THE ACADEMIC SELF-EFFICACY BELIEFS OF DISADVANTAGED GIFTED BLACK MIDDLE SCHOOL STUDENTS IN THE NORTH WEST PROVINCE OF SOUTH AFRICA

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Views expressed and conclusions reached in this study, are those of the author and should not be seen as those of Old Mutual or the Department of Education and Culture of the North West Province.

DECLARATION

I declare that The academic self-efficacy beliefs of disadvantaged black middle school students in the North West Province of South Africa is my own work. It is being submitted for the MAGISTER EDUCATIONIS degree to the Potchefstroom University for Christian Higher Education, Potchefstroom. It was not submitted before, for any degree or examination in any other University

SEMAKANE SHADRACK KEITUMETSE

MAY 1994

DEDICATION

In memory of my late beloved grandparents
MMAPHIRI EMILY and KIBI DAVID SEMAKANE

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SUMMARY

THE ACADEMIC SELF-EFFICACY BELIEFS OF DISADVANTAGED GIFTED BLACK MIDDLE SCHOOL STUDENTS IN THE NORTH WEST PROVINCE OF SOUTH AFRICA

The purpose of this study was to determine, by means of a review of the literature and an empirical investigation, the influence of certain variables on the academic achievement and the self-efficacy beliefs of disadvantaged gifted students.

From the review of the literature it was concluded that self-efficacy beliefs influence academic achievement. Students with a high sense of self-efficacy for accomplishing a task participate more eagerly in a learning task, work harder, persist longer and achieve at a higher level than those who doubt their capabilities. Students with a high sense of self-efficacy are more self-regulated than those with a low sense of self-efficacy.

It was concluded from the review of literature that disadvantaged gifted students perform lower than their potential due to various social and environmental factors. Disadvantaged gifted students are characterized by under-achievement, lack of general motivation to learn, parents with a low level of education, teachers who lack appreciation, poor socio-economic background, academic skills deficit, low self-esteem, rebellious attitude, lower expectations, and avoidance behaviours. Disadvantaged gifted students are very often not selected through the methods used for the identification of gifted students. This is because when those methods are used, the language, cultural and home background of the disadvantaged gifted students are not taken into consideration when results are interpreted.

By means of an empirical investigation it could be concluded that there is a difference between disadvantaged gifted students and disadvantaged non-gifted students with relation to certain variables. The hypothesis that there is a relationship between certain variables and the academic achievement of disadvantaged gifted students and disadvantaged non-gifted students could be accepted. The hypothesis that there is a relationship between certain variables and the academic self-efficacy beliefs of disadvantaged gifted students could also be accepted.

OPSOMMING

Die doel van hierdie studie was om, deur middel van 'n literatuuroorsig en 'n empiriese studie, te bepaal of sekere veranderlikes 'n invloed het op akademiese prestasie en oortuiging van die eie self-doeltreffendheid van minderbevoorregte begaafde leerlinge.

Uit die literatuuroorsig het dit geblyk dat oortuiging van self-doeltreffendheid akademiese prestasie beïnvloed. Leerlinge met 'n hoë mate van oortuiging van hulle self-doeltreffendheid neem met meer graagte deel aan 'n taak, werk harder, hou langer aan en presteer op 'n hoër vlak as diegene wat twyfel aan hulle eie vermoëns. Leerlinge met 'n hoë vlak van self-doeltreffendheid is meer self-regulerend as diegene met 'n lae vlak.

Dit kon uit die literatuuroorsig afgelei word dat minderbevoorregte begaafde leerlinge laer as hulle potensiaal presteer as gevolg van 'n verskeidenheid sosiale en omgewingsfaktore. Hierdie leerlinge word gekenmerk deur onder-prestasie, 'n gebrek aan algemene motivering om te leer, ouers met 'n lae onderwyspeil, onderwysers wat hulle nie verstaan nie, swak sosio-ekonomiese agtergronde, 'n gebrek aan akademiese vaardighede, lae selfbeeld, rebelse houding, laer verwagtinge en vermydingsgedrag. Sulke leerlinge word dikwels nie raakgesien en geïdentifiseer deur die metodes wat algemeen gebruik word vir die identifikasie van begaafde leerlinge nie, omdat in die metodes wat gebruik word die taal, kulturele en huislikeagtergrond van hierdie leerlinge nie in berekening gebring word wanneer die resultate bekyk word nie.

Deur die empiriese ondersoek kon vasgestel word dat daar wel 'n verskil is tussen minderbevoorregte begaafde leerlinge en minderbevoorregte nie-begaafde leerlinge. Die eerste hipotese, naamlik dat daar so 'n verskil is, kon dus aanvaar word. Die hipotese dat daar 'n verband is tussen sekere veranderlikes en die akademiese prestasie van minderbevoorregte begaafde en nie-begaafde leerlinge kon ook aanvaar word. Die derde hipotese, naamlik dat daar 'n verband is tussen sekere veranderlikes en die geloof in die eie akademiese self-doeltreffendheid van minderbevoorregte begaafde leerlinge kon ook aanvaar word.

CHAPTER ONE

INTRODUCTION, STATEMENT OF THE PROBLEM AND OVERVIEW OF THE STUDY

1.1 INTRODUCTION AND STATEMENT OF THE PROBLEM

Every child is born with certain potentialities and capabilities. It is very important that these potentialities and capabilities be nurtured and developed, through education, to come to fruition by and within the child's environment (Kokot, 1992:43). This will enable the child not only to develop to his full potential but also make a meaningful contribution to the development and improvement of his community in all respects (i.e. economically, politically and socially (Holmes, 1985:7). Furthermore, this potential is a God-given gift and God expects this gift to unfold under the influence and guidance of a supportive environment (Olivier, 1985:105; Schoeman, 1985:111).

Not all children, however, are born with the same potentialities. Some have superior potential while others have less potential (Schoeman, 1985:112). Children with high potential or exceptional talent are described as gifted (Olivier, 1985:105) while those with less potential are described as non-gifted.

In order for the child's potential to develop fully the environment in which he grows up must be suitably conducive, i.e. the environment must be stimulating enough to enable the child to be shaped and developed to his maximum potential (Borland, 1989:16). The environments that are not suitably conducive, thus hindering the development of the child's potential, are referred to as disadvantaged environments (Kokot, 1992:172). Children growing up in such environments cannot develop their potential to the full and are said to be disadvantaged (Passow, 1986:149). As Kokot (1992:39) puts it, if the interaction between the child and the environment is not planned and left to occur by chance, the child's potential will be restricted.

As the majority of South Africans (i.e. blacks) live in poor socio-economic environments with an alarmingly large number of the population, especially the black population, either unemployed or earning low wages (Harker,

1991:12), the typical environment of the black child can be classified as disadvantaged.

A question that arises is how the academic achievement of the black child from a disadvantaged environment is influenced by his disadvantaged environment. The question also arises as to how such an environment influences the academic achievement of the disadvantaged gifted child and how such an environment influences disadvantaged students' self-efficacy beliefs. This study therefore addresses the following questions:

* What is the academic self-efficacy level of disadvantaged gifted students?
* Does being disadvantaged have an effect on the academic self-efficacy of gifted students?

Self-efficacy refers to personal judgements of one's capability to organize and implement actions necessary to attain designated levels of performance in a specific situation that may contain novel, unpredictable and possibly stressful features (Schunk, 1985:208; Schunk, 1989:13). Self-efficacy judgements are considered to be relevant to students' academic achievement because they have motivational effects (Norwich, 1987:384).

Roach and Bell (1989:67) describe a gifted student as a student who has superior capabilities or potential for learning. It is a student who shows exceptional ability, combined with outstanding academic achievement and exceptional talent in one or more areas (Congdon, 1985:111).

According to Passow (1986:149) the term "disadvantaged" represents a melding of two concepts, namely: (i) economic disadvantage, which is operationally defined in terms of poverty, and (ii) educational disadvantage, which is operationally defined in terms of below average academic achievement. Therefore the term "disadvantaged" is commonly used in the United States of America to include both racial and ethnic minorities and the poverty-stricken. From this it can be assumed that in the United States of America "minority" means exactly what it says since the United States of America's black student is a member of the minority groups. However, in South Africa the black student is a member of the (politically marginalized) majority group but has the same characteristics, such as economic and

educational disadvantageness, that a minority student in the United States of America has.

Existing literature points out that the most commonly overlooked gifted under-achievers are the disadvantaged students from low socio-economic backgrounds and that there is widespread misunderstanding of disadvantaged gifted students (Roach & Bell, 1989:67). This is a pathetic state of affairs because the gifted student who is under-achieving or who is not identified and catered for timeously and properly is not only wasted as an individual but is lost for the nation as well (Roach & Bell, 1989:68). One of the reasons why gifted students from low socio-economic backgrounds are overlooked and often not included in programs for gifted students is that test instruments and other identification methods are culturally biased (Davis & Rimm, 1989:283). This suggests that relatively little is known about many aspects of the disadvantaged gifted students' achievement behaviours.

It is a well-known fact, which causes great concern, that the majority of disadvantaged students, mainly blacks in South Africa perform below average and have higher failure and dropout rates than whites (Harker, 1991:28). This, as Parke (1989:12) puts it, does not mean there are no gifted students among black disadvantaged communities who could be obtaining several A's in their final-year examinations, because every community, no matter its composition, has gifted children. Therefore the reasons for the below average and mediocre performance of the disadvantaged gifted students have to be sought and their motivational level be investigated so that ways and means of helping them perform according to their capability be found.

The above scenario prompted the investigator to carry out this research along the lines of acceptable scientific methods of investigation in an attempt to furnish answers to the questions.

1.2 AIM OF THE STUDY

The aim of this research was to determine the influence of certain variables on the academic achievement and academic self-efficacy beliefs of disadvantaged gifted students by finding answers to the above-mentioned questions. Finding answers to the above-mentioned questions was regarded as essential by the investigator in order to contribute to a sound understanding of

the disadvantaged black students' achievement behaviours which in turn would lead to an improved development of their potential and skills.

1.3 RESEARCH HYPOTHESES

This study tested the following three hypotheses:

1. There is a difference between disadvantaged gifted students and disadvantaged non-gifted students with regard to certain variables.

2. There is a relationship between certain variables and the academic achievement of, respectively, disadvantaged gifted students and disadvantaged non-gifted students.

3. There is a relationship between certain variables and the academic self-efficacy beliefs of disadvantaged gifted students.

1.4 METHOD OF RESEARCH

The method of research for this study consisted of a review of the literature and an empirical investigation.

1.4.1 Review of the literature

Literature related to the problem questions was reviewed. Use was made of journals, bulletins, periodicals, books and theses that dealt with aspects of the problem. A DIALOG-search was performed with the following keywords:

* self-efficacy,
* academic achievement,
* gifted student,
* economically and educationally disadvantaged student.

The review of the literature obtained through the use of the above keywords is discussed in chapters 2 and 3.

1.4.2 Empirical study

To test hypothesis 1 (par. 1.3) disadvantaged gifted students and disadvantaged non-gifted students were compared on the basis of the variables mentioned in paragraph 4.6. This was done by comparing their means and standard deviations (see Table 5.1).

To test hypothesis 2 (par. 1.3) correlation coefficients were first calculated, following which multiple regression analysis was used to determine the collective and separate influence of the independent variables on the achievement in English, Maths, Science and Biology with relation to both the disadvantaged gifted students and the disadvantaged non-gifted students.

To test hypothesis 3 (par. 1.3) correlation coefficients were first calculated, following which multiple regression analysis was used to determine the collective and separate influence of the independent variables on the self-efficacy strength with relation to both groups of students.

1.5 ORGANIZATION OF THE STUDY

As already stated in paragraph 1.2, the aim of this study was to determine the influence of certain variables on the academic achievement and self-efficacy beliefs of disadvantaged gifted black middle school students. In order to achieve this aim a review of the literature on self-efficacy was made and this is reflected concisely in Chapter 2. It was also very essential to explore giftedness and disadvantageness and this became the core of Chapter 3. In Chapter 4 the methodological procedures adopted to determine the influence of certain variables on the academic self-efficacy beliefs and the academic achievement of disadvantaged gifted students are described. In Chapter 4 the population, sample, instruments and their administration are discussed. Chapter 5 presents the statistical analyses and interpretation of the results. Hypotheses are either accepted or rejected in Chapter 5. In Chapter 6 the summary of the study is given as well as the implications, limitations and recommendations.

