career fields, whether they wanted to train at university or college level and the reasons for the pupils' responses in both cases. Section (C) was aimed at determining the factors that influence pupils in their career choices. The questionnaire was piloted at David Kaunda Technical Secondary school on 20 pupils (10 male and 10 female) to determine item validity, language clarity, and general applicability. The main findings of the pilot study

were used to refine the questionnaire and make it more user-friendly and relevant to the study.

**The Rothwell Miller Interest Blank**

The Rothwell Miller Interest Blank is in two types, one for male and the other for female persons. It was the only standardised test used during the study to collect data on career interests of the pupils. It was used in its original form without any modifications.

**Interviews**

Unstructured interviews were conducted to collect detailed qualitative information from the career guidance teachers and pupils about factors that affect the pupils' career choices.

**Data Collection Procedure**

After sample selection, the Guidance Teacher/School Counsellor was requested to invite the selected pupils for a short briefing at which they were oriented to the study and requested to willingly take part by filling in the questionnaire and the Rothwell Miller Interest Blank (RMIB), and where applicable, attending the interview. The first five (5) male and first five (5) female pupils to return the filled in data collection instruments, and Guidance Teachers / School Counsellors were invited for an unstructured interview.

**Data Analysis Procedure**

The Statistical Package for Social Sciences (SPSS) was used to analyse the collected data. Chi-Square Analysis was used to test the hypotheses, while Factor Analysis was used to determine the factors that influence pupils' career

aspirations. Descriptive statistics such as percentages were also used to analyse collected data.

**Limitations of the Study**

The limitations of this study include inadequate finances and inadequate co-operation from some of the sampled pupils.

The finances for the intended research were inadequate. It was for this reason that the researcher spent limited time collecting data from the research schools. Because of time limitations, the number of pupils that were interviewed had to be limited to the first five (5) other than interviewing everyone and the time spent interviewing each of the interviewed pupils was in certain instances inadequate.

Out of the 120 pupils who were selected to take part in the study, a total of 104 pupils finally took part because nine (9) pupils did not return the filled in data collection instruments, while the other seven (7) pupils returned spoiled instruments. This reduced the sample representation of the target population by 3%, from 19% to 16%.

In addition proportions of female pupils in technical classes were small as compared to those of their male counterparts. Therefore, a smaller proportion of female pupils from technical classes took part in the study as compared to the proportion of male pupils from these classes.

## CHAPTER FOUR

## *RESEARCH FINDINGS*

This chapter deals with the presentation of research findings. The first part of the chapter involves descriptive statistics on pupils' career aspirations and their attitudes towards technical careers as covered by the various questions in the questionnaire. The second part involves testing the four hypotheses using the Chi-Square, Factor Analysis and Correlation coefficients. The final part is a description of the findings from the interviews that were conducted on the pupils and teachers. The findings of the study were as presented below:

- The pupils were requested to indicate as to whether they preferred a technical or non-technical career. Their responses were as shown in Table 1 below.

The results indicate that only 30.8% of the grade 12 pupils in Technical Secondary Schools intended to apply for training in technical fields, while 69.2% of them intended to apply for training in non-technical fields.

**Table 1. Pupils' Career Aspiration - Technical/Non/Technical (N=IO4)**

| Sex | Technical | | Non-Technical | | Total | |
|---|---|---|---|---|---|---|
| | COUNT | % | COUNT | % | COUNT | % |
| Male | 25 | 24.04 | 31 | 29.81 | 56.00 | 53.85 |
| Female | 7 | 6.73 | 41 | 39.42 | 48.00 | 46.15 |
| Total | 32 | 30.77 | 72 | 69.23 | 104.00 | 100.0 |

When proportions of male and female pupils aspiring for technical and non-technical careers were calculated, it was observed 24.04% and 6.73% male and female pupils respectively intended to apply for training in technical career fields. On the other hand, 29.81% male and 39.42% female pupils intended to apply for training in non-technical career fields respectively.

The results, therefore, suggest that the majority of grade 12 pupils in Technical Secondary Schools aspire for non-technical careers. In addition, the results suggest that more male than female pupils aspire for technical careers.

Pupils were asked to indicate the fields of careers they intended to pursue after completing grade 12. To get this information, the Rothwell Miller Interest Blank was used. The results about the specific occupational interest areas of the pupils were computed and the average scores were as presented in table 2 below.

The results suggest that the pupils' highest four career interest fields, in descending order, were Medical, Scientific, Computational and Persuasive. The first two are Science Careers while the following two are Business Careers.

**Table 2. Pupils' Field of Career Choices by Gender (N=104).**

| Occupational Interest Area | Male | Rank | Female | Rank |
|---|---|---|---|---|
| Outdoor | 66.70 | 9 | 68.80 | 10 |
| Mechanical | 58.60 | 6 | 84.70 | 11 |
| Computational | 45.30 | 3 | 51.80 | 4 |
| Scientific | 40.90 | 2 | 44.60 | 2 |
| Persuasive | 48.60 | 4 | 47.60 | 3 |
| Aesthetic | 56.90 | 5 | 55.70 | 7 |
| Literally | 66.30 | 8 | 53.60 | 5 |
| Musical | 78.00 | 11 | 61.70 | 9 |
| Social Service | 65.40 | 7 | 53.70 | 6 |
| Clerical | 69.60 | 10 | 61.00 | 8 |
| Practical | 81.30 | 12 | 85.80 | 12 |
| Medical | 39.10 | 1 | 33.00 | 1 |
| **Mean** | **59.73** | - | **59.47** | - |

The Mechanical field ranks number six (6) for the male pupils and number eleven (11) for female pupils, while the Practical career interest area ranks the last (number 12) for both sexes. The above results still reaffirm the earlier findings in table 1 that more pupils aspired for non technical than technical careers.

