THE CAREER MATURITY OF THE GIFTED AND TALENTED PUPIL

by

MARKSELLER GARRETT RAINIER

Submitted in partial fulfilment of the degree of
MASTER OF EDUCATION

DECEMBER 1983

RHODES UNIVERSITY

CONTENTS PAGE

LIST OF TABLES

ACKNOWLEDGEMENTS

In completing this piece of work I have received help from numerous sources, without which the research would have been impossible. Bob Finlay who started me on the work and Ken Dovey who helped me through it deserve my deep appreciation for the support and guidance I received. Jock Omond of the Office of the Gifted and Talented; Di Beeton and Brian Hibbert - the Gifted and Talented Co-ordinators with whom I worked; and Peter Watson who understood when my school work was not up to date, all of whom made my work a lot easier. Anne Newman also deserves my thanks for her interest and very real help. Thanks must also go to Margie Blom for her understanding and invaluable help in the final lay-out and typing.

While the help of the Cape Education Department in financing this research and in granting permission for the use of one of its schools is gratefully acknowledged, the study does not necessarily reflect official views or policy.

Finally to Barbara - now you will come first again.

Port Elizabeth, December 1983

SUMMARY

In 1980 the Cape Education Department launched a Gifted and Talented programme in some schools which was intended to enrich the educational experience of the more able pupils. Numerous studies have shown these pupils to have a higher level of career maturity than non-gifted pupils, but the studies have also shown that these pupils face unique career-development problems. Gifted and Talented pupils constitute an important source of manpower and their potential contribution to the total society is great. Consequently they are in need of effective career guidance to help them overcome their unique problems and realize their potential. This study set out to discover if the career maturity of a group of Standard 9 Gifted and Talented pupils, identified according to the original Cape Education Department criteria, is indeed higher than that of their peers and to make recommendations for facilitating career education among these pupils. Contrary to expectations the Gifted and Talented pupils did not show significantly higher levels of career maturity than their peers, as measured on the Attitude Scale of Crites' Career Maturity Inventory. Compared with the American norms, the scores obtained by the research population were unfavourable. The validity of the I.Q. scores used and the criteria for identification of Gifted and Talented pupils are seen as questionable which could have led to an inaccurate grouping of the pupils as Gifted and Talented or non-gifted. Recommendations are made for a basic career education programme for all pupils which would include periods of active work experience. Recommendations for additional career education for those currently classified as Gifted and Talented pupils are also made, so as to allow these pupils additional time for self-development, decision-making and dealing with their unique life situation.

INTRODUCTION

In late 1980 the Cape Education Department launched a pilot programme in some of its schools in which certain pupils are identified according to a specified definition as "Gifted and Talented." These pupils participate in a programme of activities designed to challenge and stimulate them, the aims of which are outlined by Neethling (p.6):

"1. Om op elke vlak en in elke skool die begaafde kind te identifiseer.

2. Om die kurrikulêre ervaring van die kind te verryk.

3. Om voorsiening te maak vir verryking op 'n buitekurrikulêre vlak.

4. Om leergeleenthede te struktureer om in die behoefte van die kind te voorsien in samehang met die verwagtinge wat daar vir sodanige kind gekoester word.

5. Om verryking as die fundamentele kenmerk in al die programme te stel en nie slegs as 'n enkele dimensie van 'n betrokke program nie.

6. Om die begaafde kind te lei om sy akademiese en maatskaplike verantwoordelikheid te aanvaar.

7. Om die begaafde kind te help om 'n realistiese en gesonde selfbeeld te ontwikkel en sodoende tot 'n besef van sy sterk hoedanighede sowel as van sy gebreke te kom.

8. Om die begaafde kind te help ontwikkel in 'n intellektueel en skeppendproduktiewe mens.

9. Om by die begaafde kind 'n besef te laat ontwikkel om sy potensiaal ten volle positief te gebruik.

10. Om gedurende sy ontwikkeling as individu ook verantwoordelikheid te ontwikkel teenoor homself en sy gemeenskap."

In practice pupils are identified as Gifted and Talented largely on the basis of their intelligence, and it has been found by a number of authors that intelligence is a factor in the prediction of career maturity but that intellectual brilliance alone is not always a measure of career maturity. It has also been shown that Gifted and Talented pupils have a higher level of career maturity than do non-gifted pupils. The Cape Education Department programme has relied heavily on intelligence as a criteria for the definition of Gifted and Talented pupils and this may lead to the group not having a higher level of career maturity than the non-gifted pupils. Consequently it is important to discover how the career maturity of pupils identified as Gifted and Talented according to the Cape Education Department's criteria compares with that of non-gifted pupils.

Although Gifted and Talented pupils are generally more career mature they have been found to face unique career development problems which requires specialised career guidance programmes. It is, therefore, likely that some aspects of their career maturity are relatively low, which will add to their unique career guidance needs. If these aspects can be identified, a career guidance programme can be established which is aimed specifically at ameliorating these weaknesses, and which deals with the specific needs of the Gifted and

Talented. Therefore it is also necessary to discover how to facilitate the career maturity of Gifted and Talented pupils so that their potential may be realized.

This study will compare the career maturity of a group of Gifted and Talented pupils and a group of non-gifted pupils and will attempt to discover how the career maturity of these Gifted and Talented pupils can be facilitated. By so doing empirical evidence will be collected to contribute to the understanding and enhancement of these pupils' career development.

In Chapter 1 the Gifted and Talented programme will be discussed; its motivation will be outlined; and the criteria used for defining children as Gifted and Talented will be explained. The chapter will also consider the concept of Career Guidance and how it exists in South Africa. The need of a specific career guidance programme for Gifted and Talented pupils will then be outlined. In Chapter 2 a review of the relevant literature on, and research into, career maturity as well as career education of the Gifted and Talented will be presented. This will cover local and international work in an attempt to establish a basis from which to proceed.

In Chapter 3 the hypotheses will be presented and a brief rationale for each will be given. The research design will be outlined and the test which is to be used will be described. The identification and selection of the subjects as well as the research procedure will also be discussed.

Chapter 4 will concern the interpretation and analysis of the data collected and the hypotheses will be tested by statistical techniques. In Chapter 5 conclusions will be drawn from these results and

recommendations for the career education of the Gifted and Talented will be made in the light of these conclusions.

CHAPTER ONE

GENERAL ORIENTATION

1. (a) The Gifted and Talented Programme and its Motivation

> "It has become increasingly apparent that a bright mind will not automatically make its own way in the world and that intellectual and creative talents cannot survive educational neglect and apathy." (U.S. Commissioner of Education; 1972, p.1).

According to Neethling (1981, p2) a surprisingly large percentage of gifted children lose interest, motivation and direction without effective stimulation and enrichment in the school situation. These children become underachievers and drop-outs, some of whom also manifest behaviour problems.

In the past much has been spent on the education of handicapped and disadvantaged children and it is often convincingly argued that available funds ought to be spent in this area before they are spent on elite education. However an obvious point made by Hutchinson (1976, p.12), Hoyt and Hebeler (1974, p.52) and others is that Gifted and Talented pupils are likely to make a far more valuable contribution to the good of the community in the future than are the disadvantaged pupils. Fredrickson (1982, p.224) points out that although the argument of limited resources and staff being devoted to those who really need them, may be valid:

> "there is probably no better place to invest time and energy with a greater rate of return, than with gifted and talented individuals."

However it seems that the very fact that these children are able militates against them as they generally learn easily and do well in school, causing little trouble. They are not seen as constituting a pressing problem but, according to Vernon (1977, p.1):

> "many of them do have difficulties and conventional schooling may turn them into poor learners and waste their talents."

Khatena (1976, p.76) notes that the overwhelming advances in so many facets of our lives over the past fifty years have been made possible by people who are exceptionally gifted and talented - people who comprise our richest natural resource. He goes on to say:

> "We have also become convinced through observation and research that we can not only tell with reasonable expectancy of accuracy who among us have the potential of becoming contributors to progress but also that we can to a large extent arrange circumstances in our environment to help realize this more fully and speedily." (p.76)

The argument for special programmes for the Gifted and Talented it succinctly summed up by Hutchinson and Young (1967, p.12 - 14):

> "If the amount of investment in education is inadequate to fulfil the purpose of education we cannot redress the inadequacy. But if our investment in education is adequate to fulfil the purpose of education we get a long-term return on our money that is second to no other investment. For we are investing in the lives of men and women.... The money we spend on weapons will ensure our physical survival, but the money we spend on education will determine the kind of society in which we shall survive."

(b) Defining the Concept of GIFTED AND TALENTED

Internationally the identification and definition of giftedness is not generally agreed upon. On the one hand, according to Khatena (1976, p.76), we have the problem of deciding what qualities of human beings can be categorized as gifted and on the other hand we have the problem of deciding the extent to which they are measurable. Neethling (1981, p.142) and Fredrickson (1982, p.224) both feel that the best definition of giftedness is that provided by the U.S. Commissioner of Education (1972, p. 10):

> "Gifted and Talented children are those identified by professionally qualified persons who by virtue of outstanding activities are capable of high performance. These are children who require differential education programmes and/or services beyond

> those normally provided by the regular school program in order to realize their contribution to self and society."

Khatena (1976) reports that prior to 1950 attempts at identification had used intelligence and its correlates in achievement - specifically school achievements - as a theoretical base. However the characteristics of the gifted child are now internationally seen as including the component of creativity:

> "To the earlier concepts of gifted people could now be added elements of behaviour that were creative, spontaneous and non-conforming, that involved a more sensitive apprehension and interaction with the external environment, that identified more intense emotional involvement and commitment, that involved creative leadership and adjustment adeptness far above the ordinary (p.77)."

The U.S. Commissioner of Education recognised this aspect of giftedness and included in the definition of Gifted and Talented pupils the following (pp10-11):

> "Children capable of high performance include those with demonstrated achievement and/or potential ability in any of the following areas, singly or in combination.
>
> 1. general intellectual ability
> 2. specific academic ability

3. creative or productive thinking
4. leadership ability
5. visual and performing arts
6. psychomotor ability

Khatena goes on to describe various standardized tests which have been designed and used to measure the creativity displayed by an individual, but because the term "giftedness" now includes more than general intellectual and creative thinking abilities, the use of tests has been supplemented with less formal measures. It has been found that very young gifted children commonly identify themselves to even a casual observer by teaching themselves to read as early as two years old and by showing precocious general advancement.

Teacher nominations is now one of the most widely used and recommended ways of identifying potentially gifted children but this method is as likely, as are group tests to fail to identify large numbers of these children. It seems that the most highly gifted children are penalized by group test scores - the higher the ability the greater the failure of such tests to reveal this ability. While supporting the above Martinson (1976, p.17) who sees teacher judgement as the least effective method, says that the combination of teacher judgement and older screening methods increases the accuracy of identification markedly.