CHAPTER TWO

THE INFLUENCE OF SELF-EFFICACY ON LEARNING

2.1 INTRODUCTION

Bandura (1986:390) maintains that among the different aspects of self-knowledge, perhaps none are more influential in people's everyday lives than conceptions of their personal self-efficacy. Research conducted from a number of perspectives with a variety of labels and various theoretical traditions led to the growing conviction that personal expectations influence achievement behaviours such as choice of tasks, persistence and effort expenditure (Schunk, 1989:16).

This chapter examines the concept "self-efficacy". The central idea in this chapter is that self-efficacy is an important variable in understanding pupils' achievement motivation and motivated learning (Schunk, 1985:208; McCombs, 1988:142; Pintrich, 1989:125). First the term "self-efficacy" will be defined. Second, because self-efficacy is postulated to have motivational effects on the learners' achievement behaviours, self-efficacy will be discussed within the context of motivation (Schunk, 1981:93). Third, various sources of self-efficacy will be discussed, as Bandura (1986:399) stated that people come to know their level of self-efficacy from various sources in a given activity. Finally, the influence of self-efficacy on learning will be explained, since performance outcomes as well as achievement behaviours are strongly influenced by an individual's self-efficacy perceptions (Bandura, 1986:393).

2.2 DEFINING SELF-EFFICACY

A review of literature reveals the following definitions of self-efficacy:

Bandura (1986:391) defines self-efficacy as people's judgements of their capabilities to organize and execute courses of action required to attain designated levels of performance. According to Bandura (1986:391)

self-efficacy is not concerned with the skills that one has but with one's judgements of what one can do with one's skills.

Schunk (1984:48) and Zimmerman (1989:329), in similar vein, define self-efficacy as personal judgements of performance capabilities in a given domain of activity that may contain novel, unpredictable and possibly stressful features. Schunk (1989:14) extends this definition by saying that self-efficacy for learning refers to students' beliefs about their capabilities to apply effectively the knowledge and skills they already possess and thereby learn new cognitive skills.

An analysis of these definitions reveals that the term "self-efficacy" refers to "a belief in one's capabilities to carry out a task successfully". The central idea of self-efficacy therefore, is the conviction and confidence that one is capable to accomplish a learning task.

One other striking feature of these definitions is that the skills that one already possesses are not the focal point of self-efficacy, but rather one's judgement of what one can do with those skills successfully (Bandura, 1986:391). That is, one may have the necessary skills but if one is not adequately self-efficacious one may not accomplish the task (Bandura, 1986:391).

According to Schunk (1984:48) and Bandura (1982, quoted by Pintrich, 1989:125) self-efficacy is situation-bound or domain-specific. That is, one feels more or less self-efficacious about a specific task and in a specific situation. This implies that if one feels less or more self-efficacious about a task in a particular situation it does not necessarily mean that one will feel the same about other tasks on other situations. For example, if a student feels more self-efficacious about accomplishing Maths or English tasks this does not mean he will feel the same about accomplishing Biology tasks.

Self-efficacy also denotes effort on the part of an individual. Bandura (1982, quoted by Schunk, 1989:21) states that individuals who are self-efficacious or feel confident that they are capable of performing a task successfully would take all the necessary pains to organise all courses necessary to attain higher levels of performance. This suggests that attainment of success depends on one's efforts.

Self-efficacy not only affects effort expenditure but also task persistence (Bandura, 1977a, quoted by Schunk, 1984:48). Individuals who hold a high sense of efficacy work harder and persist longer than those who doubt their capabilities, more especially when facing difficulties (Schunk, 1989:21).

For the purpose of this dissertation, the term "self-efficacy" will be understood, in accordance with the view of Bandura (1986:391) and Schunk (1984:48), to indicate the learners' personal judgements of their capabilities to execute learning tasks successfully at certain levels of performance even in the face of difficulties.

2.3 SELF-EFFICACY WITHIN THE CONTEXT OF MOTIVATION

Motivation to learn can be defined as the degree to which learners exert effort to achieve academic goals that they perceive as being meaningful and worthwhile (Johnson & Johnson, 1984:250). It is because of motivation that a specific activity is chosen by an individual, and the longer an individual persists with a task depends on the intensity of the motivation she or he has (Maehr, 1984:118). McCombs (1988:142) believes that continuing motivation to learn results from the learner's judgement of self-efficacy and self-control in learning situations.

The preceding viewpoints on motivation give a clear indication that self-efficacy is embedded in motivation and is inextricably related to motivation. People who doubt their capability tend to give up easily when confronted with difficulties in executing tasks while those with a high sense of self-efficacy exert greater effort when they experience difficulties (Bandura, 1986:293).

Pintrich (1989:120) describes the inextricable relationship between motivation and self-efficacy through his version of the general expectancy-value model of motivation. Figure 1 displays this version in which interactions among different motivational variables are clearly indicated (Pintrich, 1988:75). This version of the general expectancy-value model of motivation has two general paths, namely the expectancy path and the value path. In the expectancy path the following motivational constructs are included:

* expectancies,
* perceived competence,
* test anxiety,
* perceptions of task difficulty,
* students' beliefs about self-efficacy, control and outcome.

The interaction among these motivational constructs leads to achievement. The students' confidence that they will succeed is the basic outcome of the expectancy path (Pintrich, 1989:125-126). The higher the level of self-efficacy the longer the persistence expended on the task (Pintrich, 1988:75). This indicates clearly that self-efficacy and motivation are inextricably bound because a highly motivated person does not give up easily in the face of aversive experiences (Maehr, 1984:119).

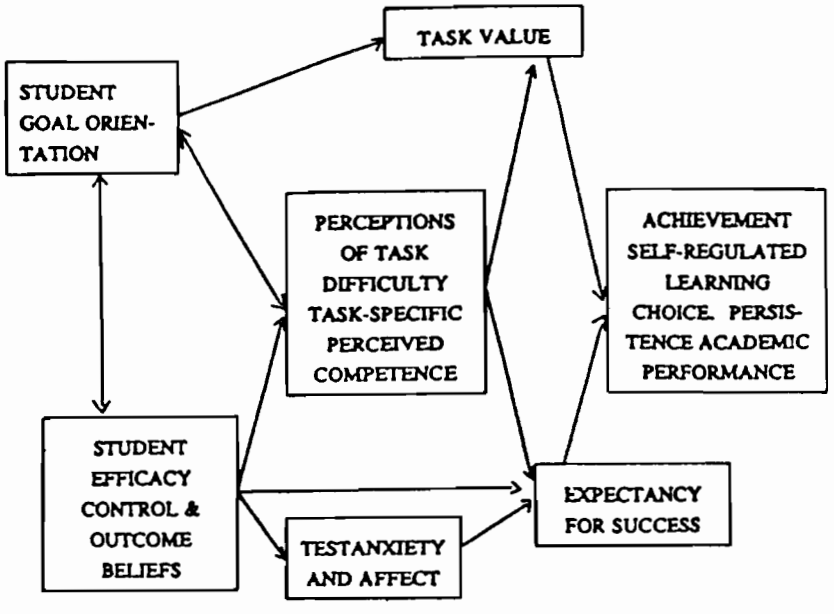

FIGURE 1: The general expectancy-value model of motivation

The task-value path is the second path of the general expectancy-value model. In this path there are task-value and student-goal components which interact to produce achievement. The task-value component has interest, importance and utility values (Pintrich, 1988:76). Interest value denotes the students' inherent interest in the task, i.e. the students' enjoyment of the task

(Mckeachie, Pintrich & Smith, 1986:83) and importance value has to do with the students' understanding of the task's importance to their goals while utility value denotes the students' perception of the usefulness of the task to attain a goal (Pintrich, 1989:122-123 & Mckeachie, ***et al.***, 1986:83-84). The student goal component includes both short term and long term goals that students set for themselves (Pintrich, 1988:76). The goals enable students to understand the aspects in the task value component. There is an interaction between self-efficacy and students' goal orientation. For example, a student who wants to become an accountant (goal) must feel adequately self-efficacious in studying Accountancy because it is a required (utility value) course in the field of accounting. The value and the expectancy components of the general expectancy-value model of motivation, therefore, interact to determine the students' achievement behaviours and students' perceptions about themselves, i.e. self-efficacy also features in their interaction (Pintrich, 1989:120).

2.4 SOURCES OF SELF-EFFICACY

It is postulated by Bandura (1986:399) that knowledge about one's self-efficacy, whether accurate or faulty, is based on some sources. These sources of information, together with the underlying processes and skills, contribute to the development of one's judgements of self-efficacy (McCombs, 1988:144). The subsequent section will focus on the various ways in which students acquire information about their level of self-efficacy. Sources of self-efficacy can be differentiated in sources related to the learner and sources related to the learning setting.

2.4.1 Sources related to the learner

2.4.1.1 Enactive experiences

Enactive experiences refer to performance outcomes resulting from one's own actions (Schunk, in press; Schunk, 1991:87). Consequences of one's own actions are important and very influential indicators to students of their self-efficacy.

Students who generally experience success usually have their self-efficacy level raised while those who fail repeatedly will generally have a lower

self-efficacy level (Schunk, 1988:6). This, however, does not mean that an occasional success after a series of failures suddenly raises the self-efficacy level, or an occasional failure after many successes would lower self-efficacy (Schunk, 1989:24).

The extent to which people may have their self-efficacy perceptions changed on the basis of their enactive experiences depends on variables such as the amount of effort they expended, the difficulty of the task, amount of outside help they received and patterns of their success and failure (Bandura, 1986:401). Success at an easy task after working hard does not raise an individual's self-efficacy level, while on the other hand mastering a difficult task through minimal effort leads to a higher sense of self-efficacy (Bandura, 1986:402). Similarly, a person who attains success after help by other people will not have his self-efficacy level raised because this success will be ascribed to external factors rather than to personal capabilities (Schunk, 1985:210).

With regard to effort expenditure Nicholls (1984:47) stated that people tend to view effort as inversely related to capabilities, which suggests that when an individual attains success with less effort on a difficult task it shows that he has high ability. Conversely, success attained through hard labour signifies low ability more especially if the task was not considered difficult (Bandura, 1986:402).

The rate and pattern at and in which students reach their attainment also serve as indicators of their personal self-efficacy (Bandura, 1986:402). In the early stages of learning there are a number of failures and setbacks, but if learners can perceive progress this can promote their sense of self-efficacy for further improvement (Schunk, 1985:215). Students who experience periodic failures but continue to improve over time are likely to have their self-efficacy level raised more than those who succeed but realize that their performances are lower as compared to their prior rate of improvement (Bandura, 1986:402).

2.4.1.2 Vicarious experiences

Vicarious experiences refer to observing other people perform tasks successfully, more especially people who are similar to the observer (Bandura, 1986:399). An observer who sees other similar people perform tasks

successfully can have his or her perceptions of self-efficacy improved because this conveys to the observer information that he or she possesses the same capabilities to accomplish the tasks as well (Schunk, 1985:215).

In school, students frequently compare their performances with those of their classmates or peers and the successes of their classmates or peers on tasks convey to them information that they too have the capability to succeed (Schunk, 1985:213). This peer observation is a reliable source of self-efficacy to students because the observed peer might be similar in perhaps, age, gender, ethnicity or socio-economic status (Schunk, 1989:24).

Observers also benefit a lot more with regard to self-efficacy information when they see others complete difficult tasks by determined effort than from those who accomplish easy tasks (Bandura, 1986:404). When an observed person attains success after much effort has been expended, this indicates to the observer that perseverance eventually brings success. Therefore, even if the observer can struggle at the initial stages of a task, he will persist, for he believes that he is capable. This, according to Bandura (1986:404), helps to create the cognitive set in the observer that failures reflect insufficient effort rather than lack of ability.

2.4.1.3 Psychological state

The emotional experiences that one goes through while busy with a task or approaching a task enable one to judge one's capabilities (Bandura, 1986:401). Emotional reactions such as trembling and sweating while students are engaging in a task or just before tackling a learning task is an indication that one does not consider oneself to be capable or self-efficacious (Schunk, 1988:8). A student who is calm while busy with a learning task feels efficacious about continuing to learn.

2.4.1.4 Attributions

Following the attribution theory, individuals make causal ascriptions for the outcomes of their actions; that is, they would like to discover why an event has had particular outcomes (Weiner, 1984:19).

Personal outcomes are very often, therefore, attributed to causes such as ability, effort, task difficulty and luck (Schunk, 1989:24). These attributions affect self-efficacy perceptions either positively or negatively. When an individual attributes success to stable factors such as aptitude, ability and other personal traits, he is likely to have a sense of high self-efficacy (Weiner, 1986:229). Conversely, when an individual attributes failure to stable factors such as aptitude, ability and personal traits, he will have a sense of low self-efficacy (Schunk, 1989:24).