- The pupils were asked to state the specific careers they aspired for after completing Grade 12.

The results in Table 3 show that the medical career was the most preferred by technical secondary school pupils at David Kaunda and Hillcrest schools. This was followed by Business Administration, Law and then Economics. The most

preferred technical career was Electrical Engineering, which ranked fifth among the five most preferred careers. Together, the pupils selected a total of twenty-two (22) careers.

**Table 3. Pupils' Specific Career Choices (N=104).**

| Specific Career Aspiration | Female % | Male % | Total % |
|---|---|---|---|
| Mechanical Engineering | 0.0 | 2.0 | 2.0 |
| Natural Science | 1.0 | 0.0 | 1.0 |
| Agriculture | 1.0 | 1.0 | 2.0 |
| Accounts and Business Administration | 0.0 | 2.0 | 2.0 |
| Accounts | 2.0 | 1.0 | 3.0 |
| Technology | 0.0 | 1.0 | 1.0 |
| Law | 7.7 | 2.9 | 10.6 |
| Biochemistry | 2.0 | 0.0 | 2.0 |
| Aerospace | 0.0 | 1.0 | 1.0 |
| Engineering | 2.0 | 0.0 | 2.0 |
| Neuro-surgery | 1.0 | 0.0 | 1.0 |
| Electrical Engineering | 0.0 | 7.7 | 7.7 |
| Chemical Engineering | 1.0 | 0.0 | 1.0 |
| Hotel and Tourism | 2.0 | 0.0 | 2.0 |
| Business Administration | 5.7 | 8.7 | 14.4 |
| Economics | 3.8 | 4.8 | 8.6 |
| Architecture | 1.0 | 3.8 | 4.8 |
| Computer Science | 0.0 | 3.0 | 3.0 |
| Pharmacy | 0.0 | 1.0 | 1.0 |
| Medicine | 12.5 | 6.7 | 19.2 |
| International Marketing and Finance | 0.0 | 1.0 | 1.0 |
| Field Not Stated (spoiled responses) | 4.8 | 5.7 | 10.6 |
| **Total** | **46.2** | **53.8** | **100.0** |

With regard to gender, the above results indicate that there were no females aspiring for Mechanical Engineering, Natural Science, Technology, Aerospace, Electrical Engineering, Computer Science, Pharmacy, and International Marketing and Finance. On the other hand, there were no males aspiring for Biochemistry, Engineering, Hotel and Tourism, and Chemical Engineering. The results also indicate that 7.7 percent of females as compared to 2.9 percent of males were aspiring for Law.

- The careers that pupils aspired for were divided into categories of Technical, Science, Commercial and Artistic. When cross tabulated against Gender and Subject Combination by percentage of aspirants, it was observed that of the 69.2% who aspired for a technical area only 29.81% were male, while 39.42% were female. On the other hand, of the 30.8% of pupils who intended to apply for training in technical career fields, only 6.73% were female, while 24.04% were male. This may lead to conclusion that female Grade 12 pupils in Technical Secondary Schools are more likely to apply for training in non-technical fields than their male counterparts. (See table 4 below)

**Table 4. Pupils' Subject Combination, Career Aspiration and Gender (N = 104)**

| Career | Technical | | Science | | Commercial | | Artistic | |
|---|---|---|---|---|---|---|---|---|
| **Subject Combination** | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** | **Male** | **Female** |
| Sciences | 33.3% | | 33.3% | 50.0% | 33.3% | 40.0% | | 10.0% |
| Science / Technical | 52.2% | 25.0% | 13.0% | 50.0% | 26.1% | 25.0% | 8.7% | |
| Science / Art | 29.2% | 13.8% | 20.8% | 31.0% | 45.8% | 31.0% | 4.2% | 24.1% |

- The pupils were asked to rate their chances of pursuing the career that they had chosen in Zambia. They responded as indicated in table 5 below.

**Table 5. Pupils' Chances of Pursuing Careers of their Choice ( N=104)**

| Rating Scale | % |
|---|---|
| Very High | 26 |
| High | 49 |
| Not Sure | 21 |
| Low | 2 |
| Very Low | 2 |

The above results suggest that 75% of the pupils felt that they had high or very chances of pursuing their chosen careers, while 4% of them felt they had low or very low chances. Twenty-one (21) percent of the pupils were not sure of their chances of pursuing the careers they had chosen.

- The pupils were asked to describe how worth a technical career is in their opinion. Their responses are as shown in Table 6 below.

**Table 6. Pupils' Description of Worth of a technical career .(N=104)**

| Worth of a career | % |
|---|---|
| Well paying and intend to take up one | 30.8 |
| Well paying but do not intend to take up one | 59.6 |
| Not well paying but intend to take up one | 2.9 |
| Not well paying and not intend to take up one | 6.7 |

The results show that the majority of the pupils (59.6%) felt that although they did not wish to take up a technical career, it is well paying, while 6.7% felt it is not well paying and therefore they did not intend to take up a technical career after completing Grade 12.