In South Africa the matter of identifying the Gifted and

Talented was investigated by Neethling (1981) when the programme was first introduced into Cape Schools. He reported as follows (p.143):

> "in die stadium standard 1 tot standard 10 die verstandsvermoë en/of die skolastiese prestasie en/of die kreativiteitsvermoë die deurslaggewende faktore sal wees."

He recommended a sliding scale of I.Q. score and scholastic achievement and he suggested that the Guilford or the Torrance (1972) model could be used in addition to measure creativity. The emphasis in the Cape Education Department programme seems to have been on the earlier theoretical basis of giftedness - intelligence and scholastic achievement - and while it was recommended that creativity be measured, this was not a requisite.

More recently the method of identification has been changed (Cape Education Department, 1983, p.17 - 18) so that class teachers are required to identify:

> "(a) All pupils whose records show that they have characteristically performed at an "A" level (80%+) in the past;
>
> (b) All pupils currently performing at an "A" level (80%+);
>
> (c) All pupils with a total I.Q. score of 130 or above;
>
> (d) Pupils whose behaviour is characteristically

significantly more capable, competent, confident, creative or positively critical than average;

(e) Pupils who are unusual (idiosyncratic) in some dramatic way, or exceptional in some specific field (writing, mathematics, music, etc.)

(f) Pupils who are unusually highly respected by their peers for positive reasons."

A pupil should be on or above three on a five point scale for at least three categories and should be nominated by at least two different teachers. Neethling (1981) accepts that this is not an infallible or definitive method of identifying all the gifted pupils but that it will include those not obviously gifted (p.18).

The criteria now used by the Cape Education Department seems to be more in line with international thinking than it was in the past. The method of teacher ratings as well as standardized tests - albeit a group test - will, in theory, identify most of those who could be classified as Gifted and Talented in a school provided it is used accurately.

2. (a) The Concept of CAREER GUIDANCE

There are two sets of differences involved in career guidance; on the one hand there are differences found among individuals - differences in physical characteristics, general intelligence, special aptitudes, personality

traits and so on. On the other hand there are differences among the requirements and opportunities of the thousands of occupations that exist. However career guidance is far more than merely matching people with jobs. Dovey (1982, p.4) sees work as an essentially human phenomenon which can't be considered without also considering the issue of human values, thus it can't be turned into the technical problem implied above. Weinrach (1979, p. xiii) states that work has a major impact on other aspects of existence. To some extent it determines our socio-economic status, where we live, with whom we socialize, how we spend our leisure time, our hopes and our aspirations. Work has become so central to the daily existence of most people that their entire outlook is affected by it, as may be their mental health. Problems in the workplace often manifest themselves in other aspects of living.

Because work is now a major part of human experience, Dovey feels that any approach to career guidance must begin with the subjective criteria of interests and values and the individual's own interpretation of his or her life experiences.

Career guidance concerns itself with the two sets of differences outlined above, and it concerns itself with helping people to make the choices required. Fredrickson (1982, p.1) regards it as critical to the individual in much the same way as does Weinrach above, and critical to society, the survival of which depends on the most productive and satisfying use of individual talents to meet

the needs of society.

The most fitting definition of career guidance, according to Crites (1981, p.12) is that formulated by Super (1951, p.92):

> ".... the process of helping a person develop and accept an integrated and adequate picture of himself and of his role in the world of work, to test this concept against reality, and to convert it into a reality, with satisfaction to himself and benefit to society."

(b) Guidance in South Africa

In this country the definition and aims of career guidance seem to be spelt out in somewhat greater detail than in overseas sources. The H.S.R.C. (1978, p.11) states the final aim of guidance as being to:

> ".... accompany pupils to a responsible and accountable choice of education and vocation while taking their human potential into account."

The Cape Education Department, in the Manual and Scheme of Work for School Guidance (1981, p.6) outlines how the Department sees the need for career guidance and stresses the changing world of work. The responsibility of the guidance service is towards helping the pupil:

> ".... obtain insight into his own capabilities and limitations in relation to career possibilities and in evaluating thoroughly the possible implications."

In the same document Guidance is defined as (p.1):

> ".... in a broad sense helping an individual to know himself and to understand and accept his aptitudes, abilities, interests, attitudes and other facets of his personality and his personal circumstances so he may make full use of them to achieve socially acceptable aspirations and possibilities."

The 'self-satisfaction' aspect of Super's definition above seems to be lacking from the South African concept of career guidance which emphasises mainly its social usefulness. The HSRC Investigation into Education (1981) concentrates on manpower provision in the Report of the Work Committee: Guidance of the de Lange Commission, and makes only passing mention of reliable career choice leading to greater job satisfaction (3.2.3, p.13). Even here, satisfaction is seen as being derived from a development of potential and as leading to higher productivity. This emphasis on manpower needs, as opposed to individual and social needs together, often leads to career guidance becoming information giving and the concern becomes one of provision of information and information facilities while the subjective perceptions of the pupils, stressed by Dovey, are neglected.

Authors such as Laubscher (1977) and Crites (1981) have pointed out how such career guidance produces a passive information taker with reduced sense of involvement in his own life decisions. Laubscher (p.23) outlines the need for the development of knowledge and skills which

can be applied by the pupil to all career decision he must make in his life.

3. THE NEED FOR A SPECIFIC CAREER GUIDANCE PROGRAMME FOR THE GIFTED AND TALENTED

The Gifted and Talented programme is usually motivated in terms of prevention of manpower wastage (U.S. Commissioner of Education; 1972, p.81 - 94 : Fredrickson; 1982, p.224 : Neethling; 1981,p.159) but too often the Gifted and Talented are expected to 'make it on their own' or because of their multipotentiality, to adapt to whatever happens to them. Most authors feel, though, that the Gifted and Talented actually need more information and assistance with career planning because of the many more options and alternatives that they can realistically consider.

While the basic components of a career guidance programme are the same for any group, there are some problems which are peculiar to the Gifted and Talented and which require special attention. Rodenstein et al (1977) have identified the following problems.

(i) Multipotentiality - Typically Gifted and Talented Children show interest and can succeed in a wide variety of things. Only rarely is any performance so low as to suggest that the individual would be unlikely to succeed in either education or a career requiring strong performance in that competency. These pupils tend to perform evenly well in all school subjects and are often involved in a wide variety of social, athletic, community and solitary activities. Although some pupils show interest and ability concentrated in one area, most have

difficulty focusing their efforts and aspirations so as to lead to fulfillment rather than just accomplishment (Hoyt and Hebeler; 1974, p.114)

(ii) Expectations - Recognition of giftedness or talent seems to result in explicit and implicit presumptions by parents, teachers, friends and society that great things will be accomplished during education and career. They are encouraged to aim for high status positions and failure to do so is regarded as failure to meet obligations to those who provided the opportunities. (Hoyt and Hebeler; p.119). These expectations tend to limit the kinds of career directions the Gifted and Talented can acceptably consider and lead to conflict between social pressure and their own desires.

(iii) Investment - Most Gifted and Talented pupils develop their talents through extended training and higher education - essentially society's channels to status careers, but also because such education can provide the liberal and professional base for entry into many occupations they themselves would select. This leads to heavy individual commitment of time, money, involvement, dedication and personal sacrifice in terms of postponement of full adult status and responsibilities. (Hoyt and Hebeler, p.123). These commitments must often be made early and changing direction becomes increasingly difficult.

Moore (1978, p.333) adds that the Gifted and Talented need to have more time to intellectualize educational experiences in order to make effective decisions. Because of this they are more vulnerable

to delaying career planning until university which often leads to a preoccupation with education as work (Fredrickson, p.226). The perpetual role of student can be a very comfortable means of escape for some who have never investigated other options in the working world.

Often, too, the gifted pupil is expected to be as mature emotionally and socially as he is intellectually. While these two areas are positively correlated, Fredrickson (p.226) reports that this correlation is not automatic and gifted pupils need support, as well as requiring assistance in gathering career information.

These problems lead to Gifted and Talented pupils experiencing particular career guidance needs not experienced by non-gifted pupils. In addition, where shared needs exist, it is more important for them to be fulfilled for Gifted and Talented pupils than for other pupils. Hoyt and Hebeler (p.272) feel that the more valuable resources require the more accurate career planning, and feel that inaccurate career decisions are of less consequence in non-gifted pupils.

4. (a) The Concept of CAREER DEVELOPMENT

During the 1950s the focus in career guidance was beginning to shift towards a broader and more comprehensive view of the individual and his occupational development over his life span. Occupational choice began to be seen as a process of growth and learning and this shift of emphasis led to career development being seen as but one aspect of general human development. More specifically, according to Gysbers and Moore (1979, p.314) it became to be seen as:

> ".... the interaction of psychological, sociological, economic, physical and chance factors that shape the career or sequence of occupations, jobs or positions."

This view is regarded as more appropriate as it breaks the time barrier which previously restricted the notion of career choice to a limited area of an individual's life. Super and Bohn (1970, p.115) clarify the terminology of distinguishing between:

> "Occupation (what one does) and career (the course pursued over a period of time.)"

Development theories propose that the decisions involved in the selection of an occupation are made at a number of different points in an individual's life and they constitute a continuous process from childhood until after retirement. The developmental model is based on a synthesis of several streams of ideas. The recognised architect of the model, according to Crites (1981, p.118), is Donald E. Super who formulated the first principles of the model in the 1940s when he adapted Buehler's (1933) life stages scheme to the analysis of career behaviour. He saw the development of a realistic self-concept during adolescence as particularly important for future career development.

Career development, like general development, is viewed as able to be broken down into discernible stages that unfold in a systematic sequence. At each stage various

developmental tasks occur which need to be mastered. Havighurst (1973, p.2) defines a developmental task as:

> "a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and success with later tasks, while failure leads to unhappiness in the individual, disapproval by society and difficulty with later tasks."

During adolescence the developmental tasks are generally seen as being related to the changing body and to preparation for adult life including the choice of career. For Crites (1981, p.125) career development moves from orientation, exploration and readiness for making a choice to decision making and reality testing.