Attributions of success to unstable factors such as luck, an easy task and higher effort do not produce a high sense of self-efficacy because these factors that contribute to the success might not be there when the next learning task is tackled (Weiner, 1984:25). Although attributions of failure to stable and unstable factors both lead to feelings of low self-efficacy, attributions of failure to stable factors have a more negative effect on self-efficacy than attributions to unstable factors (Weiner, 1986:230). This is because unstable but controllable factors such as low effort, resulting in failure, can make an individual have expectations for success in future if he doubles his efforts (Schunk, 1985:216).

The amount of effort that is necessary to accomplish a task successfully also has an effect on an individual's self-efficacy perceptions. If the task is perceived as being moderate in difficulty, success with it after a lot of effort has been expended will not raise self-efficacy more than if less effort was expended (Schunk, 1989:24). Similarly, if the task is considered highly difficult, success after less effort has been expended will raise self-efficacy more than if more effort had been expended (Schunk, 1985:216). Conversely, if one fails after much effort has been expended one will feel less efficacious than when failure follows minimal effort. (Schunk, 1985:216).

2.4.2 Sources related to the learning setting

2.4.2.1 Instructional events

Instructional events can be understood to refer to the teacher's explanations, demonstrations and reteaching, along with students' learning activities in the teaching-learning situation (Schunk, 1988:8). Indication of the purpose of

instruction, the way in which the learning task is presented to the students, the context of the learning task and the extent to which students actively participate in the lesson all have an influence on the students' self-efficacy.

A teacher who tells his students at the beginning of the lesson that the learning material dealt with will be covered in the test will make pupils who previously performed successfully in tests feel more efficacious than those who failed previous tests (Schunk, 1988:8). This is because students who succeeded previously believe in their capability to pass tests while those who failed feel that they are not good at tests.

Teachers who present and explain the learning material in such a way that the pupils understand readily make their students feel more efficacious about learning than students whose teachers do not facilitate their understanding (Schunk, 1985:214). The use of a variety of instructional approaches such as practice, review, co-operative learning settings, peer modelling and dramatization amplifies opportunities for students to attain success, which in turn leads to a higher sense of self-efficacy.

Schunk (1988:9) states that instructional events also include a variety of variables such as the setting of the classroom, the instructional format, learning material and equipment used. Students' beliefs of how successful they can be when learning under these conditions can influence their self-efficacy. Some students feel more self-efficacious for learning when they study alone while others feel more self-efficacious when they work with others on a learning task. This suggests that in a teaching-learning situation, if cognizance is taken of individual differences, students will frequently experience success - hence a sense of higher self-efficacy. Some students understand better when the learning task is presented through the use of teaching aids while others may benefit maximally even without the use of teaching aids.

2.4.2.2 Task difficulty

The perceived difficulty or ease of the learning task also provides a basis for self-efficacy judgements. These judgements are made through attributional inferences on the performance outcome (Weiner, 1986:47) (also see par. 2.4.1.4).

Another variable that is very important with regard to task difficulty is the cognitive processing required by the material presented to the student. According to Schunk (1985:211), for any learning event to succeed, there has to be an interaction between instructional events and the following cognitive processes: attending, coding, associating, rehearsing and monitoring. If a student encounters difficulties in cognitively processing information, this may lead to feelings of low self-efficacy because this denotes low ability (Nicholls, 1984:48). A student who carries out these cognitive processes successfully is likely to feel highly self-efficacious because ability is denoted by this success (Schunk, 1989:14).

2.4.2.3 Learning strategies

A learning strategy is a sequence of procedures employed by the student to accomplish learning (Schmeck, 1988:5). In accordance with Mayer (1988:11), knowledge and effective application of learning strategies positively influence the process and outcome of learning. It is this outcome that in turn influences the learner's perceptions of his level of self-efficacy. If the student believes that he understands the learning strategy and can apply it effectively this can lead to a greater sense of control over learning outcomes which in turn promotes feelings of self-efficacy (Schunk, 1988:10). On the contrary, a student who does not believe that he can apply a learning strategy effectively is likely to feel less efficacious due to a sense of lack of control over learning outcomes. Furthermore, one may also assume from the attributional point of view that effective strategy training leads to the attainment of higher levels of performance attributable to ability which in turn gives rise to a high sense of self-efficacy.

2.4.2.4 Performance feedback

In every teaching-learning situation students require teacher feedback so that they can know whether they are making progress or not. It is this feedback that informs students about their capability with regard to the learning material (Schunk, 1985:215). A teacher's positive and encouraging remarks on the progress of the student (e.g. "That's good" and "You can still do far better than this") makes him feel more efficacious and this sustains motivation for learning. Conversely, a student who receives negative and discouraging

remarks is likely to believe that he is less capable, and will thus have feelings of lower self-efficacy.

2.4.2.5 Persuasions

In learning contexts and elsewhere, persuasions are used to convince people to believe that they are capable to achieve what they want (Bandura, 1986:400). These persuasions have an effect on people's perceptions of self-efficacy. If a student is told by the teacher who is regarded as credible that he is capable, the student's self-efficacy will be raised. This is because the teacher knows the student and understands the nature and the demands of the task that the student has to perform (Bandura, 1986:406). It is the persuader's credibility and trustworthiness that convince the student that he is capable (Schunk, 1985:213). Because of these persuasions an individual will work harder, and hence improve his skills - which in turn will lead to higher performance. It is this higher level of performance that leads to a higher sense of self-efficacy (Bandura, 1986:400).

2.4.2.6 Goal setting

When students have set themselves or are given goals for learning, they may experience a sense of self-efficacy when they attain these goals (Schunk, 1985:217). Goals exert their effect on self-efficacy through their specificity, difficulty level and proximity (Schunk, 1988:13).

Specific goals raise self-efficacy more than general goals because progress towards an explicit goal is easier to gauge and working towards a specific goal leads to heightened motivation (Schunk, in press). When specific goals have been set there is a greater specification of the amount of effort required for success and this leads to boosted task performance. Clear, attainable goals produce higher levels of performance and it is this higher performance that indicates to the learner that he is capable, which leads to a sense of high self-efficacy (Bandura, 1986:472).

How much effort learners expend to attain a goal depends on the level at which it is set and the more challenging the goal the more the effort expended (Schunk, 1985:217). Bandura (1986:472-473) postulates that in situations

where one has control over activities, and when one sets oneself higher goals one's performance level improves. A learner who attains higher performances while perceiving that the goal was difficult and challenging will have his self-efficacy level raised more than the one who attained an easier goal (Schunk, in press).

Proximity of goals refers to how far goals project into the future and as Schunk (in press) puts it, proximal goals enhance achievement behaviours better than distal goals. A learner who strives to attain a goal that is at hand has more heightened motivation than the one who works towards the attainment of a distal goal or with no goal at all. This suggests that learners are sure of success if goals they want to achieve are proximal. One might infer that this is so because progress towards a proximal goal is easier to gauge than progress towards more distal goals.

2.5 THE INFLUENCE OF SELF-EFFICACY ON ACADEMIC ACHIEVEMENT

According to Schmeck (1988:317) learning has been traditionally defined as the effecting of relatively permanent changes in behaviour. This means that due to learning a student's reaction to any educational stimulus should be observably permanent once learning has occurred. There are a variety of partially agreeing definitions of learning by different psychologists who, nevertheless, generally agree that learning involves a change or modification of existing patterns of behaviour (Behr, 1988:45). This change in behaviour will have some influence on future performance. Zimmerman (1989:331) asserts that students' self-efficacy perceptions are closely related to the tasks they are engaged in as well as their performance levels. An inference can be made that self-efficacy influences students' learning activities.

2.5.1 The influence of self-efficacy on task choice

Every learning situation is characterised by students' decisions about courses of action to pursue and how long they have to continue with what they have undertaken to do (Bandura, 1986:393). In a teaching-learning situation, when students are presented with tasks and are given an option to choose, those who hold a low sense of self-efficacy for accomplishing a task may attempt to

avoid it, whereas those who believe that they are capable of accomplishing it will participate more eagerly (Schunk, 1988:4). This apparent choice among a set of action possibilities is the first indication of motivation. A student may have the necessary skills for mastering a task but if he does not perceive himself as capable of actually using those skills to master the task, he may fail or may not even attempt the task (Miller, 1989:234). Choosing a task and continuing with it depends on an individual's perceptions of his self-efficacy. Students with a high sense of self-efficacy for accomplishing a task work harder, persist longer and achieve at a higher level than those who doubt their capabilities (Schunk & Rice, 1991:352).

2.5.2 The influence of self-efficacy on persistence and effort expenditure

Persistence is another behavioural pattern in learning that forms the basis for motivational inferences (Maehr, 1984:118). Self-efficacy perceptions determine how long a learner will persist with a task in the face of obstacles or unpleasant experiences, and how much effort he will expend (Bandura, 1986:394). When a student has a higher sense of self-efficacy he tends to persevere as well as double his efforts - more than an inefficacious student who might easily give up when he experiences setbacks. According to Kukla (1972:168) students who succeed with their academic tasks perceive themselves as having tried harder than those who fail. Lack of effort leads to lower performance levels while increment in performance level is believed to be the result of more effort (Weiner, 1974:9).

2.5.3 The influence of self-efficacy on choice of learning strategies

Learning strategies are sequences of procedures implemented by the student for accomplishing learning tasks (Schmeck, 1988:5). The role of self-efficacy in the choice of learning strategies is pointed out by Palmer and Goetz (1988:50) when they say that students will only choose a particular learning strategy when they feel efficacious as to how that learning strategy is to be applied. Students who have a high sense of self-efficacy choose better and more effective learning strategies than those with a low sense of self-efficacy (Zimmerman, 1989:331). This latter view is very noteworthy in this regard because effective use of learning strategies leads to improved

performance (Mayer, 1988:11) which in turn leads to a higher sense of self-efficacy (par. 2.4.2.3).

2.5.4 The influence of self-efficacy on self-regulated learning

Current theoretical views on learning regard self-regulated students as those students who actively seek and process information in the teaching-learning situation (Zimmerman, 1988:329). Consequently more emphasis is placed on students' readiness and ability to exercise control over their learning activities. The following section will deal with the influence of self-efficacy on self-regulated learning which is one way in which students take up responsibility for their learning events.

Schunk (in press) defines self-regulated learning as learning that occurs from students' self-generated behaviour aimed at accomplishing a learning task. This involves initiative and sustained perseverance on the part of the learner. Self-regulated students do not rely much on their teachers for learning. They organize their learning activities and learn through self-discovery. The social cognitive theorists of learning view self-regulated learning as a result of an interactive process between self-observation, self-judgement and self-reaction (Zimmerman, 1988:330).

2.5.4.1 The relationship between self-efficacy and self-observation

Self-observation refers to students being fully aware of their actions in learning and systematically observing their performance (Zimmerman, 1988:16). The purpose of self-observation is to inform oneself about how well one is progressing towards one's goal while one learns. As Schunk (in press) notes, having information about one's progress may motivate one to approach the learning task differently, i.e. embark on a programme of change. Students who evaluate their progress and realize that their progress is unsatisfactory will only embark on a changed programme if they feel more self-efficacious that they will accomplish more and that they can change their previous habits (Schunk, in press). Changing one's study routine, such as doubling one's efforts, leads to improved levels of performance (Weiner, 1974:9)

2.5.4.2 The relationship between self-efficacy and self-judgement

Self-judgement refers to students systematically comparing present performance with their goal (Schunk, in press). This means that a student may also compare his performance with the standards that are prevalent in the class or school. After self-judgement one will realize whether one is making progress or not. In learning settings students also compare their performance with those of others and this makes them re-evaluate their progress towards the achievement of success. The realization that one is making progress towards attaining one's goal enhances self-efficacy for performing well, which in turn sustains motivation that leads to higher levels of performance (Schunk, in press). Conversely, should a student realize that his performance is not up to the standard of the class and that others outperform him, he is likely to feel less self-efficacious and thus have less sustained motivation which then leads to decreased performance levels (Schunk, in press). Students who are highly self-efficacious are more self-judgmental than those who are not highly self-efficacious (Zimmerman, 1988:18).