- The pupils were asked to indicate how they feel they would react if they only managed to take up a technical career after completing Grade 12 in a technical school. Their responses were as indicated in table 7 below.

**Table 7. Pupils' Feelings about Taking up a Technical Career. (N=104.)**

| **Reaction** | **%** |
|---|---|
| Very Happy | 21.0 |
| Happy | 24.0 |
| Not Sure | 34.0 |
| Unhappy | 16.0 |
| Very Unhappy | 05.0 |
| **Total** | **100.0** |

The above results indicate that thirty-four percent of the pupils were not sure of how they would react; forty-five percent of the pupils had positive feelings, while twenty-one percent had negative feelings, about taking a technical career after completing Grade 12 in a technical secondary school.

## HYPOTHESIS TESTING

### Hypothesis 1

The Chi-Square Test was applied to test the hypothesis that Grade 12 pupils in Technical Secondary Schools are more likely to apply for training in technical than in non-technical careers. The results of the test were as indicated in table 8 below:

**Table 8. Chi Square Test Results: Career Aspirations. (N=104)**

| | |
|---|---|
| Chi-square | 15.385 |
| Df | 1 |
| Sig | 000 |

### Decision.

The Hypothesis was rejected.

### Conclusion.

Grade 12 pupils in technical secondary schools are less likely to apply for training in technical than in non-technical careers.

### Hypothesis 2.

The Chi-Square Test was used to test the hypothesis that more male than female pupils are likely to apply for training in technical career fields, while more female than male pupils are likely to apply for training in non-technical career fields. The results were as indicated in table 9 below:

**Table 9. Chi-Square Test Results: Gender vs Career Aspiration. (N=104)**

| | |
|---|---|
| Chi-Square | 10.963 |
| Df | 1 |
| Sig. | .001 |

**Decision.**

The hypothesis was accepted.

**Conclusion**

More male than female grade 12 technical secondary school pupils are likely to apply for training in technical career fields, while more female than male pupils are likely to apply for training in non-technical career fields, after completing school.

**Hypothesis 3**

Factor analysis was used to test the hypothesis that the factors related to labour market have more influence on Grade 12 technical secondary school pupils' career aspirations than factors related to school. The results of the rotated Component Matrix of the factors appeared as indicated in table 10 below.

**Table 10. Factors Influencing Pupils' Career Aspirations**

| Factor | Labour Market | School Influence |
|---|---|---|
| Job Security | .605 | .326 |
| Financial Rewards | .732 | -.117 |
| Career Responsibilities | .449 | |
| Formal employment opportunities | .558 | .351 |
| School type | | .305 |
| Teacher influence | | .532 |
| Parent/Guardian influence | -.121 | .410 |
| Career Guidance | | .135 |
| Peer influence | .285 | .114 |

**Extraction method: Principal Component Analysis**

**Rotation method: Oblimin with Keiser Normalisation**

**Decision**

The hypothesis was accepted.

**Conclusion**

Labour Market factors have more influence on Grade 12 technical secondary school pupils' career aspirations than School factors.

**Hypothesis 4.**

Pearson's correlation coefficient was used to test the hypothesis that school factors positively correlate with labour market factors in influencing grade 12 technical secondary school pupils' career aspirations. A Matrix of the factors that influence pupils' career aspirations was generated and the results were as indicated in table 11 below.

**Table 11. Correlation Matrix: Factors Influencing Pupils' Career Aspiration**

| FACTOR | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| 1.Career Guid. | --- | | | | | | | | |
| 2.Job Security | .337* | --- | | | | | | | |
| 3. Fin. Rewards | -.202** | .022 | --- | | | | | | |
| 4. Career. Resp | 153* | -.067 | 120* | --- | | | | | |
| 5. Formal. Emp. | .189* | .144* | .328** | .316** | --- | | | | |
| 6. School Type | -.002 | .190* | -.001 | .234** | .045 | --- | | | |
| 7. Teacher Infl. | .186* | .395* | -.052 | -.017* | .109* | 062 | --- | | |
| 8. Parent/Guard. | .219** | -.029 | .269** | .159* | .169* | .111* | .120* | --- | |
| 9. Peer Influence | .179* | .003 | .113* | .211** | .091 | .023 | -.137* | 189* | --- |

** P<.005

* P<.001

**Decision.**

The hypothesis was accepted.

**Conclusion.**

The school factors positively correlate with labour market factors in influencing grade 12 technical secondary school pupils' career aspirations.

**Findings from the interviews**

The Guidance Teacher/school counsellors and the first five pupils of each sex to return the completed data collection instruments were invited to take part in unstructured, one to one interviews concerning factors that influence pupils' career aspirations. The information generated during the interviews was in three categories: home background, school background and labour market factors.

**Home Background**

The two main factors related to the home background were modelling and Parent/Guardian influence. Concerning modelling, it was reported that pupils choose careers that either their parents, parents' friends, relatives or any other influential people had taken and succeeded in with a view that they will be as influential and successful as their models. For example, "I want to be an accountant so that I can have a lot of money like uncle Bernard," responded one pupil when asked why he wanted to be an accountant. With regard to Parents/Guardian influence, one Guidance Teacher reported that a Grade 12 pupil had abandoned technical subjects because his father wanted him to train in marketing although the pupil had been performing very well in technical subjects.