(b) The Concept of CAREER MATURITY

With the establishment of the theory of career development and the acknowledgement that occupational choice occurs through a series of distinct but interrelated stages, the concept of Vocational or Career Maturity developed. The basic assumption underlying this concept is that career behaviour

> "changes systematically in certain ways with increasing age." (Crites; 1961, p.255)

and it becomes more goal-directed, more realistic and more independent. (Super and Overstreet; 1960, p.31). In the late 1950s Super was the director of the "Career Pattern Study" which was the first attempt to conceptualise the field of career development. It was based

on the theoretical concept of career life-stages outlined by Super and followed a group of 9th grade (standard 7) boys over a twenty year period. This led to the development of a theoretical model of career maturity which, according to Newman (1982), consisted of the following components:

Orientation towards career choice
Information and planning
Consistency of career preference
Career Independence
Wisdom of career preference

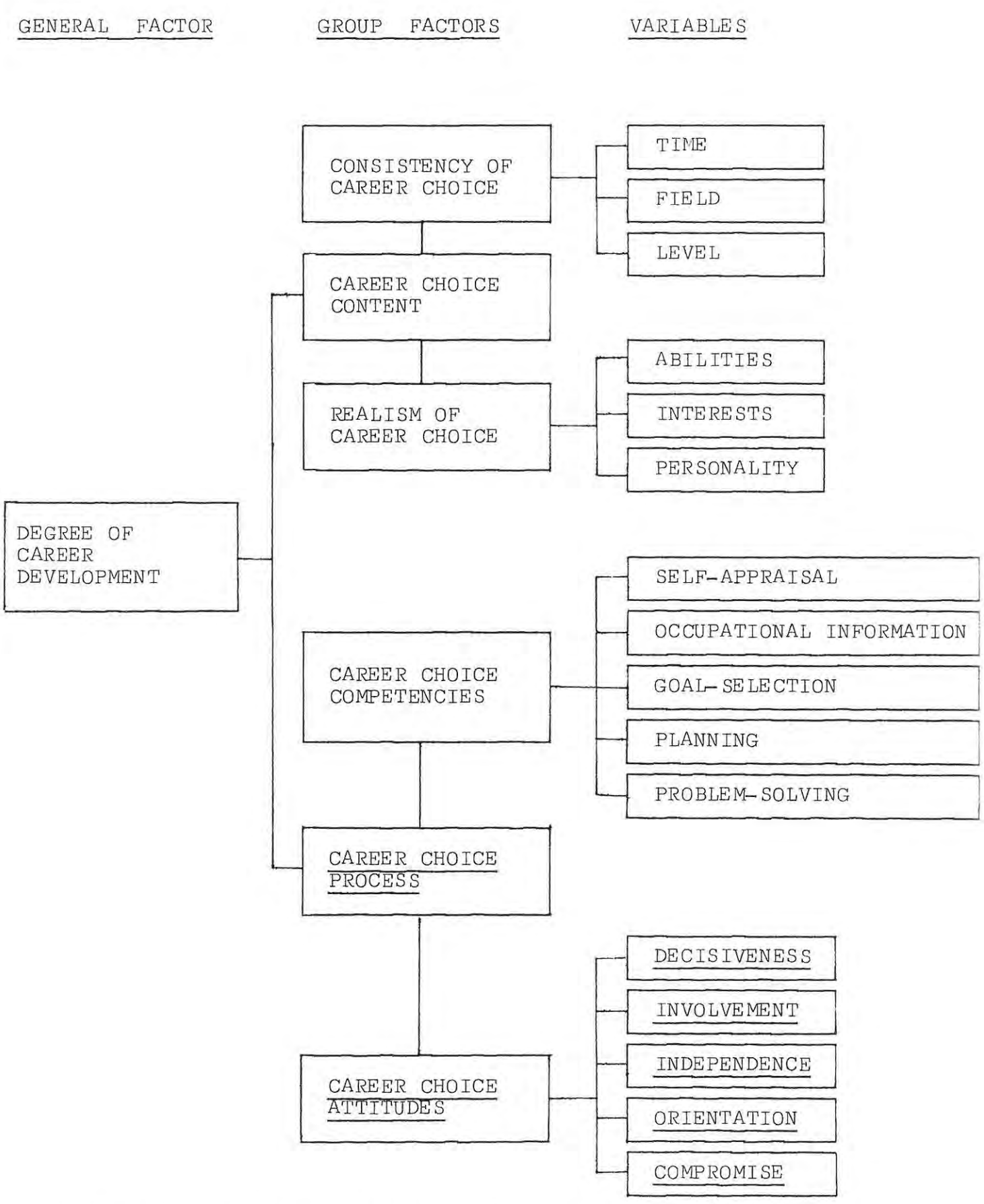
Laubscher (1977, p.27) sees this theory as the best currently available in terms of extensiveness, counselling utility, research support and research application. Super saw career choice as an implementation of an individual's self-concept and he identified specific behaviours which develop during adolescence and which are related to career success in early adulthood.

To facilitate the understanding of Super's components of career maturity Crites, who had also worked on the "Career Pattern Study", developed a research model to measure career development on four distinct dimensions. (a) consistency of choice over time, field and level, (b) realism of choice in relation to personal capabilities and employment opportunities, (c) career choice attitudes, and (d) career choice competencies (See Table 1). To determine objectively which stage of career maturity an individual has reached he constructed the Career Maturity Inventory ~~(1973)~~ (1978) which measures the PROCESS of career choice

consisting of career choice competencies and career choice attitudes.

This study, which will investigate variables in the career choice process, uses Crites research model as a theoretical basis. Educational intervention is most likely to be successful in facilitating career development when it is directed at the career choice process. This study will use the ATTITUDE SCALE of the Inventory, which is described in detail in Chapter 3, to research differences between various aspects of the career choice process in Gifted and Talented and non-gifted pupils. Crites' model provides clear perspective and structure from which to work and it provides a valid and reliable instrument to measure the constructs in question.

TABLE 1



A MODEL OF CAREER MATURITY IN ADOLESCENCE (CRITES, 1978)

CHAPTER TWO

REVIEW OF RELEVANT LITERATURE AND RESEARCH

1. (a) Career Maturity

Career Maturity is a fairly new concept, especially in South Africa where a dearth of literature exists. The 'Career Pattern Study' (Super, 1974) was the first attempt to test the validity of this concept and much research has followed its lead in attempting to identify factors which either predict, or are related to, career maturity. The second monograph of the Career Pattern Study (Super and Overstreet, 1960) identified various indicies related to the career maturity of a group of ninth-grade boys. They found that for this group of boys ORIENTATION to career choice was most highly related to career maturity. By this they meant that these boys were more aware of the need to make a choice, had greater knowledge of the factors to be considered, were more aware of the contingencies affecting their choice, accepted responsibility for their own choice and had more information about careers. Super and Overstreet also found that one of the highest corrollates of career maturity was intelligence (p.76) and boys in the study who had the highest levels of career maturity (i) lived in intellectually and culturally stimulating environments, (ii) had the mental ability to respond to this environment, (iii) responded by aspiring to higher socio-economic jobs and (iv) achieved in all their activities (p.147).

Lawrence (1974) has also found intelligence to be a strong predictor of many aspects of career maturity, especially of career choice attitudes. Herr and Enderlein (1976) support this finding but Mintzer (1976), while seeing intelligence as a correlate of career maturity, regards it as a weak correlate and as a statistically significant but weak predictor which is not developmental. The higher orientation to career choice among career mature pupils reported by Super and Overstreet is supported by Phillips and Strohmer (1982) who report, however, that scholastic achievement alone is not strongly correlated with career maturity. If this is taken with Fredrickson's (1982) comment that intellectual brilliance is not always a measure of career maturity, it may lead to doubt being cast on the assumption that the career maturity of Gifted and Talented pupils, identified according to intelligence and academic achievement, is higher than that of non-gifted pupils as has been suggested by Mintzer. Laubscher (1977) has found career maturity to be unrelated to intelligence (p.134) and has suggested as a possible reason the use by Cape Education Schools of outdated intelligence scores which are no longer reliable as they are more than three years old.

Herr and Enderlein (1976) found that, apart from intelligence, career maturity is influenced by the curriculum being followed, by experiences in the family and by sex. Mintzer reported girls scoring higher than boys on all

aspects of career maturity. Lawrence reported self-concept and race, as well as intelligence, to be predictors of career choice attitude maturity. Holland (1981), on the other hand, found socio-economic status to be a more useful predictor than self-concept, race, sex or age among preadolescents while Super and Overstreet also found socio-economic status to be highly correlated to career maturity for their sample of ninth-grade boys.

From the literature it is clear that while intelligence is generally regarded as a major correlate of career maturity, by itself it is not a strong predictor. Other factors are also useful predictors but they too cannot be used on their own. Phillips and Strohmer (1982) feel that career maturity is multiply determined by a number of factors.

(b) The Enhancement of Career Maturity

There have been various programmes designed to encourage career development but few have been specifically aimed at empirically fostering career maturity. Even Super and Overstreet (1960) outlined the task of the school in only general terms:

> "The school must help the boys broaden their horizons, explore new fields and be successful." (p. 150)

Omvig, Tulloch and Thomas (1975) investigated the effect of career education on career maturity in more detail

and concluded that it has a positive effect on increasing levels of career maturity but suggested no optimum programme.

In South Africa there have been a few studies dealing with the enhancement of career maturity. In 1977 James Laubscher developed a programme and reported the following results:

- Career maturity can develop by a career education programme.
- Job certainty can be increased as a result of participation in the programme.
- Career maturity is positively related to job certainty.
- Potential aspiration is negatively related to job certainty.
- Motivation and interest are important components for the outcome of the programme.

On the basis of these results Laubscher concluded that career education programmes can increase career maturity but should concentrate on personality development because knowledge about jobs will not help in career planning unless the pupil is interested in thinking about his future in a mature way (p.138). This is in line with his earlier assumption (p.27) that career guidance cannot be merely information giving.

The only other specific programme for career maturity was developed by Anne Newman (1981) who worked with a group of adolescents. She hypothesised that intervention aimed at nurturing career maturity during the stage of career development termed the Exploratory Stage by Super, would lead to greater ability for decision making and crystallisation of career choice based on collection and analysis of information. Her programme consisted of value clarification, interest analysis, decision-making skills, use of occupational information, information on career theory, guided fantasy, and identification of all significent others and events in the pupil's life. As a result of her study, Newman, like Laubscher, concluded that such a programme can significantly increase the career maturity of the participants.

2. CAREER EDUCATION OF THE GIFTED AND TALENTED

The need for a special career education programme for Gifted and Talented pupils has been documented in Chapter 1, but the components of such a programme have seldom been outlined. The United States Commissioner of Education, in his landmark report to congress on Education of the Gifted and Talented (1972), reported the low priority being given to programmes for the Gifted by all State and local schools (p.49). Moore (1978, p.333) quotes Hoyt and Hebeler (1974) as saying:

> "Efforts to locate career education programmes for the Gifted and Talented have, for the most part, been unrewarding."

Much of the literature which does exist on such programmes deals

with content in theoretical terms and in general outline but seldom are programmes actually outlined or empirically evaluated.

One of the early researchers in the field was Bryan (1963) who described the guidance need of the Gifted and Talented as (p.21):

> "the real difference between guidance services for Superior and Talented and those for other students lies: first, in the specific training of guidance personnel responsible for these services; and second, in the special nature of certain of these services."

He believed that Gifted and Talented pupils could relate earlier to longer range goals but, beyond this he gave no indication of what programme these pupils should follow.