2.5.4.3 The relationship between self-efficacy and self-reaction

Self-reaction refers to reacting to one's performance on the basis of behaviours that led to the particular performance outcome (Zimmerman, 1989:334). When a student receives feedback, for example, through self-judgement about any work he has done he will naturally react in one way or another to the feedback. According to Schunk (in press) self-efficacy is one of the personal processes involved in the learner's self-reactions.The type of reaction he exhibits depends on his perceptions of self-efficacy. For example, the initial perception of self-efficacy will affect the learner's choice of a learning strategy and after receiving feedback from using that strategy perceptions of self-efficacy will be different (Schunk, in press). Self-efficacious students do not hesitate to embark on a new approach to their learning as a self-reactionary measure because they believe that the new approach will lead to improved performance or more accomplishments (Schunk, in press).

2.6 CONCLUSION

Although self-efficacy may be defined with the use of an enormous wealth of words, the central idea of this term is that an individual himself must come to the conviction that he has the capabilities to accomplish certain levels of performance.

Self-efficacy is inextricably related to motivation because motivation which is primarily concerned with activation and persistence of behaviour, also leads to the attainment of higher levels of performance.

An individual develops beliefs about his self-efficacy because of a variety of sources, some related to the learner while others stem from the learning settings.

Self-efficacy plays a significant role in the student's learning. The higher and firmer the self-efficacy perception of the student the better the performance outcomes and skills performance. Students with low sense of self-efficacy expend less effort, and cannot persist longer in the face of difficulties. In the interactive process among the self-regulatory aspects of self-observation, self-judgement and self-reaction, self-efficacy is a key variable that influences the level of academic achievement.

CHAPTER THREE

GIFTED STUDENTS AND DISADVANTAGEDNESS

3.1 INTRODUCTION

Disadvantaged gifted students are faced with countless learning obstacles such as lack of finance for schooling, disrupted homes and lack of proper educational facilities (Pendarvis, Howley & Howley, 1990:301). According to Swassing (1985:7) gifted students have a very high level of confidence. As confidence may be regarded as a key ingredient of self-efficacy, the assumption can be made that disadvantaged gifted students should be able to handle the learning obstacles they are faced with because as Schunk (1989:21) puts it, individuals with high self-efficacy persist longer in the face of obstacles in order to attain their goals. The implication is that with longer persistence students with high self-efficacy are better able to overcome study obstacles than those with low self-efficacy. It is therefore the purpose of this chapter to describe the disadvantaged gifted students in order to be able to determine the relation between self-efficacy and disadvantaged gifted students.

Firstly, giftedness will be defined. Characteristics of gifted students and how they are identified will also be discussed. Finally, characteristics of the disadvantaged gifted students will be discussed as well as problems in the identification of gifted students among disadvantaged communities.

3.2 DEFINITIONS OF GIFTEDNESS

A review of the literature on definitions of gifted students or giftedness reveals that there are many definitions of giftedness which differ on some issues while agreeing on others (Frasier, 1987:157; Bell & Roach, 1987:178-179; Cassidy & Johnson, 1986:15; Crocker, 1987:171). One of the reasons why there are a variety of definitions of giftedness is that there is no theoretically-based definition of giftedness which is universally accepted (Davis & Rimm, 1989:8; Whitmore, 1980:61; Roach & Bell, 1987:178; Tannenbaum, 1983:85). Furthermore, the understanding of the concept giftedness differs

from culture to culture (Kirk & Gallagher, 1983:68). What is regarded as giftedness in one culture might not necessarily be termed giftedness in another (Kokot, 1992:68; Olivier, 1985:8). However, when the different definitions of giftedness are analysed it becomes clear that there are

* those that view giftedness as being single-dimensional (single-trait) i.e based mainly on intelligence; and

* those that regard giftedness as being multi-dimensional (multi-trait) (Parke, 1989:7).

3.2.1 The single-trait view of giftedness

Earlier definitions that regarded intelligence as a criterion for giftedness set a point on the IQ scale and persons scoring above that point were classified as gifted (Davis & Rimm, 1989:9). For example, according to Terman (1925, quoted by Frasier, 1987:157), performance in the upper 1% on a test of intelligence indicated giftedness. This view on giftedness had shortcomings in that it ignored creative and artistic gifts and, most importantly, it discriminated against culturally different and low socio-economic level students (Davis & Rimm,1989:9). This is because such tests usually favour the same culture in which they were developed - which is usually the dominant culture with which the culturally different students are not familiar (Erhlich, 1987:61) (also see par. 3.6.2)

3.2.2 The multi-trait view of giftedness

Gradually the view was accepted that giftedness cannot only be viewed quantitatively, as measured by a number, but that some special quality of the personality played an equally important role (Kokot, 1992:36). Emphasis was changed from the single-dimensional meaning of giftedness to one in which multiple abilities and intelligences are recognized in relation to the environment (Parke, 1989:7; Kokot, 1992:36; Borland, 1989:10). What follows is a discussion of four examples of such definitions.

- ***United States Office of Education's definition***

The United States Office of Education (1978, quoted by Davis & Rimm, 1989:12) defines gifted children as children who have been identified by professionally qualified persons and who by virtue of outstanding abilities are capable of high performance. These children are children who require differentiated educational programmes and services beyond those normally provided by the regular school programme in order to realize their contribution to self and society. Children capable of high performance include those with demonstrated achievement and/or potential in any of the following areas:

* general intellectual ability,
* specific academic aptitude,
* creative productive thinking,
* leadership ability,
* visual and performing arts and psychomotor ability.

Borland (1989:12) is of the opinion that the multi-trait nature of this definition is acceptable but its structure renders it difficult to operationalize. That is, a number of areas in which students can show potential in combination or singly imply that giftedness can assume one or other of a variety of forms. Such definitions are referred to by Borland (1989:12) as disjunctive definitions because they result in the designation of a number of diverse groups as gifted.

A noteworthy facet of this definition is that it recognizes that there are many areas in which a student may be gifted and that gifted students need special programs to meet their special needs (Davis & Rimm, 1989:7)

- ***Renzulli's definition***

According to Renzulli (1978, quoted by Borland, 1989:13) giftedness consists of an interaction among three basic clusters of human traits namely, above-average, but not necessarily superior, general ability, a motivational construct called "task commitment" and creativity. These basic clusters work together with no over-emphasis on any one (Kokot, 1992:36). It is the interaction among these clusters that produces creative or productive accomplishment

(Chang, 1985:76). Children who manifest or are capable of developing an interaction among the three clusters require a wide variety of educational opportunities and services that are not ordinarily provided through regular instructional programs (Renzulli, 1978, quoted by Davis & Rimm, 1989:9).

Kokot (1992:36) maintains that this definition omits under-achieving gifted students. Students who have high general ability and creativity but lack task commitment because of their cultural background may not be identified as gifted if this definition is used (Kokot, 1992:36). Gifted students may happen to be bored by an unchallenging classroom routine and fail to show commitment to tasks, and thus not be identified as gifted (Borland, 1989:14).

However, like the USOE definition, Renzulli's definition recognises that gifted students may demonstrate their abilities in many ways and at different times under varying circumstances (Parke, 1989:9). It also recognises that various factors, cognitive and affective, must interact for an individual to be termed gifted (Borland, 1989:13). This definition also points out that giftedness is potential and needs to be developed through special opportunities.

- ***Francoys Gagne's definition***

According to Gagne (1985:108) giftedness is exceptional competence in one or more domains of ability with interests, personality traits and environment directing the orientation of the individual toward a particular field or talent. This definition combines the notions of multiple intelligences, personality factors, environment and talents (Kokot, 1992:40). It also corresponds to competence which is distinctly above average in one or more domains of ability (Borland, 1989:23). This implies that potential abilities, when coupled with the catalysts of the environment, personality and motivation can result in high level performance in various talent areas (Kokot, 1992:38).

- ***Tannenbaum's definition***

Tannenbaum (1983:86) defines gifted children as those with the potential for becoming critically acclaimed performers or exemplary producers of ideas in spheres of activity that enhance the moral, physical, emotional, social, intellectual or aesthetic life of humanity. Giftedness is a quality that emerges

when broad conditions, encompassing both inner and environmental factors, are present (Tannenbaum, 1983, quoted by Kokot, 1992:38). Those five necessary factors are general ability, special ability, non-intellective factors, environmental factors and chance factors (Tannenbaum, 1983, quoted by Borland, 1989:15).

This definition makes a valuable contribution by stipulating both the internal and external factors that contribute to the development or hindrance of an individual's potential (Borland, 1989:17). It shows that there is a need for the focus and perception of giftedness to go beyond the individual. That is, an interaction of potential with the individual's life-world is necessary for the potential to be unfolded and developed (Kokot, 1992:38).

For the purpose of this dissertation, giftedness will refer to students with demonstrated high performance in academic achievement as well as in specific fields that indicate special ability or specific giftedness as depicted by the Scales for Rating Behavioural Characteristics of Superior Students (see par. 4.5.1).

3.3 CHARACTERISTICS OF GIFTED STUDENTS

As Parke (1989:4) puts it, there is no fixed pattern of characteristics for gifted children because the very characteristics that are said to be those of gifted children vary among the gifted children as they do between the gifted and the non-gifted. However, there is a range of characteristics that gifted children may display (Renzulli, 1978:180). This implies that gifted children may or may not show all the characteristics of giftedness, therefore the manifestation of some of the characteristics must be indicative enough of giftedness in the child. The following is a range of characteristics displayed by gifted students:

* ***Logical thinking***: Gifted students are capable of thinking more logically, more swiftly and in an impressively systematic manner than the non-gifted students (Davis & Rimm, 1989:21). Even if they find themselves in unfamiliar situations where they have to do some reasoning they always manage to come up with solutions very swiftly and with an impressive level of logical reasoning (Chang, 1985:77).

* ***Ability to remember***: Gifted students are usually very able to master and retain enormous amounts of information as well as to recall it very readily (Whitmore, 1980:65). Because of this ability, gifted students do not always need a lot of revision and they become impatient and bored with repetition (Wallace, 1985:9).

* ***Precocious language***: Many gifted students have large and advanced vocabularies. Resultantly they are developmentally more advanced in the use and understanding of language as well as in mental activities (Gallagher, 1985:35). Gifted students, therefore, prefer talking to writing and their speech is more fluent than that of the non-gifted students (Wallace, 1985:10).

* ***Early reading***: Gifted students are known to have learned to read much sooner and with more ease than their non-gifted peers (Suran & Rizzo, 1979:287). When they enter school they already read substantially above the level of their development and thereafter make progress rapidly, hence their advanced and large vocabularies (Reis & Renzulli, 1989:92).

* ***Advanced comprehension***: Gifted students have unusually deep levels of comprehension that are not displayed by non-gifted students (Davis & Rimm, 1989:21). This capacity can be attributed to their ability to recall a lot of information, understand concepts as well as to gain insight into cause-effect relationships (Wallace, 1985:9).

* ***Early writing***: Because gifted children have a strong desire to imitate, many of the gifted students are said to have begun to write at a very early age, more especially if parents and older siblings were keen to teach them (Whitmore, 1980:65).

* ***Creativity***: The intellectually gifted student may be creatively gifted as well. According to Tannenbaum (1983:82) gifted students are capable of finding and solving problems in creative ways through the application of unique ideas. It has also been found that brighter students tend to do more creative work and score higher on creative tests (Davis & Rimm, 1989:27).

* ***Mathematical precocity***: Gifted students learn to add, count and subtract at a very early stage of development and as they grow they display the ability to make rapid and comprehensive generalizations in problem solving situations (Davis & Rimm, 1989:22; Chang, 1985:77). A point also worth mentioning is that gifted students are in a position to explain very competently when asked to tell how they arrived at an answer and they seem to have an urge to solve mathematical problems with very clear, simple but extremely logical procedures (Chang, 1985:77).

* ***Ability to deal with symbols***: Gifted students' ability to read earlier and their vast vocabularies make them better able to work with abstractions than their age mates (Swassing, 1985:6). They enjoy and appreciate puns, cartoons, satire and irony.

* ***Great depths of knowledge***: Gifted students dispose of extensive amounts of infirmation and are quick to learn and to recall information (Wallace, 1982:3). It has also been found that their general knowledge is very extensive - to the extent that they often know more than their teachers and find reference books used in class very superficial (Wallace, 1985:9).

* ***Advanced concentration span***: Once gifted students develop interest in a particular topic or subject they show a great deal of concentration over a long time and do not like interruptions or abrupt change (Whitmore, 1980:66; Wallace, 1985:9).

* ***Ability to make generalizations***: Gifted students have the ability to make generalizations and take out relevant points from complexity very quickly (Parke, 1989:19; Wallace, 1989:9). This ability is obviated, perhaps, by their outstanding capability to recognize relationships and understand symbolic meanings very quickly.

* ***High degree of originality***: Because gifted students are usually developmentally advanced in language and thought, they often display a fascinating ability to be imaginative and original in ideas and ways of solving problems (Lowenstein, 1982:33).