In addition, one of the pupils stated that she was taking Art subjects instead of technical subjects because her father did not want her to take up a male career.

It was therefore, observed that parental influence and modelling (imitation) were the main home background factors that influenced pupils' career aspirations.

**School Background**

During the interviews, pupils and teachers were asked to describe school related factors that had influence over pupils' career aspirations. The responses suggested that teachers of technical subjects were among the least qualified staff and could not go beyond the position of Head of Department. This caused pupils to develop poor attitudes towards their subjects, For example, one pupil stated that he could not "prefer to be taught by non university graduates when there are graduates in other fields." The pupil went further to say " If I concentrate on technical subjects, then I will never be a university graduate like Mr.... (he mentioned the teacher's name." The low qualifications of most teachers of technical subjects was found to be a major factor influencing pupils against technical careers. Other factors were the non-functional state of equipment in the workshops, inadequate teaching and learning materials and small capacities of the workshops for practical lessons which lead to the lower enrolment rates in technical classes than in non-technical classes.

**Labour Market**

Both Guidance Teachers and pupils suggested that privatisation of the main industry, the Zambia Consolidated Copper Mines (ZCCM) and other parastatal companies which were the main employers of graduates in the technology sector

had influenced pupils against choosing technical careers. The main factor therefore was inadequate formal employment opportunities in the technical field.

On the other hand, the attitudes of pupils towards technical careers were observed to be negative. For example, one pupil said "I would rather do social science and be a personnel manager to employ an Engineer than be an Engineer and look for employment from a Personnel Officer who may not be a graduate." Another pupil stated that he would rather be an Accountant because Engineers depend on Accountants for them to do work. From the above statements and many others, it was generally observed that poor attitudes towards technical careers and inadequate formal employment opportunities are among the main industrial factors influencing pupils' career aspirations.

**Summary of the research findings.**

The findings of the study suggest that more Grade 12 Technical Secondary School pupils aspired for non-technical than technical careers fields. According to gender, more male than female pupils intended to apply for training in technical, while more female than male pupils intended to apply for training in non-technical career fields. With regard to factors that influence the pupils' career aspirations, the findings of the study indicate that factors related to labour market were more influential than factors related to the school. The findings also suggest a positive correlation of labour market and school related factors in their influence over Grade 12 Technical Secondary School pupils' career aspirations.

# CHAPTER FIVE

# DISCUSSION

The discussion is organised in four parts. The first part deals with pupils' aspirations for either technical or non-technical careers, followed by the part that deals with gender differences and pupils' career aspirations. The third part deals with factors that influence pupils' career aspirations, while the fourth part deals with the status of technical schools in relation to the career aspiration of their pupils.

## Grade 12 Technical Secondary School Pupils' Career Aspirations.

The pupils' career aspirations fell into twelve (12) different career fields, of which the top five were the Medical, Science, Computational, persuasive and Computational fields. The medical field includes medicine and paramedics. The science field includes those that require systematic investigation or functioning, for example, pharmacology. The computational field includes careers requiring ability to carry out computations and following specific procedures, for example, data entry and management. The persuasive careers require one's ability to negotiate and bargain, for example, marketing.

The top five of the twenty-two careers chosen by the pupils were medicine (19.2%), business administration (14.4%), law (10.6), electrical engineering (7.7%)

and architecture (4.8%). Among the top five, the medical (Medicine) career ranks highest, followed by persuasive (Business Administration and Law) careers.

The technical (Electrical Engineering) career ranks fourth, while the computational (Architecture) career ranks fifth. In addition, the Chi-Square test results show that more technical secondary schools intended to apply for training in non-technical, as opposed to technical career fields (P=.000).

The above information indicates that technical secondary school pupils did not give priority to technical careers. This may imply that the purpose of establishing technical secondary schools has not been achieved. This may be the case because the aim of establishing technical schools was not to produce Medical Doctors, Business managers, Lawyers, or Architecturers, but to produce technical experts who would not only be able to use, but also to develop technology that is appropriate for local industry and use (Ministry of Education, 1997). The non-priotisation of technical careers by Grade 12 technical secondary schools implies that Zambia may have to continue depending on both imported technology and foreign experts in the field of technology. This, in turn, may mean that Zambia has to stay technologically enslaved for time immeasurable, a fact that may negatively affect the country's democratisation and development processes. There several factors, most of them related to the school and the labour market situation, that may account for these findings and these are discussed in details later under the sub-heading, 'factors that influence pupils' career aspirations.'

From the above discussion, it may be concluded that more Grade12 technical secondary schools pupils aspired for non-technical than technical careers because majority of them intended to apply for training in non-technical fields.

**Gender Differences in Pupils' Career Aspirations**

The findings of the study show that of the 30.77 percent (32) pupils who intended to apply for training in technical fields, 24.04 percent (25) were male, while only 6.73 percent (7) pupils were female. The results also indicate that of the 69.23 percent (72) pupils who intended to apply for training in non-technical fields, 39.42 percent (41) were female, while only 29.81 percent (31) were male.