More concrete guidelines have since been provided. The U.S. Commissioner of Education (1972) decided to build onto the model then being developed by the National Centre for Education Research and Development, by including activities specific to employer based career education for the Gifted and Talented. This programme was designed to display the range of occupational possibilities and to provide early opportunities for pupils to explore and test out a variety of occupational fields as, it was reasoned, much learning can occur outside academic settings. This programme saw work experience with recognised experts from the community as essential in increasing the motivation and school performance of Gifted and Talented pupils (p.173). The use of community experts has been stressed in the literature repeatedly and has become the basis of many later programmes.

Zaffron and Colangelo (1977) outline the work being done by the Research and Guidance Laboratory at the University of Wisconsin which trains counsellors to work specifically with gifted children. One of the early outcomes of this work was the discovery that for gifted children to become mentally healthy enough to be creative they need far more than the usually expected amount of guidance. They conclude that a good programme must be systematic and organized but provide scant details of the content of such a programme. Other authors have also described the work of the Research and Guidance Laboratory (Perrone and Pulvino, 1977; Rodenstein, Pfleger and Colongelo, 1977). Rodenstein et al concentrate on the career development of Gifted Women and offer concrete suggestions for meeting the career guidance needs of the gifted.

For these authors the first step is to help these pupils recognise their interests and skills so that they can be developed into satisfying careers. Secondly, the pupils need widely based information about the ways in which these interests and skills can be developed in the community so that they become aware of the variety of choices available. Thirdly, possibly the most important aspect according to Rodenstein et al, Gifted and Talented pupils need direct experience to test out their skills and interests subjectively. The need to work with community experts is once again stressed as it provides more direct and specific information as well as providing an opportunity for Gifted pupils to experience and explore numerous life-styles. This gives them a chance to think about what it means for a multipotentialed individual to have a job - such a person may well face "bordom or job dissatisfaction not faced by other individuals" (p.344).

The literature concerning the contents of a career education programme is summed up by Moore (1978) who says (p.333):

> "Career education for the gifted generally stresses challenging occupations, scholarly professions and independent types of employment. In addition, career education programmes should contain specific components which can help make the career education program an optimum experience...."

The specific components as defined by the various authors (including Hoyt and Hebeler, 1974) are reported by Moore to be

(i) Exploration opportunities in actual community settings.

(ii) Active professional role models.

(iii) Special time allotted for sharing and intellectualizing experiences.

(iv) Opportunities to examine their own self-concepts and values.

(v) In-depth views of the careers ladders and lattices for each profession explored.

(vi) Individual guidance and counselling time.

(vii) Sensitizing time to analyse professional lifestyles, values, ethics and goals.

The use of community experts is suggested throughout the literature and the programme components reported by Moore fulfill the specific career guidance needs of the Gifted and Talented outlined earl er, such as the need for additional time to assimilate information

(Moore, 1978); the need to investigate various lifestyles (Rodenstein et al, 1977), and the need for personal development (Laubscher, 1977).

Moore goes further than just describing the required components of a programme, and she outlines the 'Professional Career Exploration Program for Minorities and/or low income, Gifted and Talented 10th Grade Students' (P.C.E.P.) funded by the U.S. Office of Education through Prudue University. The programme involves the components outlined above in the form of seminars and the exploration of three professions in the community. Moore describes the seminars (p.335) as including:

> "Self-concept development, value clarification, lifestyle, career planning, the professional work ethic and professional responsibilities as well as occupational and educational information. A variety of instructional media plus community resource persons have been used to help provide students with a realistic view of different occupations."

Since the programme was not complete when the article was published, post test data was unavailable and no evaluation was possible.

Colson (1980) is able to provide evaluation of a community based career education programme for Gifted and Talented pupils at Texas A. and M. University. This programme is similar to PCEP in that it began with an instructional and growth experience phase. This was followed by observation of specialized career areas and work experience in the community under a mentor so as to "observe the required life-styles as well as to gain first hand information about the chosen career" (p.101). The conclusions reached indicate

a positive need for this type of programme to provide the required indepth career experience for Gifted and Talented pupils, and to emphasise the career relevance of their school experiences - the latter being neglected in many schools despite its importance for gifted pupils.

The content of these last two programmes may appear to be very similar to the programmes suggested by Newman and Laubscher who worked with the general population. However, although Kilian (1977, p.177) says:

> "In die beroepsleidingspraktyk bestaan daar geen wesenlike verskil tussen beroepsoriëntering aan die begaafde leerling of aan die meer gemiddelde leerling nie."

these programmes are geared specifically for the Gifted and Talented in terms of the level of information provided and the use of community resources. This last aspect is seldom part of general career education programmes although there is no obvious reason why it should be neglected except that, according to Colson (1980, p105), Gifted and Talented pupils are a more important career education target and require indepth experience which gives emphasis to the career relevance of their school experience.

In South Africa only Kilian (1977) has studied the career education of Gifted and Talented pupils. He sees their identification as of primary importance, followed by the development of self knowledge. The establishment of realistic career plans following the collection of information is the next step. Finally these plans must be integrated with the self-concept, "om 'n verantwoordelike en verantwoordbare beroepskeuse te maak." (p.156). He sees the career

education of the Gifted and Talented pupil as a process which proceeds:

> "Volgens sy uniekheid en eenmaligheid, daarom sal die gebeure, wat ook 'n opvoedkundige gebeure is, verskil van persoon tot persoon. Maar .... sal daar tog algemene fenomena wees wat uitgelig kan word." (p.156)

Kilian regarded the career education available in schools as inadequate for Gifted and Talented pupils (p.163) but serving as a starting point for individual work.

3. CONCLUSIONS FROM THE LITERATURE

After reviewing what literature is available it appears that the career maturity of an individual is determined by a number of interrelated factors, one of which is intelligence. It has been found by researchers (Super et al, 1960; Schmoll, 1975) that the career maturity of Gifted and Talented pupils is higher than that of non-gifted pupils and it has been demonstrated by Omvig et al (1975), Laubscher (1977) and Newman (1982) that levels of career maturity can be significantly increased by a career education programme. Authors such as Hoyt and Hebeler (1974) and Fredrickson (1982) have outlined why Gifted and Talented pupils are in greater need of career education than are non-gifted pupils and Rodenstein et al (1977) as well as Moore (1978) have argued that these pupils have special career needs which require a specific programme. However, although various general career education programmes exist very few have been designed specifically to foster the career maturity of Gifted and Talented pupils in an empirical way (Moore, 1978).

The programmes which have been designed for Gifted and Talented

pupils (Moore, 1978; Colson, 1980) are similar to those designed for the general population and Kilian (1978) declares there to be very little real difference between the career education of the Gifted and Talented and that of the general population. The difference which does exist seems to lie, first of all, in the level of career information provided, secondly in the intensiveness of the programme and thirdly in the use of work experience for the Gifted and Talented pupils. These differences stem from the greater importance attached to the career education of the Gifted and Talented pupils, than to that of non-gifted pupils.

Since a specialized career programme must, according to various authors, cater specifically for the needs of the population for which it aimed, these needs must be clearly identified. This research will attempt to empirically assess the career guidance needs of a group of Gifted and Talented pupils so that a relevant programme can be specifically developed.

CHAPTER THREE

COLLECTION OF DATA

1. METHOD

(a) The Problem

Intelligence is generally regarded as a major predictor of career maturity (Mintzer, 1976; Lawrence, 1974; Crites, 1978) and Schmoll (1975) found evidence that Gifted and Talented pupils have a higher level of career maturity than do non-gifted pupils. However Fredrickson (1982, p.227) says:

> "Even though a gifted student may score exceptionally highly on a group or individual standardized test, it does not mean they can necessarily benefit from an advanced or enriched class or a related work experience. The gifted student may lack the work habits, or particular information-processing skills and self-discipline. .... intellectual brilliance is not always a measure of career maturity." (my emphasis)

Because the Cape Education Department has, in the past, relied largely on group intelligence scores for the identification of Gifted and Talented pupils we may find that the group does not have a higher level of career maturity than the non-gifted pupils. It is, therefore, important to discover if pupils identified as Gifted and Talented according to Cape Education Department criteria have a higher

level of career maturity than do non-gifted pupils.

Certain unique career development problems which require a specialized career guidance programme, have been identified (Rodenstein et al, 1977; Hoyt and Hebeler, 1974) despite Gifted and Talented pupils being generally regarded as having higher levels of career maturity. It is possible that some of these unique needs stem, in part, from aspects of their career maturity which are relatively low. Rodenstein et al (1977, p.340) assert that:

> "An effective career development programme should be predicted on the career development needs of the students it is designed to serve."

Consequently, if the aspects of career maturity which are low can be isolated, a career programme can be developed which is aimed specifically at ameliorating these weaknesses and meeting the unique career development needs of the Gifted and Talented.

Therefore, it is also important to discover how to facilitate the career maturity of Gifted and Talented pupils so that their potential can be realized.

This study will seek empirical evidence to contribute to the understanding and enhancement of the career development of Gifted and Talented pupils. The specific problem to be researched is:

> Is the career maturity of Gifted and Talented pupils, as identified according to Cape Education Department

criteria, higher than that of non-gifted pupils and how can it be facilitated?

(b) Hypotheses

(i) The career maturity of Gifted and Talented pupils is higher than that of non-gifted pupils.

The literature (Mintzer, 1976; Laubscher, 1977; Crites, 1978) indicates that career maturity may be positively related to intelligence and academic success. If this is so one would expect Gifted and Talented pupils, who are identified largely according to intelligence and academic achievement, to have higher level of career maturity than non-gifted pupils.

(ii) Gifted and Talented pupils are less decisive about career choice than are non-gifted pupils.

Because Gifted and Talented pupils possess multi-potentiality (Rodenstein et al, 1977) and are able to succeed in a wide variety of areas, they can be expected to be less decisive about their career choice. Fredrickson (1982) feels that they are more vulnerable to delaying career choice until after university which also points to their being less decisive while at school.

(iii) Gifted and Talented pupils are more independent in their career choice than are non-gifted pupils.

independence, which is seen as an aspect of emotional maturity, is likely to be higher as Gifted and Talented pupils have higher social and emotional maturity than do non-gifted pupils (Lawrence, 1974; Crites, 1978). Gifted and Talented pupils, however, face higher expectations from parents and society (Rodenstein et al 1977; Hoyt and Hebeler, 1974) which could lead to their being less independent in their attitudes towards career choice.

(iv) Gifted and Talented pupils have greater orientation towards career choice than do non-gifted pupils.

Super and Overstreet (1960) found orientation to career choice to be related to the career maturity of a group of ninth grade (standard seven) boys (p.62). By this they meant that these boys show an awareness of the need to make a choice; they have knowledge of the factors to be considered; they are aware of the contingencies affecting their choice; they accept responsibility for their own choice; they possess the necessary career information.

(c) Subjects

Due to the uncertain relationship between career maturity and socio-economic status, race, sex, age and curriculum (Lawrence, 1974; Holland, 1981; Mintzer, 1976) all the subjects were taken from an all-boys white high school

which draws pupils from a fairly homogeneous upper-middle class area of the city of about 430 000 inhabitants. This specific school was selected as all pupils followed an academic curriculum and certain pupils have already been identified as Gifted and Talented as part of the Cape Education Department programme.