* ***Ability to learn rapidly***: Gifted students learn very quickly, more especially when they are interested in a topic or subject (Parke, 1989:20). They master what they learn very quickly and do not like repetition and revision. They also grasp concepts very easily which indicates that their thought processes are of a superior nature and faster than those of the non-gifted students (Davis & Rimm, 1989:21).

* ***Learning styles***: Gifted students display well-integrated perceptual strengths and therefore can learn through various learning channels such as the auditory, visual, tactile and kinaesthetic (Griggs & Dunn, 1984:115). Gifted students are self-motivated and very independent learners who feel good when the learning tasks are not formal but very flexible (Davis & Rimm, 1989:25).

* ***Intense interest***: Lowenstein (1982:33) states that some gifted students have a diversity of interests which are spontaneous and most of the time self-directed. Others may identify one area in which they have interest and explore it thoroughly (Parke, 1989:20). Once they develop interest in a subject or topic, they become greatly absorbed in it and do not like to be interrupted.

* ***Strong eagerness to know***: Gifted students inquire searchingly about every phenomenon and their searching is not aimed only at knowing the phenomenon but also at knowing how it occurs and why (Gallagher, 1985:35). Gifted students are exceptionally curious and constantly ask more provocative and searching questions and when answered they always note details very carefully and see similarities and differences very quickly (Swassing, 1985:7; Wallace, 1985:9).

* ***High moral values and empathy***: Gifted students reach a relatively high level of moral reasoning much earlier than the non-gifted students (Abroms, 1985:209). Furthermore, gifted students relate very well with other people, are honest, are very sensitive and oppose injustice very vehemently (Lewis & Michalson, 1985:45-46; Wallace, 1985:10).

* ***Company of adults and older children***: Perhaps because of their advanced vocabulary, high capacity to reason logically and precocious language, gifted students prefer the company of adults and older students (Parke, 1989:21).

* ***Perfectionism***: Gifted students are characterized by a strong desire to be perfect in what they do and this may be more so among those raised in an environment stressing competition and success (Alvino, 1991:176). At times they feel they should rather not attempt a task if they fear any failure or imperfection of some kind (Alvino, 1991:177).

* ***High self-confidence***: Gifted students have a positive and better self-concept as well as a very high level of confidence (Swassing, 1985:7; Lewis & Michalson, 1985:44). This is perhaps the reason why they have stable emotions, are better socially adjusted than the non-gifted students and show a better ability to do things on their own. Their high self-confidence makes them very competitive and persistent to the extent that they are not afraid to compete even with adults and engage in very complex problem-solving situations (Zi-Xiu, 1985:330).

* ***Leadership abilities***: Gifted students are more trustworthy, have wholesome social attitudes and are more emotionally stable (Wallace, 1985:10). It is because of this trustworthiness and emotional stability that they often take leadership roles among their peers and are always looked upon by others for guidance and advice (Lowenstein, 1982:33).

* ***Internal locus of control***: Gifted students tend to attribute the outcomes of their performances to internal factors that are within their control (Rimm & Davis, 1989:24). Because of this characteristic, gifted students often set themselves clear goals and always want to excel in the achievement of those goals (Lowenstein, 1982:33).

* ***Superior sense of humour***: Because gifted students think quickly and are able to detect relationships easily they display a superior sense of humour (Parke, 1989:21). They understand jokes very quickly,

appreciate and create more abstract and sophisticated types of humour at an early stage of development (Fern, 1991:33).

* ***High motivation and persistence***: Lewis and Michalson (1985:44) assert that gifted students are very willing to do great amounts of work, strive for excellence and are very persistent with their learning tasks. What also makes the gifted students' motivational level very significant is that they are more self-motivated than teacher-motivated and do not conform easily (Griggs & Dunn, 1984:116). They always set their personal standards and persist to attain perfection as much as they possibly can (Wallace, 1985:9).

* ***Greater sensitivity***: Because gifted students display advanced verbal and cognitive abilities, they are very much aware of their environment, its people and whatever is said about them (Whitmore, 1985:97). This awareness makes gifted students more sensitive and highly perspective-taking about self, others, moral issues and world problems (Davis & Rimm, 1989:26). They would react strongly to things causing distress or injustice to anyone and are concerned to improve institutions, objects, systems or any anomalous situation (Wallace, 1985:9).

3.4 IDENTIFICATION OF GIFTED STUDENTS

Identification of gifted students is undeniably a very complex process (Pardeck & Murphy, 1990:3). It becomes even more complex when diversities of giftedness are recognized and a diverse population of gifted students such as the disadvantaged have to be considered (Ehrlich, 1987:55). Factors that cause such a complexity include, inter alia, cultural biases of testing instruments that weaken their reliability and validity (Sisk, 1988:138-139; Davis & Rimm, 1989:72). In this section methods used to identify gifted students will be discussed.

3.4.1 Educational and psychological testing

Educational and psychological tests refer to intelligence tests and achievement tests that have been standardized to produce scores based on national norms

and that are administered by school psychologists or clinical psychologists to identify gifted students (Davis & Rimm, 1989:76). The tests are used due to the conviction inculcated by research findings that academically gifted students earn high scores or at least above average on intelligence tests and achievement tests (Pendarvis, Howley & Howley, 1990:153).

According to Davis and Rimm (1989:75) the most popularly used individual intelligence tests in the USA for the identification of gifted students are *The Wechsler Intelligence Scales for Children-Revised (WISC-R) and The 1986 Stanford-Binet Intelligence Scale, Revision IV.*

The Wechsler Intelligence Scales for Children Revised produces a verbal IQ and a performance (non-verbal) IQ score, together with the combined Full-scale IQ score. The use of the WISC-R makes room for the identification of either verbal or non-verbal giftedness in the student (Davis & Rimm, 1989:75).

The Stanford-Binet Intelligence Scale, Revision IV consists of four subscale scores each for verbal reasoning, quantitative reasoning, visual/abstract reasoning and short term memory. The scales give information about the student's intellectual strengths among the four areas. This scale has total scores that range from -4 standard deviations (IQ = about 36) to +4 standard deviations (IQ = about 164), which covers 99.99 percent of everyone. In this way it is easy to identify a child who is gifted in one of the areas measured by the subscales (Davis & Rimm, 1989:75).

Other intelligence tests used for the identification of gifted students are group intelligence tests. Group intelligence tests are so-called because they do not require one to one administration, i.e. they can usually be used for whole classes at once (Ehrlich, 1982:153). Among them there are the following: *The Cognitive Abilities Tests, The SRA Primary Mental abilities Tests and The Otis-Lennon Mental Ability Test* (Davis & Rimm, 1989:76). Group tests are mainly verbal and very strongly correlated with actual school achievement.

Achievement tests are also used to identify gifted students and are particularly intended to spot academic talent (Davis & Rimm, 1989:76). Standardized achievement test scores are based on national norms. These tests make it possible to compare the performance of children with others of the same grade

over a large population, most frequently a national sample (Erhlich, 1982;153). Examples of such tests are the *Iowa Tests of Basic Skills* and *The Stanford Achievement Tests.*

In South Africa tests that may be used for identification of gifted students are also group intelligence tests and individual intelligence tests (Kokot, 1992:57).

The South African standardized individual intelligence tests were designed for children who have mother tongue proficiency in English and Afrikaans (Van den Berg, 1989:108). Examples of these tests are *The New South African Group Tests (NSAGT) and Senior South African Individual Scales (SSAIS).* The tests measure as many intelligence-related mental abilities as possible with emphasis on those abilities which are closely associated with effective functioning at school (Van den Berg, 1989:99).

The South African group intelligence tests include New South African Group Tests (NSAGT) and General Scholastic Aptitude Test (GSAT). The NSAGT was designed as a group test for academic intelligence and aims to provide a verbal IQ, non-verbal IQ and a total IQ score for the testee (Van den Berg, 1989:120). The GSAT comprises three levels, namely the Junior series, Intermediate series and Senior series designed to test academic intelligence or general scholastic ability (Van den Berg, 1989:127).

Both the South African group and individual intelligence tests are written in English or Afrikaans and are specifically targeted for these groups. It follows therefore that the language, cultural and ethnic aspects would disadvantage the majority of South African black students when these tests are used (Kokot, 1992:31).

3.4.2 Identification by teachers

Identification of gifted students by teachers is a widely used method. Students' chances of being identified as gifted thus depend solely on the teacher's understanding of giftedness and the teacher's ability to spot and interpret gifted behaviour in an appropriate manner (Reid, 1989:33; Davis & Rimm,1989:78). Teachers can identify gifted students in an informal way by just thinking of a student who according to him is gifted. Teachers can also make use of rating forms or checklists that can be scored objectively.

Examples of such forms are Renzulli's Scales for Rating Behavioural Characteristics of Superior Students (see par. 4.5.1).

3.4.3 Identification by parents

Based on the assumption that parents know their children from birth, parents can be requested to provide information about their child that relates to giftedness by making use of a nomination inventory such as the one developed by Tongue and Sperling (Davis & Rimm, 1989:82). This inventory evaluates precocious cognitive development, creativity, motor coordination, energy and persistence and other characteristics of gifted students.

3.4.4 Identification by peers

Classmates or schoolmates can also be requested to identify students they consider gifted or the best in a variety of areas. Children are very observant and this makes them very good at singling out the gifted one among them and even telling in what way he or she is gifted (Reid, 1989:34).

A very informal way of adopting this method is by asking a number of students who they think is the best in reading, creative work or leadership. Children watch one another and the one who is best in any given field is quickly recognized (Davis & Rimm, 1989:82).

A formal way of identification of gifted students by peers is by means of a nomination form such as the one developed by The Milwaukee Public School System (Davis & Rimm, 1989:95). By means of this form peers indicate the brightest student, the most creative student or the student they think has leadership qualities. Votes in each category are counted and the student who has the most votes in each category will be considered gifted in such an area. The student who has the most votes in all the categories is certainly multi-talented.

3.4.5 Self-identification

Students can be requested to compile biographical information about themselves with regard to their belief in their ability, interest in a particular

field and in motivation (Reid, 1989:35). Students are given a self-nomination form such as the one used in Charlottesville, Virginia, (Davis & Rimm, 1989:82). Students indicate in this form in which area they think they have specific ability and talent and why. The areas in which students are tested are intellectual ability, maths, science, social studies, language skills, reading, art, music, drama, dance, creativity, and leadership.

3.5 CHARACTERISTICS OF DISADVANTAGED GIFTED STUDENTS

Ehrlich (1987:56) defines disadvantagedness as "an unfavourable, inferior or prejudicial condition". Passow (1986:149) asserts that the term disadvantaged includes two aspects namely:

* economic disadvantage, which specifically refers to poverty; and
* educational disadvantage, which refers to poor academic performance.

According to Mortimore and Blackstone (1983:3) educationally disadvantaged students are those who perform less well than their potential due to various social and environmental factors. That is, a disadvantaged student is a student who comes from a poor background or lower socio-economic class that is deficient in either or both the materials and attitudes that are conducive to learning (Kokot, 1992:172).

For the purpose of this research disadvantaged will be understood to include:

i. economic disadvantage which is operationally referring to poverty, unemployment, lack of good housing and generally poor living standards and conditions, and

ii. educational disadvantage which in this context refers to underachievement, inadequate educational facilities, lack of learning and teaching material and intellectually under-stimulating environments (Passow, 1986:149).

The preceding definition is very relevant to students in some of the areas in the North West Province of South Africa in general and the overpopulated and poverty-stricken areas such as the Winterveldt in particular.

Based on the above definition it can be deduced that disadvantaged gifted students' outstanding academic, creative and leadership capabilities are not fully optimized because of the disadvantaged environment in which they live (Ausubel, 1967:311). The following are characteristics of disadvantaged gifted students:

* ***Underachievement***: Underachievement refers to consistent academic performance that is significantly discrepant with the student's assessed level of ability or that falls below expectations based on measures of ability (Krissman, 1989:160; Davis & Rimm, 1989:304).

  Disadvantaged gifted students often end up under-represented in programmess for gifted students in many countries (Pendarvis ***et al.***, 1990:301). These students have the potential for giftedness but because of barriers such as poverty and lack of early enrichment experiences they are not identified as gifted. The effect of poor socio-economic conditions under which they live is very far reaching on their academic performance and as result they underachieve (Mortimore & Blackstone, 1983:3).

  Disadvantaged gifted students' under-achievement at school is very often hidden because they find themselves in ordinary classes where average performance is acceptable (Supplee, 1989:163). This implies that not all of the under-achieving disadvantaged gifted students will be failing, but that the majority of them in fact will be those who perform below average level.