With regard to specific career choices, the results indicate that there were no female pupils that had selected to pursue Mechanical Engineering, Natural Sciences, Technology, Aerospace, Electrical Engineering, Computer Science, Pharmacy, and International Marketing and Finance. On the other hand, no males had chosen Biochemistry, Engineering, Chemical Engineering, and Hotel and Tourism.

The above results indicate that both male and female pupils had selected technical, non-technical, and science career fields. However, each gender (male or female) had selected specific careers in each field. The male pupils selected specific technical careers such as Mechanical and Electrical Engineering, and Computer Science, while female pupils selected specific science careers such as Biochemistry and Chemical Engineering. In the Business career field, females selected Hotel and Tourism career in the hospitality industry, while male pupil selected International Marketing and Finance.

The Chi-Square Test results show that more male than female pupils are likely to apply for training in technical career fields, while more female than male pupils are likely to apply for training in non-technical career fields (P=.001). The findings of this study seem to agree with the findings of the studies carried out by

Abrams, Sparkes and Hogg, (1985); and Arbona and Novy, (1991) in the United States of America, which established more gender than ethnic, race, or other differences in the career aspirations of pupils.

*From the above discussion, it may be concluded that gender differences* exist in the career aspirations of Grade 12 technical secondary school pupils in Zambia just like they do in many other societies. More male than female pupils aspired for technical careers, while more female than male pupils aspired for non-technical careers. In a single career field, male pupils are likely to aspired for more masculine careers, while female pupils are aspired for feminine careers. The above observations may lead to conclusion that there is sex-stereotyping in career aspirations and choices of Grade 12 technical secondary school pupils in Zambia.

## FACTORS THAT INFLUENCE PUPILS' CAREER ASPIRATIONS

Several factors that influence Grade 12 technical secondary school pupils' career aspirations were established. However, most of the factors were related to the School and the Labour Market situation. The first part of this discussion focuses on school related factors, while the second part discusses labour market related factors.

### School Factors that Influence pupils' Career Aspirations in Zambia

There are several factors related to the school and schooling that were observed to have influence on the career aspirations of Grade 12 technical secondary school pupils. Some of these factors are lack of role models, subject combinations, poor state of workshops in schools, inadequate materials, and parental/guardian interference/influence.

Information obtained from the interviews suggested that the department of practical subjects, which covers Geometrical and Mechanical Drawing (GMD), Woodwork and Metalwork, is the only one that is headed by non-degree holders in all Technical Secondary Schools in Zambia. This happens to be the case because the highest qualification a teacher can get from within Zambia, in the technical field, is a Diploma. Therefore, the heads of this department and their members of staff, in technical secondary schools, are always among the lowly qualified staff. This has implications for teachers of technical subjects and their pupils, some of which are the following:

- The head of the practical subjects department technical cannot aspire for promotion to Deputy Head and Head Teacher positions these positions at the present moment can only be occupied by a degree holder. This may mean that heads of practical subjects department have reached their highest positions in the school.
- Members of staff in the practical subjects department may never have supervisory authority over members of staff in other departments, and overall responsibility to manage technical secondary schools.
- Pupils may perceive teachers in the Practical Subjects department as failures because of their limited responsibilities in the running of the school.

The above implications may cause teachers of practical subjects to be poor role models for pupils in technical secondary schools, resulting in majority of pupils' aspiration for non-technical careers.

The other school related factor was subject combination. The research findings suggest that the problem mainly emanates from junior secondary schools

from which technical secondary schools select their pupils. The subject combination for selection to Grade 10 in a technical secondary school includes English, Mathematics, Environmental Science and Technical Drawing, as compulsory subjects at junior level, combined with either Wood Work or Metal Work. However, it was reported by one Guidance Teacher that some junior secondary schools "do not emphasise the importance of combining Technical Drawing with either Wood Work or Metal Work, instead they put emphasis on the pupils having Technical Drawing only in addition to English, Mathematics, and *Environmental Science." This may imply that even if such a pupil is selected to* Grade 10 in a technical school, s/he will not qualify for placement in a technical classroom. This may have been among the main reasons why majority (53%) of the pupils had a combination of Science and Art subjects, as opposed to Science subjects only, and/or a combination of Science and Technical subjects.

Therefore, it can be argued that majority of the Grade 12 technical secondary school pupils did not have the appropriate subject combination for them to aspire for training in technical careers, hence their aspiration for non-technical careers.

Another school related factor is the state of machinery and equipment in the workshops where pupils are supposed to carry out their practical lessons and experiment. According to one Guidance Teacher, machinery and other equipment which is supposed to be used for teaching and learning of practical subjects are non functional. The teachers and pupils who were interviewed stated that teachers of practical subjects "do a lot of private jobs which are non-educational in nature and which add to the tear and wear of the machines." Since the machines are old

and British made, their spare parts are said to be difficult to find in Zambia and very expensive to order from the manufacturers in Britain. A personal check by the researcher on the state of the equipment and machinery confirmed the reports given by the teachers and pupils. When asked as to how long it had taken without replacing or repairing the broken down machinery and equipment, one teacher stated that "the machines remain non-functional for an indefinite period when they breakdown because inadequate funding also makes it difficult for schools to replace broken parts of machines and replenish other teaching/learning materials." From the above observations, the workshops may be considered inadequately furnished for meaningful teaching and learning of technical subjects to take place. The poor state of the technical teaching and learning facilities may therefore be among the main factors causing pupils to aspire for non-technical careers.