The standard nine class was used in the research as this is the senior year of the Gifted and Talented programme and the year in which career choice begins to take on greater importance for the pupils.

Thirty-five pupils out of the one hundred and thirty-five pupils in the standard had been identified as Gifted and Talented according to the criteria described by Neethling (1981). Their total I.Q. score, as measured by the N.S.A.G.T. as part of the normal school testing programme, was used. This score is normally obtained in standard five. If no score was available for a particular pupil he was individually tested on the Slosson Intelligence Test (1963) by the Gifted and Talented co-ordinator. The pupil's aggregate in his previous exams (November of his standard eight year) was also used. The I.Q. Score and the exam aggregate were allocated points according to a table (See Table 2) and boys who achieved over 35 points were classified as Gifted and Talented and included in the programme.

TABLE 2

I.Q. Score	Scholastic Achievement
145+ = 25	90%+ = 23
140 = 23	85 = 21
135 = 21	80 = 19
130 = 19	70 = 17
125 = 17	60 = 15
	60- = 14

Points Allocation for the Identification of Gifted and Talented Pupils (Neethling, 1981; p.143)

(d) Apparatus and Scoring

The basic assumption that underlies the various definitions of career maturity is that career behaviour changes systematically with increasing age. More specifically, career behaviour becomes more goal-directed, more realistic and more independent (Super and Overstreet, 1960). To assess an individual's progress towards more mature career behaviour it is necessary to subdivide the total developmental process into a number of smaller units. This, according to Crites (1961), can be done in at least two different ways. Buehler used typical behaviour of individuals at given age levels, in her 1933 analysis of life histories, to identify a series of life stages. In 1953 Havinghurst referred to developmental tasks which also provide criteria for the definition of life stages. Crites (1961) proposed a definition of career maturity

according to behaviour and developmental tasks rather than either alone. Conceptually, the procedure involves identifying an individual's developmental tasks and life stages from his chronological age and then determining his degree of career development within that life stage from his behaviour. Crites combines this definition of career maturity with a measurement model which is derived from a synthesis of age- and point-scales. This results in measurable variables for degree and rate of career development. This combination required the

> "Construction of a scoring key from items that differentiate older and younger groups within a given career life stage and the establishment of norms for each age level in the developmental period." (Crites; 1961, p.259)

An individual's reference group for evaluating his career maturity is, therefore, his peer group not his age group (Hansen, 1974).

The result of Crites' theorizing, outlined above, was the construction of the Vocational Maturity Inventory which was later renamed the Career Maturity Inventory. It was designed to measure the maturity of attitudes and competencies necessary for realistic career decision-making.

The Attitude Scale of the C.M.I. has been used in various studies to measure career maturity (Laubscher, 1977; Moore, 1978; Newman, 1981) but the Competence Test is used less

often due to its inadequate reliability and validity of data; the length of administration; and the fact that it is somewhat culture bound (Laubscher; 1977, p.62; Westbrook et al, 1980). According to Crites (1978, p.3) the Attitude Scale "elicits the feelings, the subjective reactions, the dispositions that the individual has towards making a career choice and entering the world of work."

Five variables are surveyed (a) decisiveness in career decision-making (b) involvement in career decision-making (c) independence in career decision-making (d) orientation to career decision-making (e) compromise in career decision-making. There are two forms of the scale: the Screening Form A - 2 which yields a total score out of fifty, and the Counselling Form B-1 which provides separate scores for each of the five variables.

Crites (1978) lists five major uses to which the Attitude Scale can be put.

(a) Studying career development: The best established use of the Attitude Scale is its validity as an operational definition of the Career Choice Attitude dimension in the model of career maturity (see Table 1). This model, which is conceptually rooted in the work of the Career Pattern Study (Super et al, 1960) has been extensively used to test hypotheses stemming from career development theory.

(b) Screening for career immaturity : Crites (p.32) states

that "Almost two thirds of those completing their secondary school education .... can be considered career immature."

The Screening Form of the Attitude Scale can be used to identify members of a group with exceptional career needs.

(c) Assessing guidance needs : Crites emphasises that guidance is not only a "treatment process" but "also a stimulus condition which facilitates and enhances career development" (p.32). The Attitude Scale has been used widely to "determine what the career attitude maturity is for junior and senior high school students, and how it might be improved." (p.32)

(d) Evaluation of career education: Crites sees the Attitude Scale as especially useful for this as it measures the variables which career education programmes are trying to develop. Laubscher (1977) and Newman (1981) used the test for this purpose.

(e) Testing in career counselling: The Attitude Scale can also be used by a counsellor to focus on aspects of career decision-making which may be giving an individual particular difficulty.

The C.M.I. is scored by:

"Counting the number of keyed responses in each test or subtest. This procedure produces raw scores which can be interpreted in terms of "Local norms" derived

from distributions of the group tested." (Crites, 1978; p.26)

The Attitude Scale of the C.M.I., which is relatively culture-free because the individual is compared with his peers and because raw scores are used instead of standard scores, is particularly suited for this study into the career maturity of Gifted and Talented pupils. In (c) above Crites is quoted as stating that one of the uses of this test is to "determine what the career maturity is for junior and senior high school students, and how it might be improved." The problem to be considered in this study is the assessment of the 'career maturity of Gifted and Talented pupils and how it can be facilitated.'

The Counselling Form B-1 of the Attitude Scale is used in this research (See Appendix 1) so as to assess the degree of career maturity in each of the five areas measured. A score for overall career maturity is also obtained by scoring 50 specified items in the 75 item test (Appendix 2).

(e) Procedure

The Counselling Form B-1 of the Attitude Scale was administered to all standard nine pupils in the selected school. This was done in the normal classrooms during the weekly Career Guidance period by the school's Teacher psychologist who was familiar with the test. The required procedure and instructions were followed. The original

nature and purpose of the test was explained to the subjects but no reference was made to the research being carried out with the results which were also used by the Teacher-Psychologist in normal career counselling. Administration of the test took less than thirty minutes and the subjects worked at their own pace.

The names of those pupils who had previously been identified as Gifted and Talented were then obtained from the co-ordinator of the programme. These boys formed the Gifted and Talented group for the research and are referred to as GROUP A. The rest of the standard formed the non-gifted group and they are referred to as GROUP B. Three boys who were absent when their classes were tested were excluded from the research.

2. ANALYSIS OF DATA

The scope of the study was such that the population studied was considered to be the Standard nine pupils at the selected school. Consequently no generalization can be drawn from these results. The obtained results were analysed by means of a t-test where the nature of the data permitted, and by means of a chi-squared where a t-test could not be used. The t-test was the first choice because of its power to reject the null-hypotheses when they are, in fact, false but, because certain scores were not normally distributed over the population, a chi-squared was also used.

Since the hypotheses indicate direction of difference, the

t-tests were one-tailed, with the region of rejection located at only one end of the distribution.

Having considered the consequence of Type I and Type II error, it was felt that it would be more advantageous to set a less stringent level of significance than $p < ,01$. The consequences of a Type I error in this study would mean that if it is accepted that there is a difference between the levels of career maturity of the two groups when, in fact, no such difference exists (that is, rejection of the null hypothesis when it is true), staff and school time would be wasted on a non-productive programme, and certain pupils would be given additional attention which is unwarranted (probably at the expense of other pupils). However, the consequence of saying that there is no difference between the career maturity of the groups when such a difference does, in fact, exist (Type II error) could be more serious in that there would be a failure to provide special programmes and resources which would ultimately benefit society as well as the children educationally, psychologically and socially.

A statistic level of significance of the $p < ,05$ was therefore decided upon, and maintained throughout the study.

CHAPTER FOUR

RESULTS

The general research problem was the comparison of the career maturity of a group of Gifted and Talented pupils with that of a group of non-gifted pupils, and an investigation of ways in which the career maturity of the Gifted and Talented pupils can be increased. Hypotheses were formulated to research the problems and the career maturity of all the pupils was measured. The data obtained was analysed using one-tailed t-tests and chi-squared tests. The results are presented below and summarized in Table 3.

Hypothesis 1 : The career maturity of Gifted and Talented pupils is higher than that of non-gifted pupils.

Null-Hypothesis : The career maturity of Gifted and Talented pupils is not higher than that of non-gifted pupils.

Chi-squared was used to analyse the career maturity differences between Gifted and Talented pupils and non-gifted pupils. The results indicate that, although Gifted and Talented pupils achieved higher mean career maturity than non-gifted pupils, this difference was very small and not statistically significant (level of significance, $p < ,05$). Null-Hypothesis 1 is therefore retained and Hypothesis 1 which states that Gifted and Talented pupils have higher career maturity than non-gifted pupils must be rejected.

Hypothesis 2 : Gifted and Talented pupils are less decisive about career choice than are non-gifted pupils.

Null-Hypothesis 2 : The level of decisiveness in career decision making is not higher in non-gifted children than in Gifted and Talented children.

The results of testing show that rather than Gifted and Talented pupils having lower levels of decisiveness in career decision making, they score higher than non-gifted pupils in this aspect of career maturity. However t-test analysis of the differences between the results of the two groups shows the difference not to be significant at the 0,05 level. Consequently Null-Hypothesis 2 must be retained while Hypothesis 2, which indicates Gifted and Talented pupils are less decisive than non-gifted pupils, must be rejected.

Hypothesis 3 : Gifted and Talented pupils are more independent in their career choice than are non-gifted pupils.

Null-Hypothesis 3: Gifted and Talented pupils are not more independent in their career choice than are non-gifted children.

The results show that Gifted and Talented pupils are more independent in their career decision making but t-test analysis of the data from the two groups shows that this difference is not significant (level of significance, $p < ,05$). Null-Hypothesis 2 must

be retained while Hypothesis 3, that Gifted and Talented pupils are more independent than non-gifted pupils in career choice, must be rejected.

Hypothesis 4 : Gifted and Talented pupils have greater orientation to career choice than do non-gifted pupils.

Null-Hypothesis 4 : The level of orientation to career choice of Gifted and Talented pupils is not higher than that of non-gifted pupils.

A chi-squared analysis was used with the results obtained from the two groups for this aspect of career maturity. Once again, the score obtained by the Gifted and Talented pupils was not significantly higher at 0,05 level of significance than that obtained by the non-gifted pupils. So Null-Hypothesis 4 must, once more, be retained while hypothesis 4, which states Gifted and Talented pupils to have a higher level of orientation to career choice than non-gifted pupils, must be rejected.