* ***Lack of general motivation to learn***: Disadvantaged gifted students may under-achieve because of lack of general motivation to learn. Disadvantaged gifted students, though disadvantaged, have advanced levels of interest, advanced cognitive abilities and analytical skills but because of poor socio-economic backgrounds their potentialities are not developed to the full. As a result, disadvantaged students' motivation and eagerness to learn become stifled and they under-achieve (Redding, 1989:275). For an example a gifted student from disadvantaged communities may be demotivated to learn harder due to the understanding that he will not be able to pursue his studies further

up to the university level because his parents cannot afford to pay for him.

* ***Parents with a low level of education***: Under-achievement among disadvantaged gifted students may be attributed to their parents' lack of education or parents with limited education which is quite rife among the disadvantaged communities (Crocker, 1987:173). The educational level of the parents plays a very influential role in the development of students' potential. Parents with high educational qualifications are in a better position to guide their children with acquisition of cognitive skills than parents with low or no educational qualifications. Most of the parents of disadvantaged gifted students do not have high educational qualifications or educational qualifications at all. Some of them do not even live with their children as they work in faraway places. Even if they can be home most of the time, some place less value on education and do not appreciate the idea of advanced learning (Reid, 1989:35). Lack of parental intellectual stimulation, interest in and knowledge of the children's education hampers the unfolding and development of their capabilities and as a result they under-achieve (Mortimore & Blackstone, 1983:43).

* ***Teachers who lack appreciation***: Disadvantaged gifted students are also demotivated by some teachers who discourage or do not appreciate expression and development of giftedness such as creative responses, self-expression, critical thinking, constructive argument, verbalizations and pursuit of personal interests (Whitmore, 1988:13; Kendig, 1988:8). Under-qualifications and lack of proper training of teachers of the gifted education teachers among the disadvantaged communities have a negative influence on the development of the disadvantaged gifted students' potential (Letshufi, 1988:62). Teachers who are under-qualified and do not understand the characteristics of gifted students are often irritated by their inquiring questions, curiosity and critical thinking because they feel threatened and intellectually insecure (Kotze, 1983:10). Resultantly, disadvantaged gifted students feel frustrated because their performance is not being rewarded, and the result is under-achievement (Whitmore, 1980: quoted by Kokot, 1992:124).

* ***Poor socio-economic background***: Disadvantaged gifted students often come from communities with socio-economic backgrounds that are poor, families with low levels of education and generally intellectually under-stimulating environments (Johnson, Starnes, Gregory & Blaylock, 1985:417). Such communities have less money to spend on books, magazines, newspapers and other thought-provoking activities and as a result the child's intellectual potential is not stimulated (Mortimore & Blackstone, 1983:28). The children do not have adequate sources of information and reference. Such children's learning depends very critically on the resources and stimulation provided in the classroom (Ralph, 1989:397-398).

* ***Academic skill deficit***: Disadvantaged gifted students often experience early difficulty in mastering the basic intellectual skills such as language and reading skills and as a result do not meet the expectations held for gifted students at school (Whitmore, 1985:108). This can justifiably be attributed to disadvantaged gifted students' intellectually non-stimulating environments. The student misses language and literary experiences offered by parents during his formative years. This is because parents of disadvantaged students have few books and rarely read to their children (Mortimore & Blackstone, 1983:43).

* ***Low self-esteem***: An under-achieving disadvantaged gifted student may be characterized by low self-esteem caused by, inter alia, the feeling that he does not perform as well as he should or up to the expectations of his parents and teachers (Davis & Rimm, 1989:308; Freeman,1983:483).

* ***Rebellious attitude***: Disadvantaged gifted students who under-achieve may become rebellious against the authority of the teacher, defiant, might refuse to cooperate and participate, thus becoming generally disruptive and unmanageable (Krissman, 1989:161). As Whitmore (1988:13) puts it, disruptive behaviour might be intended to get attention from the teacher and classmates. The rebellious attitude and finding faults with the authorities all the time is just the strategy used by this child to shift the responsibility for not achieving from himself to the school (Davis & Rimm, 1989:310).

* ***Lower expectations***: An under-achieving gifted student who expects low marks when writing a school task lowers the risk of failure because whatever mark he obtains will fall within what he expected (Davis & Rimm, 1989:310). Quite often disadvantaged gifted students set themselves lower goals when they sense that they will not exert themselves as they ought to. Krissman (1989:161) asserts that gifted under-achievers lack the courage to confront and conquer a challenging and difficult task.

* ***Avoidance behaviours***: Under-achieving gifted students are also characterized by non-productive avoidance behaviours. They tend to choose projects that are so complex that later on they will evade them or just simply say they have no interest in school (Krissman, 1989:161). This type of behaviour enables under-achieving gifted students to hide their lack of confidence and low self-esteem (Davis & Rimm, 1989:310).

3.6 PROBLEMS WITH THE IDENTIFICATION OF DISADVANTAGED GIFTED STUDENTS

Disadvantaged gifted students are very often not selected when the methods described in paragraph 3.4 are used and thus remain unidentified as gifted (Sisk, 1988:138; Johnson ***et al.***, 1985:417; Henegar, 1984:109). The following are some of the reasons why disadvantaged gifted students are often not identified as gifted when giftedness is searched through the use of these methods.

3.6.1 Mediocre performance

Disadvantaged gifted students have mediocre performance on the standardized tests used to identify gifted students (Bernard, 1985:80). These students come from impoverished environments and therefore are often unfamiliar with the concepts and approaches used in standardized IQ and achievement tests which cause their scores to be lower than scores that indicate giftedness (Masten, 1986:83; Reid, 1989:30; Harty, Adkins & Sherwood, 1984:337). The lower scores obtained by disadvantaged gifted students therefore indicate that they are not gifted when in fact they are.

3.6.2 Test bias

Standardized tests used to identify gifted students are not culture-free (Van den Berg, 1989:92). Achievement and intelligence tests usually favour the same culture in which they were developed which usually is the dominant culture (e.g. whites in South Africa) with which the disadvantaged are not familiar (Ehrlich, 1987:61). Disadvantaged gifted students grow up in conditions that are intellectually non-stimulating to such an extent that their potential is usually under-developed. For example, a disadvantaged gifted child will not do as well as he should in tests of verbal ability due to his impoverished home background which is not linguistically stimulating in terms of the language in which the tests are written such as English (Davis & Rimm, 1989:284). Languages, more especially black languages, differ greatly from English, therefore a disadvantaged black student's linguistic structures and associations are different. A student whose home language and language of school instruction differ, is often at a disadvantage when tested in English (Van den Berg, 1989:93; Sisk,1988:139).

3.6.3 Identification by teachers

When teachers identify gifted students, disadvantaged gifted students are at a disadvantage because many of them show their giftedness in ways that are often mistaken by teachers as problem behaviour (Frasier, 1987:158). Furthermore, due to their constant under-achievement the disadvantaged gifted students are not readily and easily spotted by teachers and as a result can be in the class for the whole year without being recognized as gifted (Davis & Rimm, 1989:286).

3.6.4 Bilingualism

Many of the tests used to identify giftedness rely unreasonably heavily on verbal ability, therefore children who are not conversant with the language used in the tests cannot show outstanding verbal proficiency (Johnson ***et al.***, 1985:417). As Robson (1985:115) puts it, the disadvantaged gifted children are not, culturally speaking, poor in language but unfortunately the school language is not their first language and it is inappropriate and unacceptable for tasks performed at school. This is the situation we find in black schools in the

North West Province of South Africa where English is used as a medium of instruction from Standard 3 while many black children, more especially those from low socio-economic status parents, do not know English. Identification tests constructed in the language that is the second language to the disadvantaged students do not allow them to perform as well as they should in these tests and as a result they may not be identified as gifted (Van den Berg, 1989:93).

3.7 CONCLUSION

In this chapter, giftedness was defined pointing out that there are definitions that view giftedness as being single-dimensional and those that view it as being multi-dimensional.

Characteristics of gifted students were given attention. It emerged that there is no fixed pattern of characteristics of gifted students and that gifted students differ among themselves (Renzulli, 1978:180).

Attention was also given to the methods used to identify gifted students. The most popularly used methods are:

* educational and psychological testing,
* identification by teachers,
* identification by parents,
* identification by peers, and
* self-identification.

Disadvantagedness was discussed and defined. Based on the definition of this concept it follows that disadvantaged gifted students are students with outstanding capabilities who do not have opportunities to optimize their potential due to unfavourable conditions (Ehrlich, 1987:55).

The chapter also focused on the characteristics of disadvantaged gifted students. Characteristics discussed in this chapter are:

* underachievement,
* lack of general motivation to learn,

* parents with a low level of education,
* teachers' lack of appreciation,
* poor socio-economic background,
* academic skills deficit,
* low self-esteem,
* rebellious attitude,
* lower expectations and
* avoidance behaviour.

These characteristics obscure giftedness among disadvantaged gifted students (Krissman, 1989:161).

The chapter was concluded with a discussion of the problems experienced with the identification of the disadvantaged gifted students. As Henegar (1984:109) puts it, methods used to identify gifted students disadvantage the disadvantaged gifted students because their language, cultural and home backgrounds are not considered when results are interpreted. In chapter four the methods used in this study will be discussed.

CHAPTER FOUR

METHOD OF RESEARCH

4.1 INTRODUCTION

In this chapter the methodological procedures adopted for this study are described. The sample and how it was identified is outlined (par. 4.4.2). Instruments used to collect the data (par. 4.5), variables used in the study are listed in paragraph 4.6 and the procedure followed (par. 4.7) are also discussed. Finally the statistical techniques used to analyse the data are outlined in paragraph 4.8.

4.2 AIM OF THE RESEARCH

As indicated in chapter 1 (par. 1.2), the aim of this research was to determine the influence of certain variables on the academic self-efficacy beliefs and academic achievement of disadvantaged gifted students.

4.3 EXPERIMENTAL DESIGN

An ex post facto design was used in which a group of disadvantaged students was compared with a group of disadvantaged non-gifted students on certain variables.

4.4 STUDY POPULATION AND IDENTIFICATION OF GIFTED STUDENTS

4.4.1 Study population

The middle school students in Standard 7 in the Winterveldt area of the North West Province of South Africa formed the study population for this research. According to the records supplied by the Mabopane Circuit Office on 31.08.1992 there were 809 Standard 7 students in the five middle schools in the Winterveldt (see table 4.1).

TABLE 4.1: Study population.

School	No. Students
1	151
2	72
3	188
4	165
5	233
Total no. of Std. 7 Students	809

4.4.2 Identification of disadvantaged gifted students and disadvantaged non-gifted students as study sample

Through random cluster sampling four middle schools were selected (Table 4.2) out of which the gifted and the non-gifted students for this study were selected. Identification of gifted students and non-gifted students was done by means of the Scales for Rating Behavioural Characteristics of Superior Students (SRBCSS) developed by Renzulli (par. 4.5.1).

Standard 7 teachers in the four schools were provided with the Renzulli scales and were requested to complete the scales in respect to each Standard 7 student in their schools. The scales were completed for 576 students from the four middle schools.

These scales were then scored by the researcher himself and the scores were arranged in hierarchical order from the highest score to the lowest score. In order to obtain two groups of students, the students who came out in the 40 top positions were defined as gifted. The students who came out in the 40 positions from the bottom were defined as non-gifted students (see Table 4.2). These two groups of 40 students each were used in this study.

TABLE 4.2: Distribution of students among schools.

School	No. of students	Gifted students	Non-gifted students
01	151	20	14
02	72	10	14
03	188	08	07
04	165	02	09
05*	233*		

4.5 INSTRUMENTATION

4.5.1 Scales for Rating Behavioural Characteristics of Superior Students (SRBCSS)

These scales (see Appendix A) were developed by Renzulli and consist of a series of short descriptive statements that characterize gifted children. The items used in the scales were derived from the research literature dealing with characteristics of gifted and creative students. The descriptors are divided into four categories as follows:

Learning (e.g. Has unusually advanced vocabulary for age or grade level; uses terms in a meaningful way; has verbal behaviour characterized by "richness" of expression, elaboration, and fluency). ***Motivation*** (e.g. Needs little external motivation to follow through in work that initially excites him or her). ***Creativity*** (e.g. Displays a great deal of curiosity about many things; is constantly asking questions about anything and everything). ***Leadership*** (e.g. Is self-confident with children his own age as well as with adults; Seems comfortable when asked to show work to the class).