Another factor that is related to both the school and family (parent/ guardian) influence is the selection process. Technical schools such as Hillcrest and David Kaunda have among the very highly qualified teachers who can prepare their pupils for university education. Since they were established, technical secondary schools have only been considering excellent performance at Junior Secondary School Leaving examination level in sciences, technical subjects and English. This suggests that the selection criterion does not consider the career preferences and interests of the candidates. At the same time, parents would like their children to attend high school education in technical schools to ensure that they have access to some of the best teachers. On the other hand, one Guidance Teacher reported, "parents influence their children to take up commercial subjects such as Business Administration, Accounting and Marketing, that they consider to

be highly marketable." The above information is in agreement with the findings of Allen, (1961); Susan,(1990); Mudenda, (1992); Kayungwa, (1999) which state that families tend to be more influential on pupils' career choices than the school based assistance programmes such as career guidance and counselling.

From the above information, it may be concluded that technical schools in Zambia do not have a selection criteria that takes into consideration the purpose of producing technical experts, for which they were established. The current selection criteria may be considered inadequate because it does not ensure that only pupils with technical expertise and career aspirations should be enrolled, instead, it allows technical secondary schools to enrol pupils that may not have the appropriate subject combination for enrolment into technical classes, under the auspices of excellent performance at Junior Secondary School Leaving examination level.

**Labour Market Factors that Influence Pupils Career Aspiration**

There were several factors related to the labour market situation that were considered to have influence on pupils' career aspirations. Some of these were the privatisation of public companies (parastatals) and the eventual reduction of formal employment opportunities, expected financial rewards of a career and job security.

Information generated from the interviews suggests that the privatisation of public (parastatal) companies, the liquidation of some private and public companies in the mining, construction and manufacturing sectors, and the restructuring of Government Ministries and Departments in the communication, mining and science and technology sectors, have led to a reduction of formal employment opportunities in the technical career field.

# CHAPTER SIX

# CONCLUSION AND RECOMMENDATIONS

## Conclusion

It may be concluded that most of the Grade 12 pupils in technical secondary schools aspire for non-technical careers. In terms of gender differences, more male than female pupils aspire for technical careers, while more female than male pupils aspire for non-technical careers. The fact that majority of the Grade 12 Technical Secondary School pupils aspire for non-technical careers may imply that Zambia may continue suffering from 'technological slavery.' Because of this fact, technical schools may be considered a failure because they do not seem to be serving the purpose they were intended to. On the other hand, the fact that more male than female pupils aspire for technical careers may imply a continued domination of the technology career field by men as the situation has been for a long time. The positive correlation of labour market and school related factors in their influence over Grade 12 Technical Secondary School pupils' career aspirations suggest existence of a close relationship between the career pupils aspire for and their experiences in the school. The fact that labour market factors

seem to have more influence than school related factors may suggest that educational experiences have less influence on the career aspirations of the pupils than the social economic demands of the labour market situation.

**Recommendations**

Basing on the above findings, the following recommendations were made:

**Recommendations for Policy and Practice**

1. The tools and machinery which are not functioning at the moment should either be repaired or replaced and the raw materials should be provided to technical schools in order to enhance technical education.

2. New workshops should be constructed for subjects such as woodwork, metal work and geometrical and mechanical drawing to facilitate an increased number of pupils in technical classes.

3. The number of technical classes should be increased to 6 while those of non-technical classes should be reduced to 2 in Technical Schools. This would enable technical schools to serve their intended purpose of producing future technical experts for which they were established.

4. The universities and other institutions of higher learning in Zambia should establish programmes leading to degree qualifications and above in the field of technical education in order to produce highly qualified personnel to teach technical subjects such as Geometrical and Mechanical Drawing, Woodwork and Metal work. This would help teachers of technical subjects

develop a more positive self -concept and enable them act as role models to their pupils.

5. Links between schools and training institutions should be enhanced to facilitate information exchange about available training opportunities and entry requirements. This would help pupils make appropriate and informed career choices.

6. Technical schools should enhance the teaching of technical subjects and encourage the pupils to learn not only to use imported technology, but also to create technology which is user and environmentally friendly as a way of reducing technological dependency. This may be carried out through the enhancement of the activities carried out by the Junior Engineering Technicians (JETS) clubs.

**Recommendations for Further Research**

7. A comparative study on the career aspirations of pupils in technical and non-technical schools should be carried out to determine any differences between the two school systems. The information generated would be very helpful in strategic planning for career guidance and counselling of pupils.

8. A study to determine the effect of structural adjustment and privatisation on the career aspirations of pupils should be carried out. The findings of such a study would help restructure the education system to meet industrial demands and facilitate development of realistic career aspirations of pupils.

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# APPENDICES

**Appendix 1**

## THE UNIVERSITY OF ZAMBIA

## SCHOOL OF EDUCATION

## EPSSE DEPARTMENT

## SURVEY QUESTIONNAIRE FOR PUPILS

**TOPIC:** THE CAREER ASPIRATIONS OF GRADE 12 TECHNICAL SECONDARY SCHOOL PUPILS IN ZAMBIA: A CASE STUDY OF DAVID KAUNDA AND HILLCREST.

**Introduction:**

You have been randomly selected to take part in a study as above by filling in this questionnaire. There are no wrong or right answers to all the questions, and be assured that information provided will be kept confidential. Please respond by either ticking or circling. Thanking you in advance.