TABLE 3

Aspect of Career Maturity Measured	Test Used	Mean Scores ($\bar{x}$)	t or χ^2	df	p
Total Career Maturity	Chi-squared	A = 34,857 B = 33,27	χ^2 = 2.719	3	5 > p > .?
Decisiveness in Career Decision-making	t-test	A = 5,2 B = 5,03	t = 0,1537	133	p>0,1
Independence in Career Decision-making	t-test	A = 8,486 B = 8,04	t = 0,2103	133	p>0,1
Orientation in Career Decision-making	Chi-squared	A = 6,286 B = 5,95	χ^2 = 1,7536	4	0.9>p>0.8

A Summary of the analysis of the difference between Gifted and Talented pupils and non-gifted pupils for aspects of career maturity

A = Gifted and Talented Pupils

B = Non-gifted pupils

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

1. CONCLUSIONS

The results indicate that although Gifted and Talented pupils score consistently higher in all aspects of career maturity, the difference between their scores and those of non-gifted pupils is not large enough to be statistically significant. It would appear from the statistical analysis of the results that a Type II error (accepting the null-hypothesis when there is, in fact, a difference between the groups) is unlikely to have been made so we can be fairly certain that, in fact, the quality of 'Giftedness' which is used to differentiate the groups does not lead to differing levels of career maturity.

These results are somewhat surprising in the light of the literature on the topic which indicates that a significant difference between the groups can be expected. However it must be remembered that the research was conducted on a very specific population, which may be abnormal, and should not be regarded as generalizable to a wider population.

One of a number of reasons or a combination of these, may explain the results obtained in this study. In the first place it may be that all the pupils in the study have a high level of career maturity due to the career education programme run at the school. Aspects of Laubscher's (1977) and Newman's (1981) programmes designed for the general population are included in the school's general career education programme, which involves value clarification, interest analysis and information on career theory.

Various suggestions for the career education of the Gifted and Talented pupils (Rodenstein et al, 1977; Moore, 1978), such as encouraging work experience and providing in-depth information on a wide viariety of occupations, are implemented in the school's programme. However, when the results are compared with scores obtained by Crites (1978) for Grade 11 pupils in America, we find that the scores are not particularly high at all, as can be seen in Table 4. Scores obtained by Gifted and Talented pupils for orientation to career decision-making are, in fact, considerably lower than the scores obtained by the general population in America.

Obviously no real comparison can be drawn between the research population and the American sample even though the test is relatively culture free. The sample used by Crites was far larger and more representative of the population as a whole than is the very restricted research population and, consequently, is more likely to be normally distributed due to statistical regression. It must also be remembered that the general career education programmes run in American Schools are far more intensive and have been running for much longer than the South African Programmes which have traditionally concentrated on information giving despite Laubscher's (1977) assertion about the need for personality development (see Chapter Two). Because the career education movement is relatively new in South Africa the research population are unlikely to have obtained the full benefit of a highly developed programme as that experienced by Crites' sample. The low Orientation score confirms this possibility.

While acknowledging the initial differences between the research

population and Crites' sample a comparison, although not necessarily accurate, is interesting. The considerably lower scores obtained in the research by even GROUP A for orientation to career decision-making, and the similarity between the other scores achieved by the research population and Crites' sample seems to indicate a weakness in the career maturity of the research population - especially the Gifted and Talented pupils (Group A), who one expects to score higher than the general population. Obviously, then, high overall scores cannot be responsible for the lack of difference between Group A and Group B in this study.

TABLE FOUR

	n	a	b	c	d	e	f
Research Population	135	33,86	5,07	8,87	8,16	6,04	5,13
Gifted and Talented Pupils	35	34,86	5,2	8,94	8,49	6,29	5,37
Non-gifted Pupils	100	33,27	5,03	8,85	8,04	5,95	5,05
U.S.A. Sample	8341	34,09	5,36	8,85	8,79	7,48	5,45

n = Number of Subjects in the Group

a = Total Career Maturity

b = Decisiveness in Career Decision-Making

c = Involvement in Career Decision-Making

d = Independence in Career Decision-Making

e = Orientation to Career Decision-Making

f = Compromise in Career Decision-Making

Mean Scores ($\bar{x}$) achieved by the research population and by Crites' (1978) sample on the Attitude Scale

In his research, Laubscher (1977) found that intelligence is not related to career maturity despite previous studies which have shown a relationship between the two. He suggested one reason for his results being that the I.Q. scores used were no longer reliable since they were more than three years old (p.134). The I.Q. scores used in the identification of Gifted and Talented pupils for the current research may, similarly, be unreliable since most scores were taken at least four years earlier. The test used at the time was a group intelligence test which, according to the U.S. Commissioner of Education (1972, p.18) and Maloney and Ward (1976, p.226) penalizes children with higher intelligence. Consequently the actual validity of the measured intelligence of the pupils, especially the Gifted and Talented pupils, is in question.

Possibly more important than this is the question of the definition of 'Gifted and Talented' used in the research. The old Cape Education Department definition (Neethling, 1981) was used by the school to identify the Gifted and Talented pupils who were used in the study. This definition relied on a combination of I.Q. and achievement (See Table 2 in Chapter 3) while giving the option of using a standardized test of creativity as well. In practice the school used the I.Q. scores - the validity of which may be questioned - and the previous exam aggregate (November of Standard eight). No test of creativity was applied and it was decided, by the Gifted and Talented organizer at the school, to allow borderline cases onto the programme rather than to exclude them.

In Chapter One it was outlined how some highly gifted people fail to achieve well on group intelligence tests or in school examination

situations. The procedure for selecting Gifted and Talented pupils used by the school may well have failed to identify pupils who do not have high I.Q. scores and who have not done very well academically but who could be classified as Gifted and Talented according to other criteria such as creativity. If this is so then the non-gifted group would contain pupils who, according to other definitions, could be called Gifted and Talented and whose level of career maturity would cause the mean of the group to be higher than expected. By the same token the Gifted and Talented group contain those borderline pupils who are high achievers but who may not be truely 'Gifted' and whose lower career maturity scores would lower the mean of this group.

From the above it can be seen that although the results are applicable to only a very specific population they are unexpected and may be ascribed to one or more extraneous factors, the most likely of which appears to be the validity of the I.Q. scores used, and the accuracy of the criteria used to identify Gifted and Talented pupils. Differentiation of the population may, thus, be inaccurate. It would also appear from the results that the career maturity of all the pupils in the population is not very high despite a career education programme which seems to contain all the required components. The pupil's orientation to career decision-making is especially poor. The causes of this low career maturity may be varied but, bearing in mind Laubscher's (1977) comments about the need for pupil motivation, it must be remembered that although the programme seems to contain the necessary components, it is new in the school and many weaknesses in the South African career education system exist, not least of which is the very low

priority given it by the Cape Education Department.

2. RECOMMENDATIONS

The results of this study show beyond doubt the need for a more sophisticated career education programme and it is clear that the greatest emphasis should be placed on increasing the pupil's orientation to career decision-making. The literature has indicated the need for a specialized career education programme for Gifted and Talented pupils. The lack of any significant difference between groups in this study suggests that the Gifted and Talented pupils in our school are, indeed, greatly in need of a planned and comprehensive programme designed to increase their level of career maturity. Although the recommendations below are based on the results obtained from the research population and are made in terms of the specific school organization, which includes the use of the Gifted and Talented enrichment programme already in operation in the school, they may be implemented in any school by the Guidance Department or Teacher-Psychologist.

The development of a programme for an area such as career education, and especially for a select section of the population, poses peculiar problems and requires special strategies. Any discussion must, therefore, recognise certain basic assumptions (Hoyt and Hebeler; 1974, p.271).

(i) Career education is a valued and necessary part of education and is identified as such by the local economic and educational communities, the parents and the pupils.

(ii) The Gifted and Talented are in greater need of career education than are the non-gifted.

(iii) Career education is a joint responsibility of the school and the community, with the school taking the lead.

(iv) The physical requirements necessary for planning and providing the programme are available.

Before the programme can be implemented these assumptions should be met as far as possible. The programme should not be left, however, entirely in the hands of a single Teacher-Psychologist in each school who lacks the resources, the knowledge and the time to plan, let alone implement, a full and adequate programme. At the same time the pupils, their parents and the community should recognise the need for career education and be prepared to participate. It is desirable to offer, as far as possible, the entire programme to as many pupils as would like to participate on a voluntary basis, but due to practical considerations as well as the need to cater for the unique career development problems of the Gifted and Talented pupils, it needs to be flexible enough to allow these pupils additional time and opportunities to those provided for the general population.

Such a programme should, according to Hoyt and Hebeler (1974, p.273):

(i) Plan to permit rapid change introduced by the pupils it serves.

(ii) Have a structure resulting in very little adult domination and bureaucratic ~~encumberences~~ encumbrances.

(iii) Offer experiences which permit a large variety of honest options.

(iv) Provide for those whose talents are in a speciality area as well as for those who have no speciality.

(v) Permit the very different to be served as well as the very acceptable.

(vi) Be designed to serve the pupils rather than the society

(vii) Recognise that the pupils are not the only ones being educated but that the parents, the career community, the teachers and the general public - as partners in the process - are receiving new experiences and should be altering behaviours.

It would be most unfortunate if career education programmes for the Gifted and Talented are established and supported primarily for the potential these pupils have for making contributions in the occupational society. Hoyt and Hebeler (1974, p.148) feel that Gifted and Talented pupils are almost certain to make substantial contributions to the total society, and the occupational society is but part of this total society. On the other hand, they should not be excused from participation in the society. To work within the above framework requires careful planning and co-ordination which cannot successfully be carried out by one person as it should be structured throughout the high school years to provide in-depth exposure to all the aspects of career education.

The essential philosophy on which any career education programme must be based is that KNOWLEDGE in three areas is necessary to make realistic career decisions. The individual needs knowledge of the self; knowledge of the world of work; knowledge of how to choose (H.S.R.C.; 1981, p.17). This rather simplistic foundation

has been elaborated upon by various theorists according to their own beliefs but has remained essentially the same. It is these three components which must be provided for pupils throughout their school lives. Gifted and Talented pupils, because they need devote less time to routine school work and because they are generally involved in some type of enrichment programme, can be given additional time to explore these three areas.

(a) The Basic Classroom Component

The basic programme, which can be run during weekly guidance periods, should, according to authors such as Rodenstein et al (1977), Laubscher (1977), Moore (1978), Colson (1980) and Newman (1981), cover the following areas.

(a) Career Theory	(i)	What is a career.
	(ii)	Factors influencing career choice.
	(iii)	Career and educational planning.
(b) Educational Awareness	(i)	Possible options and their consequences.
	(ii)	Finances.
(c) Self-Awareness	(i)	Analysis of interests and abilities.
	(ii)	Value clarification.
	(iii)	Goal identification.
	(iv)	Self-concept awareness and development.

(d) Decision-making skills.

(e) Career Skills	(i)	Finding a job.
	(ii)	Progressing in a career.
	(iii)	Coping skills.
(f) Career Information	(i)	Sources and evaluation.
	(ii)	Use.
	(iii)	Exposure.