Teachers had to rate the students according to a four point scale value for each descriptor in each of the four categories. The higher the score the stronger the evidence that the child has the characteristics in the category (see Appendix A).

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* Not included in the sample.

The Scales for Rating Behavioural Characteristics of Superior Students are considered reliable because of the consistency of ratings among judges who use them and the stability of scores when the scales were applied after some time (Tannenbaum, 1983:361)

4.5.2 Self-Efficacy Questionnaire (SEQ)

The self-efficacy questionnaire (SEQ) (see Appendix B) was developed by Monteith and Mathebula, 1992:53) as a paper-and-pencil test to assess a students' perceived capability to correctly perform a variety of learning related tasks. The questionnaire consisted of two parts.

PART ONE

Part 1 of the SEQ assesses self-efficacy in a way similar to that used by Berry, West and Dennehey (1989). Part one initially consisted of 62 statements (see Appendix B) each describing a task related to effective learning and studying such as:

Planning:	Items: 10,27,29,32,37,41
Connecting ideas:	Items: 2*,6,26,28,30,59
Helpseeking:	Items: 1,22*,24,52*,57
Outlining:	Items: 11*,53
Paraphrasing:	Items: 16,47,58
Note taking:	Items: 35,61*
Selecting main ideas:	Item: 38
Knowledge of learning strategies:	Items: 13,21
Expectations:	Items: 4,7,8
Sense of responsibility:	Item: 56*
Perseverance:	Items: 3,33,42,62
Concentration:	Items: 5*,31,40,50
Environmental regulation:	Items: 9,15*,54
Evaluation/monitoring:	Items: 19,34,44,46*,48,49
Self-confidence:	Items: 12,14,17,18,23,36*,39*,43,51,55
Self-knowledge:	Items: 12,20,25,45,60*

* Items eliminated because of a low index of discrimination

SCALE

Yes	No	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

For each item the subjects had to indicate whether they could perform the task described by circling either **NO** or **YES**. If **YES** was circled, subjects had to rate their certainty (i.e. strength of perceived self-efficacy) to perform the task by circling a confidence rating (see Appendix B). Following Bandura and Schunk (1981:589) the confidence rating ranged from 10% to 100% confidence in 10-unit increments. The confidence ratings is an indication of perceived strength of self-efficacy.

As there were no right or wrong answers subjects were advised to be honest and to circle the efficacy value that most accurately reflected their own judgements and confidence. As some of the subjects in the sample had language deficiencies. precautions were taken to ensure they understood the directions by explaining difficult words from the items or statements, questions and answers. After explaining the instructions the tester also requested a sample of subjects to tell him the instructions until he was satisfied that they understood them. This same procedure was also followed with part two of the SEQ.

The capability to perform a task had to be judged and not the certainty for being able to successfully perform the task (Schunk, 1982:90). The higher the scale value the stronger the perceived self-efficacy (Bandura & Schunk, 1981:589). Self-efficacy scores were calculated by summing the number of YES responses with at least a 20% confidence (Berry, West & Dennehey, 1989:703).

Item discrimination

Because of a time restriction no pilot test was run on the SEQ. All 62 items of part one of SEQ were completed and scored. To reduce the number of items and to eliminate items which did not differentiate between students with low and high self-efficacy a discrimination index was calculated for each item by correlating each item with the total score on the questionnaire. As an external

criterion was not available the score on all the items (the total score) was used as the criterion (Brown, 1976:280).

All items with a correlation less than 0,45 were eliminated reducing the number of items to 50. Part one of the SEQ as used in this study thus consisted of 50 items. The following items were eliminated: 2,5,11,22,36,39,52,56,60,61 (see Appendix B).

PART TWO

Following Schunk and Rice (1991) part two of the SEQ consisted of 12 passages of which two were used as sample passages to train the subjects in completing part two (see Appendix B). The passages described events familiar to the culture of the subjects. From two to three questions with multiple choice answers were set on each passage. Both passages and questions ranged from easy to difficult and correspond in reading level to that expected from Standard 7 students.

The tester explained the procedure for completing part two and then first read example passage **E1** aloud with the subjects followed by the question and multiple choice answers set on the passage. After explaining the scale for part two the subjects had to answer the questions by circling a confidence rating on the answer sheet using the following scale:

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

After completing example passage **E2** following the same procedure, subjects read passages 1 to 10 on their own. After reading a passage the subjects had to wait for further instructions. The tester then read each question, but not its multiple choice answers, aloud. The subjects read the multiple choice answers and completed the answer sheets in their own time. After answering a question the subjects could read the next passage but had to wait for further instructions before they could turn to the question.

The likelihood that subjects judged whether they actually could answer particular questions was minimized by not allowing them to consult passages while making efficacy judgements, by not putting questions on the same pages on the passages and by the tester reading only the questions.

As there were no right or wrong answers subjects were advised to be honest and to circle the efficacy value that most accurately reflected their own judgements and confidence. As some of the subjects in the sample had language deficiencies, precautions were taken to ensure they understood the directions by including the two example passages and explaining difficult words from the passages, questions and answers. After explaining the instructions the tester also required a sample of subjects to tell him the instructions until he was satisfied that they understood them.

A self-efficacy score for part two was calculated by summing and averaging the 25 judgements.

Reliability of the self-efficacy questionnaire

The reliability of the self-efficacy questionnaire was calculated by using the Cronbach-alpha reliability coefficient:

$$r_{tt} = \frac{k}{k-1}\left(1 - \frac{\Sigma V_1}{V_T}\right)$$

Where,

k equals the number of items in the test;

ΣV_1 equals the sum of the variances of the individual items in the test; and

V_T equals the variance of the total of sub test (Cronbach, 1949:160).

The reliability of part one was:

Alpha coefficient = 0,99.

The reliability of part two was:

Alpha coefficient = 0,95 (Mathebula, 1992:57).

4.5.3 Motivated Strategies for Learning Questionnaire (MSLQ)

The Motivated Strategies for Learning Questionnaire (MSLQ) (see Appendix C) was developed as a paper-and-pencil test to assess students' study habits, learning skills and motivation for learning or studying. The questionnaire consisted of two parts. Part A of the MSLQ consisted of items related to motivational beliefs of the subjects. Part B consisted of items that had to do with subjects' self-regulated learning strategies (Pintrich & De Groot,1990:34). Part A consisted of 22 items while Part B consisted of 44 items.

For each item subjects had to respond on a 7-point Likert scale (1 = "not at all true of me" to 7 = "very true of me") in terms of their behaviour for learning and studying.

Motivational factors that feature in items on motivation are: self-efficacy, intrinsic value and test anxiety. The Self-Efficacy Scale (alpha = 0,87)* consisted of nine items regarding perceived competence and confidence in performance of classwork (e.g "Compared with other students in this class I expect to do well", "I am certain I can understand the ideas taught in this class", "I am sure I can do an excellent job on the problems and tasks assigned for this class") . The Intrinsic Value Scale (alpha = 0,87) was constructed by taking the mean score of the students' response to nine items concerning intrinsic interest in ("I think what we are learning in this class is interesting") and perceived importance of the work in the class ("It is important for me to learn what is being taught in this class") as well as preference for challenge and mastery of goals ("I prefer class work that is challenging so that I can learn new things").

Four items (e.g. "I am so nervous during a test that I cannot remember facts I have learned", "I worry a great deal about tests") concerning worry about and cognitive interference on tests were used in the Test Anxiety Scale (alpha = 0,75).

The items on self-regulated learning strategies dealt with cognitive-strategy use and self-regulation. The Cognitive Strategy Use Scale (alpha = 0,83)

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* Alpha levels as reported by Pintrich and De Groot (1990).

consisted of 13 items pertaining to the use of rehearsal strategies (e.g. "When I read material for this class, I say the words over and over to myself to help me remember"), elaboration strategies such as summarising and paraphrasing (e.g. "When I study I put important ideas into my own words"), and organizational strategies (e.g. "I outline the chapters in my book to help me study").

The Self-Regulation Scale (alpha = 0,74) was constructed from metacognitive and effort management items. The Self-Regulation Scale consisted of items on metacognitive strategies, such as planning, skimming and comprehension monitoring (e.g. "I ask myself questions to make sure I know the material I have been taught", "I find that when the teacher is talking I think of other things and do not really listen to what is being said", and "I often find that I have been reading for class but do not know what it is all about"). The latter two items were reflected before scale construction and were adapted from Weinstein, Schulte and Palmer (1987) and Zimmerman and Pons (1986: ***In*** Pintrich & De Groot, 1990:35). Effort management strategies were adapted from Zimmerman and Pons (1986: ***In*** Pintrich ***et al.***, 1990:35). These effort management strategies included students' persistence at difficult or boring tasks and working diligently (e.g. "Even when study materials are dull and uninteresting I keep working until I finish" and "When work is hard I either give up or study only the easy parts"), with the latter item reflected before scale construction. (Pintrich & De Groot, 1990:35).

4.5.4 Socio-Economic Status and Biographical Questionnaire

The Socio-Economic Status and Biographical Questionnaire was developed to elicit descriptive personal and family information about the subjects as well as the scores they obtained in the four subjects they study at school.

Biographical information on the following variables were gathered: Name of student, age in years and months, birth ordinal position, sex, sibling size, family size and home language.

The socio-economic status (SES) section of the questionnaire prompted subjects to provide information about the socio-economic background of their parents. Information about the following SES variables was gathered: parents' level of education, parents' employment and aspirations for the

education of their child, size of the family, size of the dwelling, means of transport at home, household possessions like T.V. set, radio, Hifi set, refrigerator, deep freezer, cart and bicycle and their conditions (see Appendix D).

The academic achievement section required students to indicate the marks they obtained in English, Maths, Science and Biology in the mid-year examinations. The mark sheet for the mid-year examinations was obtained from each school and the marks for each student in the sample were entered by the researcher himself.

4.6 VARIABLES USED IN THE STUDY

4.6.1 Independent Variables

* learning
* motivation
* creativity
* leadership
* socio-economic status
* cognitive strategy use
* motivation
* self-regulated learning strategies
* self-regulation
* age
* socio-economic status
* aspirations
* family size
* sibling size
* birth order

4.6.2 Dependent Variables

* self-efficacy beliefs
* previous academic achievement in Maths, Science, English and Biology

4.7 PROCEDURE

4.7.1 Identification of subjects

On the 18th August 1992 the Scales for Rating Behavioural Characteristics of Superior Students (SRBCSS) (see Appendix A) were distributed among the four selected middle schools in Winterveldt. The researcher explained to the Standard 7 teachers in each school how the rating scales should be completed and requested them to do the rating. It was indicated to the teachers that the scoring of the scales would be done by the researcher himself. On the 28th August 1992 the completed scales were collected from the schools. Scoring was done by the researcher and 80 students were chosen through the procedure explained in 4.3.2.

4.7.2 Administration of the tests

Both the gifted and the non-gifted students identified were then subjected to the test battery consisting of:

* The Self-Efficacy Questionnaire
* The Socio-Economic Status and Biographical Questionnaire
* The Motivated Strategies for Learning Questionnaire

4.7.2.1 Self-Efficacy Questionnaire (SEQ)

The subjects completed this questionnaire following the procedure described in paragraph 4.5.2. The term "self-efficacy" was thoroughly explained, even in Tswana, to make sure that subjects knew exactly what they were dealing with. To ensure this, some subjects were requested to explain to others what the tester explained to them.

The average time taken by the subjects in all four middle schools to complete the first part of this questionnaire was forty five minutes. They were thereafter given 15 minutes break.

Part Two was also completed following the procedure described in paragraph 4.5.2. The average time taken by students in all four middle schools to complete part two of the questionnaire was 65 minutes after which they were given 30 minutes break.

4.7.2.2 Motivated Strategies for Learning Questionnaire (MSLQ)

The MSLQ consisted of two parts contained in a booklet and students were provided with an answer sheet to respond therein. Part A intended to assess the students' motivational beliefs while Part B assessed students' self-regulated learning strategies.

The subjects completed this questionnaire following the procedure described in paragraph 4.5.3. The average time that subjects took in the four middle schools was 35 minutes.

4.7.2.3 Socio-Economic Status and Biographical Questionnaire

The biographical section of the questionnaire was included to elicit descriptive information about the subjects while the socio-economic status section required information about the subjects' socio-economic level (par.4.5.4). The average time students took in the four middle schools was 40 minutes.

4.8 STATISTICAL TECHNIQUES

The data was processed with a mainframe computer of the PU for CHE using the SAS computer programmes.