Chilala, M. Michael.

**SECTION A**

1. Name of school

   (a) David Kaunda

   (b) Hillcrest

2. Sex

   (a) Male

   (b) Female

3. Number of years at the current school

   (a) 3 years

   (b) 2 years

   (c) 1 year

4. Subject combinations

   (a) Natural Science Subjects:

      (i) Biology

      (ii) Physics

      (iii) Chemistry

      (iv) Geography

      (v) Physical Science

      (vi) Human and Social Biology

      (vii) Additional Mathematics.

(b) Technical Subjects:

(i) Geometrical and Mathematical Drawing

(ii) Woodwork

(iii) Metal work.

(c) Art Subjects:

(i) History

(ii) Literature in English

(iii) Religious Education

(d) Commercial Subjects:

(i) Principles of Accounts

(ii) Commerce.

**SECTION B**

5. (a) After completing grade 12, which of the following would you like to immediately do? a. Go to the University b. Go to College.

(b) Give reasons for your response

(i) .....

(ii) .....

(c) Name the University or College that you wish to study at

.....

(d) State the Study Programme that you intend to apply for at the above stated

institution:. .....

(e) Give reasons for choosing the above study programme

(i) .....

(ii) .....

6. How would you rate your chances of pursuing a career in your chosen field of study after completing training at the above mentioned institution.

(a) Very high

(b) High

(c) Not sure

(d) Low

(e) Very low

7. How do you think you would feel if you ended up with a technical job in future

(a) Very happy

(b) Happy

(c) Not sure

(d) Unhappy

(e) very unhappy

8. Given a chance to choose between a Technical and a Non-Technical career, which of the two would you choose?

(a) Technical Career

(b) Non-Technical Career

9. How best would you describe the worth of technical careers in relation to your career aspiration?

(a) They are well paying and I intend to take up one of them

(b) They are well paying but I do not intend to take up one of them

(c) I am not sure of their worth, hence I am not decided about them

(d) They are not well paying but I intend to take up one of them

(e) They are not well paying and I do not intend to take up one of them

**SECTION C**

10. Below are some of the factors that may be influencing you in your career. Answer this question by rating the influence each of the factors has on your career choice over the following scale.

**Scale:**

(1) Very little

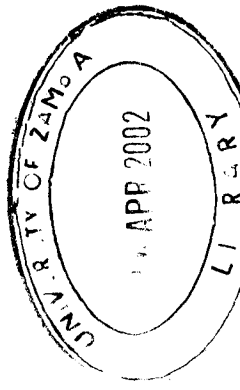
(2) Little

(3) Not Sure

(4) High

(5) Very high

| FACTOR | RATING | | | | |
|---|---|---|---|---|---|
| Job security | 1 | 2 | 3 | 4 | 5 |
| Availability of formal employment | 1 | 2 | 3 | 4 | 5 |
| Financial rewards | 1 | 2 | 3 | 4 | 5 |
| Career responsibilities | 1 | 2 | 3 | 4 | 5 |
| School type | 1 | 2 | 3 | 4 | 5 |
| Subjects you are taking | 1 | 2 | 3 | 4 | 5 |
| Teacher influence | 1 | 2 | 3 | 4 | 5 |
| Career Guidance and Counselling service | 1 | 2 | 3 | 4 | 5 |
| Peer influence | 1 | 2 | 3 | 4 | 5 |
| Influence of parents/Guardians | 1 | 2 | 3 | 4 | 5 |
| Personal feelings and Interest | 1 | 2 | 3 | 4 | 5 |



# ROTHWELL-MILLER INTEREST BLANK

M

Instructions: You will find below lists of different kinds of occupations in groups of twelve. It is possible that you will like only some of them, but we want you to number the jobs in each group from 1 to 12 in your order of preference. Disregard questions of salary or whether you think you could succeed in these occupations, but rank them only according to how you would like that kind of work. Place the figure 1 next to your first preference and so on down to 12, for the occupation you would least like in that group. Work quickly as your first impressions are desired. Number all items.