The last point listed above, exposure to career information, can move outside the school to include visits to career exhibitions and places of work, emphasizing more than just the traditional professions.

In addition to this basic programme, with personal refinements according to the programme organiser's personal career theory, a comprehensive counselling service should be available to help pupils come to a personal career decision and to deal with personal problems which develop during the course of the career education programme.

(b) The Basic Non-Classroom Component

As well as the course outlined above, most career education authors have stressed the need for providing actual work experience. This should be included in the basic programme from the beginning of the standard eight year, and should cover at least four different types of occupations to provide pupils with as wide a perspective as possible. Such work experience can be provided as holiday or week-end jobs, can be paid or unpaid and can be for any length of time. The important

thing is that the pupils are given a chance of testing out some of their interests and skills and of obtaining direct experience in a variety of areas, some of which they may have been unaware. It will also provide pupils with subjective career information unavailable from other sources. Pupils can then have an opportunity of relating their various experiences to their peers so as to share the knowledge gained.

Ideally such work experience would be compulsory, as it is in some American schools where credits towards graduation are obtained for the work experience component of the Vocational Guidance course. As this is not the case in this country it should be made attractive for pupils through payment, if possible, by using some school time, and by stressing the importance of the experience. The co-operation of the local economic community is essential to ensure the success of this aspect of the basic programme.

(c) Additional Component for Gifted and Talented Pupils

The Gifted and Talented pupils, as well as participating in all the above, should be given additional guidance in meeting their unique needs. Moore (1978) feels that these pupils require more time to intellectualize their educational experiences and to analyze various lifestyles. They should be provided with this time for decision-making, development of personal independence and self-discovery through group exercises and seminars conducted during their enrichment sessions. These sessions should be

aimed directly at countering the problems which these pupils face, such as high status expectations from parents and society, inequality of social, emotional and intellectual maturity and the tendency to delay career thinking until university. It must be the task of the Teacher-Psychologist and the Gifted and Talented organizer to plan the structure of these sessions while the content can largely be determined by the pupils themselves.

Coupled with these sessions should be the opportunity for intensive career and personal counselling to provide the additional information, assistance and support in career planning and personal development so important for these pupils. It is necessary for the counsellor to be well aware of the problems faced by the pupils and to be sensitive to their difficulties.

Hoyt and Hebeler (1974, p.150) suggest:

> "that effective career-development programmes for gifted and talented youths must extend considerably beyond the four walls of the school."

They point to the use of one-to-one contacts betweem gifted youths and gifted individuals in various occupations which has proved particularly helpful especially in terms of life-style questions. It is most unlikely that the degree of challenge needed by Gifted and Talented pupils can be found within the school environment and the need for active experience is constantly stressed by various authors.

This aspect of the programme should be similar to that

used for non-gifted pupils but should, once again, be further developed. Colson (1980) described the career experience component of one programme in which, after a phase of instructional and growth experience, the pupils were placed in observer roles in specialized career areas identified earlier. This was a "shadowing experience" under the direction of a university professor which gave them the opportunity of experiencing the professional life style and the academic environment. Colson describes the final phase of the programme (p.101) as:

> "the opportunity for hands on activities in a segment of the career field studied during the second phase. Each subject was paired with an individual from the community who was active in either business, industry, labour, or a profession. Thus, participants were able to observe the lifestyle required by the career and the responsibilities that accompany the work. Subjects worked closely with their site supervisors gaining first-hand experience in their chosen career fields."

The results of Colson's programme clearly indicated the advantages and benefits gained by pupils who participated. Moore (1978) and Rodenstein et al (1977) also describe similar programmes which allow exploration of lifestyle as well as mere job descriptions.

The Gifted and Talented pupils in the study have the time to engage in these activities in more depth than do the

non-gifted pupils and they can explore a wider variety of occupations in more detail. This would lead to the fulfilment of most of the requirements of a career education programme for Gifted and Talented pupils outlined by Moore (1978) and by Hoyt and Hebeler (1974).

The detailed planning and implementation of such a programme should be left largely to the programme organizers who are familiar with the organizational limits set by the school and the specific requirements of the pupils involved. By including all the components mentioned above in a planned and systematic way over a number of years, the career maturity of the pupils ought to be increased to a more acceptable level and this can be monitored by administering an Attitude Scale at the end of every year. It is most important, for the success of career education in our present system, that the physical resources such as personnel, time and accommodation are available and that the status of career education be enhanced (Watson et al, 1982). All too often schools expect one Teacher-Psychologist to give Guidance lessons, provide career information which is up to date, counsel, plan programmes and perform a host of non-related administrative functions. At the same time Guidance lessons, are scheduled for only the Junior Secondary Standards in many schools while the senior pupils see the Teacher-Psychologist for counselling only. This state of affairs is aggravated by the use of many of the once-weekly Guidance lessons for other administrative purposes.

An adequate career education programme requires sufficient

time and manpower as well as careful structuring of the correct content to enhance all aspects of a pupil's career maturity. Implementation of the above recommendations would constitute an adequate career education programme for all pupils, including the Gifted and Talented.

REFERENCES

1. Avent, C. "Career Guidance for the Gifted" in Looking to their Future, November 1982, 7 -10.

2. Bruch, C.B. "Guidance of the Gifted and Talented" in Global Concepts of Gifted Education. (Georgia Department of Education, Atlanta, 1975).

3. Bryan, J.N. Building a Programme for Superior and Talented High School Students. (STS Project, Chicago, 1963).

4. Calvert, R.; Steele, J. Planning your Career. (McGraw-Hill, 1963).

5. Campbell, R.; Miller, J.; Krige, S. Career Guidance : A Handbook of Methods. (Charles Merrill, Columbus, 1973).

6. Cape Education Department Manual and Scheme of Work for School Guidance; Standards 5 to 10 (Cape Provincial Administration, Cape Town, 1981).

7. Cape Education Department The Gifted Child : In-Service Training of High School Principals (Identification). (Cape Provincial Administration, Cape Town, 1983).

8. Colangelo, N.; Pfleger, L.R. "A Model Counselling Laboratory for the Gifted at Wisconsin" in Gifted Child Quarterly, Fall 1977, 21 (3), 321 - 325.

9. Colson, S. "The Evaluation of a Community - Based Career Education Program for Gifted and Talented Students as an Administrative Model for an Alternative Program" in Gifted Child Quarterly, 1980, 24 (3), 101 - 106.

10. Crites, J.O. Administration and Use Manual (2nd ed) McGraw-Hill, Monterey, 1978).

11. Crites, J.O. "A Model for the Measurement of Vocational-Maturity" in Journal of Counselling Psychology 1961, 8 (3), 255 - 259.

12. Crites, J.O. Career Counselling : Models, Methods and Materials (McGraw-Hill, 1981).

13. Dovey, K. Work and Me : A Handbook for the Teacher-Psychologist (Oxford University Press, Cape Town, 1982).

14. Downie, N.M.; Heath, R.W. Basic Stat stical Methods (4th ed) (Harper and Row, New York, 1974).

15. Fredrickson, R.H. Career Information (Prentice-Hall, Englewood Cliffs, 1982).

16. Gilbert, S. Ready, Set, Go. (Four Winds Press, New York, 1979).

17. Gysbers, N.C.; Moore, E.J. "Beyond Career Development - Life Career Development" in Weinrach S.G. (ed) Career Counseling : Theoretical and Practical Perspectives (McGraw-Hill, 1979).

18. Hansen, J.C. "J.O. Crites, Career Maturity Inventory" in Journal of Counselling Psychology 1974, 21 (2) 168 - 172.

19. Havinghurst, R.J. Developmental Tasks and Education (David McKay and Co., New York, 1973).

20. Herr, E.L.; Enderlein, T.E. "Vocational-Maturity : The Effect of school, grade curriculum and sex." in Journal of Vocational Behaviour, 1976, 8, 227 - 238.

21. Holland, M. "The relationship between vocational development and self-concept on 6th grade students." in Journal of Vocational Behaviour, 1981, 18, 228 - 236.

22. Hoyt, K.B.; Hebeler, J.R. (ed) Career Education for Gifted and Talented Students (Olympus, Salt Lake City, 1974).

23. Hutchinson, M.; Young, C. Educating the Intelligent (Penguin, 1969).

24. Human Sciences Research Council. Investigation into Education. Report of the Work Committee : Guidance (Pretoria, 1981).

25. Human Sciences Research Council. School Guidance : Principles and Methods (Pretoria, 1978).

26. Khatena, J. "Educating the Gifted Child : Challenge and Response in the U.S.A." in Gifted Child Quarterly, Spring, 1976, 20 (1), 76 - 90.

27. Killian, J.G. Beroepsleiding aan die Begaafde Leerling in die Senior Sekondêre Skoolfase (M.Ed. Thesis, UNISA, 1977).

28. Laubscher, J.W.T. The Development of Vocational Maturity in Pupils by means of a Classroom Career Education Programme. (M.Sc. Thesis, U.C.T., 1977).

29. Lawrence, W.W. "The Relationship of Intelligence, Self-Concept, Socio-Economic Status, Race and Sex to Level of Career Maturity in 12th Grade Students" in Dissertations Abstract International, 1974, 35 (6), 3426 - A.

30. Maloney, M.P.; Ward, M.P. Psychological Assessment. A Conceptual Approach (Oxford University Press, New York, 1976).

31. Martinson, R.A. The Identification of the Gifted and Talented (Council for Exceptional Children, Reston V.A., 1976).

32. Mintzer, R.G. "Vocational Maturity and its relationship to Intelligence, Self-Concept, Sex-Role Identity and Grade Level" in Dissertations Abstract International, 1976, 37 (5), 2643 - A.

33. Moore, B.A. "Career Education for Disadvantaged High School Students" in Gifted Child Quarterly, Fall, 1978, 22 (3), 332 - 337.

34. Morgan H.J.; Tennant, C.G.; Gold, M.J. Elementary and Secondary Level Programs for the Gifted and Talented (Teacher's College, Columbia University, New York, 1980).

35. Neethling, J.S. Die Begaafde Kind : Beplanningstrukture (Cape Education Department, Cape Town, 1981).

36. Neethling, J.S. "Giftedness" in Education Journal, November 1982, 92 (3), 23 - 29.

37. Neethling, J.S. Onderwys vir die Begaafde Kind (Cape Education Department, Cape Town, 1981).

38. Newman, A.D. An investigation into the Influences of a Group Careers Counselling Programme on the Career Maturity of Adolescents (M.A. Thesis, Univers ty of Natal, 1982).

39. Omvig, C.P.; Tulloch, R.W.; Thomas, E.G. "The Effect of Career Education on Career Maturity" in Journal of Vocational Behaviour, 1975, 7, 267 - 273.

40. Perrone, P.A.; Pulvino, C.J. "New Directions in the Guidance of the Gifted and Talented" in Gifted Child Quarterly, Fall 1977, 21 (3) 326 - 335.