| | A | | B | | C |
|---|---|---|---|---|---|
| armer | | Toolmaker | | Auditor | |
| ivil Engineer | | Statistician | | Meteorologist | |
| ost Accountant | | Industrial Chemist | | Salesman | |
| cientist | | Radio Announcer | | Architect | |
| ales Manager | | Commercial Artist | | Playwright | |
| rtist | | Novelist | | Composer | |
| ournalist | | Orchestra Conductor | | Headmaster | |
| oncert Pianist | | Educational Psychologist | | Town Clerk | |
| eacher (Primary) | | Company Secretary | | Cabinet Maker | |
| ank Manager | | Builder | | Veterinary Surgeon | |
| arpenter | | Surgeon | | Surveyor | |
| octor | | Forester | | Fitter and Turner | |
| | D | | E | | F |
| iologist | | Interviewer | | Photographer | |
| dvertising Agent | | Jewellery Designer | | Magazine Writer | |
| nterior Decorator | | Librarian | | Organist | |
| istorian | | Music Teacher | | Scout Organiser | |
| usic Critic | | Minister of Religion | | Shipping Clerk | |
| ocial Worker | | Clerical Officer | | Wood Machinist | |
| nsurance Clerk | | Bricklayer | | Optician | |
| ouse Painter | | Dentist | | Gamekeeper | |
| harmacist (Chemist) | | Prospector | | G.P.O. Technician | |
| xplorer | | Motor Mechanic | | Bank Cashier | |
| lectrician | | Mathematics Teacher | | Botanist | |
| ncome Tax Assessor | | Agricultural Scientist | | Commercial Traveller | |
| | G | | H | | I |
| ook Reviewer | | Dance Band Leader | | Social Welfare Worker | |
| ecord Librarian (Music) | | Youth Employment Officer | | Despatch Clerk | |
| outh Club Worker | | Postal Clerk | | Shoe Repairer | |
| ffice Worker | | Plumber | | Male Nurse | |
| lasterer | | Physiotherapist | | Market Gardener | |
| -Ray Therapist | | Transport Driver | | Welder | |
| isherman | | Radio Mechanic | | Income Tax Clerk | |
| atchmaker | | Accounts Clerk | | Laboratory Assistant | |
| ashier | | Geologist | | Insurance Salesman | |
| stronomer | | Publicity Officer | | Textile Designer | |
| uctioneer | | Window Dresser | | Poet | |
| tage Designer | | Radio Script Writer | | Music Shop Salesman | |

Now write the 3 occupations you would like best of all (need not appear above):

. .....2. ..... 3. .....

| ATEGORY | A | B | C | D | E | F | G | H | I | TOTAL | RANK | %ILE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| . Out | * | | | | | | | | | | | |
| . Me | | * | | | | | | | | | | |
| . Comp. | | | * | | | | | | | | | |
| . Sci. | | | | * | | | | | | | | |
| . Pers. | | | | | * | | | | | | | |
| . Aesth. | | | | | | * | | | | | | |
| . Lit. | | | | | | | * | | | | | |
| . Mus. | | | | | | | | * | | | | |
| . S.S. | | | | | | | | | * | | | |
| . Cler. | | | | | | | | | | | | |
| . Prac. | | | | | | | | | | | | |
| . Med. | | | | | | | | | | | | |

# GLOSSARY OF OCCUPATIONS

Below are descriptions of some of the jobs you may not know.

Auditor: Checks and inspects the financial statements and records of firms.

Cost Accountant: Works out the profit and loss on each department of a business and the cost of each operation.

Despatch Clerk: Is responsible for invoicing parcels and seeing they are correctly addressed.

Educational Psychologist: Is concerned with how and why people act in various ways and assisting them with problems, including educational ones.

Geologist: Carries out scientific study of rocks, soils, minerals and earth formations.

Meteorologist: Scientifically studies weather and climatic conditions, makes weather forecasts.

Social Worker: Helps people who have a variety of problems by giving advice and useful information as to how to obtain assistance.

Social Welfare Worker: Visits families and arranges for people who are in need to receive help.

Statistician: Analyses and interprets facts and information given in terms of figures - is essentially a mathematician.

X-Ray Therapist: Treats internal disorders by means of X-Rays.

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## GLOSSARY OF FEMALE OCCUPATIONS

Below are descriptions of some of the occupations you may not know

ASSEMBLY HAND: Puts parts together to make equipment such as electrical and mechanical appliances.

ASTRONOMER: Scientifically studies the stars and outer space.

BIOLOGIST: Makes a scientific study of animals and plants.

COST ACCOUNTANT: Works out the profit and loss on each department of a business and the cost of each operation.

EDUCATIONAL PSYCHOLOGIST: Is concerned with how and why people act in various ways and assisting them with problems, particularly educational ones.

GEOLOGIST: Carries out scientific study of rocks, soils, minerals and earth formations.

HORTICULTURIST: Specialises in the growth of plants and flowers, supervises botanical gardens, public parks and flower gardens.

LENS GRINDER: Works on buffing and grinding machines preparing glass for use in spectacles, telescopes, optical instruments, etc.

METEOROLOGIST: Scientifically studies weather and climatic conditions, makes weather forecasts.

OCCUPATIONAL THERAPIST: Helps convalescent patients to exercise nerves and muscles by means of handicrafts and hobbies.

PHYSIOTHERAPIST: Treats muscle and joint complaints by means of massage, heat, ray and other treatments, such as exercise.

SEWING HAND: Works on a machine, sewing dresses, suits, etc., cut out by other people.

SOCIAL WELFARE WORKER: Visits families and arranges help for people who are in need.

SOCIAL WORKER: Helps people who have a variety of problems, by giving advice and information on how to obtain assistance.

STATISTICIAN: Analyses and interprets facts and information given in terms of figures—is essentially a mathmetician.

X-RAY THERAPIST (RADIOGRAPHER): Treats ill health by means of X-Rays.

Prepared by J. W. ROTHWELL, B.A. Revised by K. M. MILLER, Ph.D.
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## ROTHWELL-MILLER INTEREST BLANK

(1958 EDITION)

Surname..... First names.....

(block letters)

Age ..... Date of birth.....

School/College or Occupation.....

Form/Course .....

If employed—length of time in present type of work.....

Today's Date.....

F

PUBLISHED BY
THE NFER-NELSON PUBLISHING COMPANY LTD.,
DARVILLE HOUSE, 2 OXFORD ROAD EAST, WINDSOR, BERKS., SL4 1DF ENGLAND

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