41. Phillips, S.D.; Strohmer, D.C. "Decision Making Style and Vocational Maturity" in Journal of Vocational Behaviour, 1982, 20, 215 - 222.

42. Reardon, R.C.; Burk, H.D. (ed) Facilitating Career Development (Charles C. Thomas, Springfield, 1975).

43. Rodenstein, J.; Pfleger, L.R.; Colangelo, N. "Career Development of Gifted Women" in Gifted Children Quarterly, Fall 1977, 21 (3), 340 - 346.

44. Runkel, P.J.; McGrath, J.E. Research on Human Behaviour (Holt, Rinehart and Winston, New York, 1972).

45. Schmoll, R.R. "A study of occupational goals, levels of aspiration, and career maturity of 8th grade gifted boys" in Dissertations Abstract International, 1975, 36 (3), 1317 - A.

46. Slosson, R.L. Slosson Intelligence Test for Children and Adults (Slosson Educational Publications, New York, 1963).

47. Super, D.E. The Psychology of Careers : an introduction to vocational development (Harper and Row, New York, 1957).

48. Super, D.E. "Vocational Adjustment : Implementing a Self-concept" in Occupations, 1951, 30, 88 - 92.

49. Super, D.E.; Bohn, M.J. Occupational Psychology (Wadsworth, Belmont, 1970).

50. Super, D.E.; Jordaan, I.P. "Career Development Theory" in British Journal of Guidance and Counselling, 1973, 1 (1), 3 - 16.

51. Super, E.D.; Overstreet, P.L. The Vocational Maturity of 9th Grade Boys (Teacher's College Press, New York, 1960).

52. Swanepoel, D.B. Beroepsvolwassenheid en die Opvoedingeise wat dit stel (D. Ed Thesis, UNISA, 1977).

53. Terman, L.M.; Oden, M.H. Genetic Studies of Genius, Vol 5; The Gifted Group at Mid-life (Stanford University Press, Stanford 1959).

54. Torrance, E.P. "Potentially Creative Youth" in Fredrickson, R.H.; Rothmey, J.W.M. (ed) Recognizing and Assisting Multipotential Youth (Merrill, Columbus, 1972).

55. U.S. Commissioner of Education Education of the Gifted and Talented (U.S. Government Printing Office, Washington, 1972).

56. Vernon, P.E.; Adamson, G.; Vernon, D.F. The Psychology and Education of Gifted Children (Methuen, London, 1977).

57. Watson, P.; Rainier, M.; Delport, J.; Clampert, J. "An Experiment in the Team Approach to Guidance" in CONTACT, July 1982, 6, 45 - 47.

58. Watts, A.G.; Herr, E.L. "Career Education in Britain and the U.S.A. : Contrasts and Common problems." in British Journal of Guidance and Counselling, 1976, 4 (2).

59. Weinrach, S.G. (ed) Career Counselling : Theoretical and Practical Perspectives (McGraw-Hill, 1979)

60. Weir, D.; Nolan, F. Glad to be Out (Scottish Council for Research in Education, Edinburg, 1977).

61. Westbrook, B.W.; Cutts, C.C.; Madison, S.A.; Arcia, M.A. "The Validity of the Crites Model of Career Maturity" in Journal of Vocational Behaviour, 1980, 16, 249 - 281.

62. Wilensky, H.L. "Careers Counselling and the Curriculum" in Journal of Human Resources, Winter, 1967, 2 (1).

63. Zaffran, R.T.; Calangelo, N. "Counselling with Gifted and Talented Students." in Gifted Child Quarterly, Fall 1977, 20 (3), 305 - 325.

64. Super, D.E. (ed) Measuring Vocational Maturity for Counseling and Evaluation (National Vocational Guidance Association, Washington D.C., 1974).

APPENDIX A

CAREER MATURITY INVENTORY

(Attitude Scale - Counselling Form B-1)

NAME: _____ CLASS: _____ DATE: _____

DIRECTIONS:

There are a number of statements about career choice on these sheets. Career choice means the kind of job or work which you think that you will probably be doing when you have finished all of your schooling.

Read the statements and mark your answer on the right-hand side of the page. If you agree or mostly agree with statement, make a cross in the space marked with a T. If you disagree or mostly disagree with the statement, make a cross in the space marked with an F. Be sure that all your marks are clear. Erase completely any answer you wish to change. PLEASE ANSWER ALL THE QUESTIONS.

1. I often daydream about what I want to be, but I really havn't chosen a line of work yet. T F

2. If I can just help others in my work, I'll be happy. T F

3. Everyone seems to tell me something different; as a result I don't know which kind of work to choose. T F

4. It's probably just as easy to be successful in one occupation as it is in another. T F

5. In order to choose a job, you need to know what kind of person you are. T F

6. It doesn't matter which job you choose as long as it pays well. T F

7. I plan to follow the line of work my parents suggest. T F

8. As long as I can remember, I've known what kind of work I want to do. T F

9. You should decide for yourself what kind of work to do. T F

10. I don't know how to go about getting into the kind of work I want to do. T F

11. Work is worthwhile mainly because it lets you buy the things you want. T F

12. I know very little about the requirements of jobs. T F

13. When choosing an occupation, you should consider several different jobs. T F

14. If you have some doubts about what you want to do, ask your parents or friends for advice and suggestions. T F

15. I often feel that there is a real difference between what I am and what I want to be in my occupation. T F

16. There are so many things to consider in choosing an occupation, it is hard to make a decision. T F

17. You should choose an occupation which gives you a chance to help others. T F

18. The best thing to do is to try out several jobs, and then choose the one you like the best. T F

19. There is no point deciding on a job when the future is so uncertain. T F

20. Working is much like going to school. T F

21. There is only one occupation for each person. T F

22. Your parents probably know better than anyone else which occupation you should enter. T F

23. I want to really accomplish something in my work - to make a great discovery or earn a lot of money or help a great number of people. T F

24. When it comes to choosing a job, I'll make up my own mind. T F

25. I don't know that course I should take in school. T F

26. The greatest appeal in a job to me is the opportunity it provides for getting ahead. T F

27. I can't understand how some people can be so certain about what they want to do. T F

28. I spend a lot of time wishing I could do work I know I can never do. T F

29. Work is dull and unpleasant. T F

30. Sometimes you have to take a job that is not your first choice. T F

31. I keep changing my occupational choice. T F

32. Once you choose a job, you can't choose another one. T F

33. As far as choosing an occupation is concerned, something will come along sooner or later. T F

34. I'm not going to worry about choosing an occupation until I'm out of school. T F

35. You can do any kind of work you want to do as long as you try hard. T F

36. You get into an occupation mostly by chance. T F

37. You can't go very wrong by following your parent's advice about which job to choose. T F

38. Whether you are interested in a particular kind of work is not as important as whether you can do it. T F

39. Choosing an occupation is something you have to do on your own. T F

40. I seldom think about the job I want to enter. T F

41. By the time you are 15, you should have your mind pretty well made up about the occupation you intend to enter. T F

42. I have little or no idea of what working will be like. T F

43. I keep wondering about how I can reconcile the kind of person I am with the kind of person I want to be in my future occupation. T F

44. I would like to rely on someone else to choose an occupation for me. T F

45. I'd rather not work than take a job I don't like. T F

46. I'd rather work than play. T F

47. I guess everybody has to go to work sooner or later, but I don't look forward to it. T F

48. I don't know whether my future occupation will allow me to be the kind of person I want to be. T F

49. It's who you know, not what you know, that's important in a job. T F

50. Your job is important because it determines how much you can earn. T F

51. You shouldn't worry about choosing a job since you don't have anything to say about it anyway. T F

52. I don't want my parents to tell me which occupation I should choose. T F

53. You almost always have to settle for a job that's less than you had hoped for. T F

54. If someone would tell me which occupation to enter, I would feel much better. T F

55. I am having difficulty in preparing myself for the work I want to do. T F

56. I can't seem to become very concerned about my future occupation. T F

57. I really can't find any work that has much appeal to me. T F

58. I'm not going to give up anything to get the job I want. T F

59. Knowing what jobs are open is more important than knowing what you are good at when you choose an occupation. T F

60. The job I choose has to give me plenty of freedom to do what I want. T F

61. I don't know whether my occupational plans are realistic. T F

62. When trying to make an occupational choice, I wish that someone would tell me what to do. T F

63. I have so many interests it's hard to choose any one occupation. T F

64. You should choose a job in which you can someday become facous. T F

65. You should choose a job that allows you to do exactly what you want to do. T F

66. Entering one job is about the same as entering another. T F

67. Parents can usually choose the most appropriate jobs for their children. T F

68. You should choose an occupation, and then plan how to enter it. T F

69. I feel that I should do what my parents want me to do. T F

70. Making an occupational decision confuses me because I don't feel that I know enough about myself or the world of work. T F

71. When I am trying to study, I often find myself day-dreaming about what it will be like when I start working. T F

72. It's hard to imagine myself in any occupation. T F

73. I feel that my occupational goals are so high that I'll never be able to attain them. T F

74. The most important part of work is the pleasure which comes from doing it. T F

75. There may not be any openings for the job I want most. T F

APPENDIX B

1	F	26	F	51	F
2	F	27	F	52	T
3	F	28	F	53	T
4	F	29	F	54	F
5	T	30	T	55	F
6	F	31	F	56	F
7	F	32	F	57	F
8	F	33	F	58	F
9	T	34	F	59	T
10	F	35	F	60	F
11	F	36	F	61	F
12	F	37	F	62	F
13	T	38	T	63	F
14	T	39	T	64	F
15	F	40	F	65	F
16	F	41	F	66	F
17	F	42	F	67	F
18	F	43	F	68	T
19	F	44	F	69	F
20	F	45	F	70	F
21	F	46	T	71	F
22	F	47	F	72	F
23	F	48	F	73	F
24	T	49	F	74	T
25	F	50	F	75	T

Answer Key, Career Maturity Inventory - Attitude Scale, Counselling Form B-1 (McGraw-Hill, Monterey, 1978)

APPENDIX C

											TOTAL NO OF ITEMS
SCREENING FORM A-2	1	2	3	4	5	6	7	8		10	
(TOTAL SCORE)	11	12		14		16	17	18	19	20	
	21	22	23	24	25	26	27	28	29		
	31	32	33	34	35	36	37	38		40	50
	41	42		47		49	50	51		55	
	57	59	60		64	65		68		71	
	74										
DECISIVENESS	1	3	16	18	31	33	46	48	61	63	10
INVOLVEMENT	4	6	19	21	34	36	49	51	64	66	10
INDEPENDENCE	7	9	22	24	37	39	52	54	67	69	10
ORIENTATION	10	12	25	27	40	42	55	57	70	72	10
COMPROMISE	13	15	28	30	43	58	73				7

Classification of items in the Attitude Scale, Counselling Form B-1 (Crites, 1978; p.26).