Descriptive Statistics were calculated with the FREQ procedure and the MEANS procedure of SAS (SAS INSTITUTE INC.. 1985) to determine the means and Standard deviations of the variables listed in paragraph 4.6.1 and Table 5.1.

To determine the collective and individual influence of the independent variables on the dependent variables multiple regression analysis was performed. The BMDRP-9R computer program (Dixon & Brown, 1979) was used for the calculation of the multiple regression analysis.

Multiple regression analysis is a method for analysing the collective and separate contributions of two or more independent variables X_1, X_2, X_3, ... to the variation of a dependent variable Y (Kelinger, F.N. & Pedhazur, E.J., 1973:3 and Kelinger, 1966:360; 1975:659; 1969:187). This method is appropriate in this research in which the collective and separate contributions of certain variables on the academic achievement and the self-efficacy beliefs of disadvantaged gifted students and disadvantaged non-gifted students are to be determined.

Multiple regression analysis also helps "explain" the variance of a dependent variable and also to study the influence of several independent variables on academic achievement and self-efficacy beliefs.

Analysis of variance was performed with the GLM Procedure of SAS (SAS Institute Inc., 1988) to determine whether different groups of students differed significantly on the same variable.

Practical or educational significance (effect size) was calculated by using two equations. To determine the educational significance of the difference between two groups' means (see Table 5.1), the following equation was used:

$$d = \frac{\bar{X}E - \bar{X}K}{SK}$$

Where,

d = effect size;

$\bar{X}E$ = mean of group E;

$\bar{X}K$ = mean of group K;

SK = standard deviation of group K (Steyn, 1990:10-12).

To determine the educational significance of the contribution of a single variable to R^2, the following equation was used:

$$f^2 = \frac{\text{contribution to } R^2}{1 - R^2}$$

(Steyn, 1990:13-23).

The following criterion of Cohen (1977) was used to determine the educational significance of the contribution to R^2 (effect size) of every independent variable:

Small effect: $f^2 = 0,02$
Medium effect: $f^2 = 0,15$
Large effect: $f^2 = 0,35$

4.9 CONCLUSION

In this chapter the methodical procedures adopted in this research were described. The primary purpose of the empirical investigation was to collect data that could be used to determine the influence of disadvantageness on self-efficacy beliefs and academic achievement of the disadvantaged gifted students.

The experimental design used in this study was described in paragraph 4.3 The population and sample used in this study were described in paragraph 4.4 The questionnaires used in the study were discussed in paragraph 4.5. Both independent and dependent variables were listed in paragraph 4.6. The procedure followed in the identification of subjects and the administration of tests was outlined in paragraph 4.7. Finally the statistical techniques used were discussed in paragraph 4.8. In Chapter 5 statistics will be analysed and the results be interpreted.

CHAPTER FIVE

STATISTICAL ANALYSES AND INTERPRETATION OF RESULTS

5.1 INTRODUCTION

As mentioned in paragraph 1.2 the aim of this study was to determine the influence of certain variables on the academic self-efficacy beliefs and academic achievement of disadvantaged gifted students. To get a clear picture of how certain variables influence the academic achievement and self-efficacy beliefs of disadvantaged gifted students, a group of disadvantaged gifted students was compared with a group of disadvantaged non-gifted students in respect of a number of variables. In this chapter the hypotheses (par.5.2) are tested, data analysed and results interpreted.

5.2 HYPOTHESES

The following hypotheses were tested:

Hypothesis 1

There is a difference between disadvantaged gifted students and disadvantaged non-gifted students with relation to certain variables.

Hypothesis 2

There is a relationship between certain variables and the academic achievement of, respectively, disadvantaged gifted students and disadvantaged non-gifted students.

Hypothesis 3

There is a relationship between certain variables and the self-efficacy beliefs of disadvantaged gifted students.

5.3 *CATEGORIZATION OF THE VARIABLES USED IN THE STUDY*

The variables used in this study were divided into five different categories according to their nature. The first category consisted of the Scales for Rating Behavioural Characteristics of Superior Students used for the identification of disadvantaged gifted students (see par. 4.5.1). The second category consisted of the self-efficacy variables (see par. 4.5.2). The third category comprised motivated strategies for learning variables (see par. 4.5.3). The fourth category was made up by socio-economic status and biographical variables (see par. 4.5.4.). The last category of variables was made up by four of the subjects the students study at school, i.e. English, Mathematics, Science and Biology, which were used as dependent variables.

5.4 *A COMPARISON BETWEEN DISADVANTAGED GIFTED STUDENTS AND DISADVANTAGED NON-GIFTED STUDENTS*

To test hypothesis 1, that there is a difference between disadvantaged gifted students and disadvantaged non-gifted students with relation to certain variables, the gifted students were compared with the non-gifted students on the variables mentioned in paragraph 4.6. (also see Table 5.1 for the means and standard deviations of the gifted and the non-gifted students).

An analysis of Table 5.1 indicates that as expected, the disadvantaged gifted students have higher mean scores on the Scales for Rating Behavioural Characteristics of Superior Students. The differences in mean scores are as follows: learning (difference 8,77; d=2,4), motivation (difference 4,78; d=1,5), creativity (difference 9,27; d=2,4) and leadership (difference 7,77; d=1,7). All these differences are of large educational significance. The higher mean scores indicate that the scales and method (par. 4.5.1) used for the identification of disadvantaged gifted students were successful and reliable.

TABLE 5.1: Means and standard deviations of disadvantaged gifted students (N=40) and disadvantaged non-gifted students (N=40).

	Mean		Standard deviation		Difference between	Effect size
Variables	**Non-Gifted**	**Gifted**	**Non-Gifted**	**Gifted**	**Gifted and Non-gifted**	**d**
1. Renzulli scales						
Learning	15,80	24,57	3,07	4,15	8,77	2,4***
Motivation	19,12	23,90	3,26	3,24	4,78	1,5***
Creativity	18,80	28,07	4,07	3,70	9,27	2,4***
Leadership	23,23	30,97	5,36	3,55	7,77	1,7***
2. Self-efficacy						
Self-efficacy strength	15,45	15,86	2,09	1,91	0,41	0,2*
Self-efficacy level	41,85	42,50	5,73	6,05	0,65	0,1
3. Motivated strategies for learning						
Cognitive strategy use	74,40	75,63	9,39	8,21	1,23	0,1
Motivation	120,25	121,10	13,00	13,93	0,85	0,1
SRLS	119,38	123,08	14,23	13,38	3,70	0,3*
Self-regulation	44,98	47,45	7,1	7,33	2,47	0,3*
4. Other variables						
Age	16,40	15,95	1,73	1,63	0,45	0,3*
SES	48,15	49,30	10,07	10,73	1,15	0,1
Aspirations	4,42	4,65	1,33	0,94	0,23	0,2
Family size	5,55	6,48	2,48	2,24	0,92	0,4*
Sibling size	4,57	3,53	1,93	1,75	1,05	0,6**
Birth order	1,97	1,25	1,88	1,51	0,72	0,4*
5. Subjects						
English	73,52	86,40	24,26	24,75	12,88	0,5**
Maths	73,75	88,47	26,88	33,26	14,72	0,5**
Science	64,50	83,05	34,61	42,60	18,55	0,5**
Biology	66,95	82,25	32,13	43,08	15,30	0,4*

* Small effect $d > 0,2 ; d < 0,5$
** Medium effect $d > 0,5 ; d < 0,8$
*** Large effect $d > 0,8$

The differences in self-efficacy strength (difference 0,41; d=0,2) and self-efficacy level (difference 0,65; d=0,1) between the disadvantaged gifted students and disadvantaged non-gifted students are not only small but also of little educational significance.

Therefore, in comparison with the disadvantaged non-gifted students disadvantaged gifted students are not characterised by superior self-efficacy strength.

With relation to the motivated strategies for learning variables the difference between the disadvantaged gifted and disadvantaged non-gifted students vary from little to the threshold of medium educational significance. The differences in cognitive strategy use (difference 1,23; d=0,1) and motivation (difference 0,85; d=0,1) are of little educational significance because of the small effect sizes. Only the differences in self-regulated learning strategies (difference 3,70; d=0,3) and self-regulation (difference 2,47; d=0,3) are of medium educational significance.

The higher mean scores of the disadvantaged gifted students in self-regulated learning strategies and self-regulation indicate that the disadvantaged gifted students are more capable of exercising control over their learning activities (see par. 2.5.4) and are more persevering to accomplish a learning task than the disadvantaged non-gifted students (see par. 3.3).

With reference to the other variables (i.e. age, SES, aspirations, family size, sibling size and birth order) the disadvantaged gifted students have higher mean scores in three of the six variables, while the disadvantaged non-gifted students have higher mean scores in the other variables. The disadvantaged gifted students have higher mean scores in: socio-economic status (difference 1,5; d=0,1), aspirations (difference 0,23; d=0,2) and family size (difference 0,92; d=0,4). The differences in socio-economic status and aspirations are of little educational significance because of the small effect sizes. Only the difference in family size is of medium educational significance.

Among the disadvantaged communities extended families are very common. Given the nature of the subjects in this study it is thus quite common to have more people such as aunts, grand parents and uncles in the home while the children of the family itself are very few. The difference in family size

between disadvantaged gifted students and disadvantaged non-gifted students implies that with more people, especially adults in the home environment, this environment may be more intellectually stimulating as each person is a source of information.

The higher mean score in the sibling size (4,57) of the disadvantaged non-gifted students compared to that of the disadvantaged gifted students (3,53) indicates that the disadvantaged non-gifted students came from families with significant more children. With relation to birth order it seems that among the disadvantaged students gifted students are lower down in birth order (mean birth order position = 1,25) with non-gifted students higher up in the birth order (mean birth order position = 1,97). This difference is of medium educational significance (effect size = 0,4). This means that among disadvantaged communities, disadvantaged gifted students are found among the first-born children in the family.

The higher mean scores of the disadvantaged gifted students in English (difference, 12,88; d=0,5), Mathematics (difference 14,72; d=0,5), Science (difference 18,55; d=0,5) and Biology (difference 15,30; d=0,4), which all are of medium educational significance indicate that the disadvantaged gifted students achieved higher marks than the disadvantaged non-gifted students.

The higher mean scores of the disadvantaged gifted students in English, Mathematics, Science and Biology, though not distinction scores as could be expected, indicate that the disadvantaged gifted students have better academic skills than the disadvantaged non-gifted students (also see par. 3.3). This means that even though they are disadvantaged, gifted students still perform better than non-gifted students. The higher scores of the disadvantaged gifted students is also an indication of the value of the Renzulli scales as a means of identifying the disadvantaged gifted students.

Hypothesis 1, that there is a difference between disadvantaged gifted students and disadvantaged non-gifted students with relation to certain variables, can therefore be accepted.

5.5 *THE INFLUENCE OF THE INDEPENDENT VARIABLES ON THE ACADEMIC ACHIEVEMENT OF DISADVANTAGED GIFTED STUDENTS AND DISADVANTAGED NON-GIFTED STUDENTS IN DIFFERENT SUBJECTS*

To test ***hypothesis 2***, that there is a relationship between certain variables and the academic achievement of, respectively, disadvantaged gifted students and disadvantaged non-gifted students correlation coefficients were first calculated whereafter multiple regression analysis was used to determine the collective and separate influence of the independent variables on the achievement in English, Maths, Science and Biology with relation to both the disadvantaged gifted students and disadvantaged non-gifted students.

5.5.1 Correlation coefficients with relation to academic achievement

An analysis of Tables 5.2 and 5.3 reveals that:

With relation to the disadvantaged gifted students there is a statistically significant relationship between their self-regulated learning strategies and their achievement in Maths ($r=0,35$; $p<0,05$). However with relation to the disadvantaged non-gifted students there is no statistical significant relationship between their self-regulated learning strategies and their achievement in Maths.

There is a statistically significant relationship between the self-efficacy strength of the disadvantaged gifted students and their achievement in Maths ($r=0,41$; $p<0,05$), Science ($r=0,37$; $p<0,05$) and Biology ($r=0,41$; $p<0,05$). With relation to the disadvantaged non-gifted students no statistically significant relationships were found between their self-efficacy strength and their achievement in Maths, Science and Biology.

There is a statistically significant relationship between the self-efficacy level of the disadvantaged gifted students and their achievement in Maths ($r=0,39$; $p<0,05$, Science ($r=0,39$; $p<0,05$) and Biology ($r=0,43$; $p<0,05$). No statistically significant relationships were found between the self-efficacy level of the disadvantaged non-gifted students and their achievement in Maths, Science and Biology.

TABLE 5.2: Correlation coefficients of the disadvantaged gifted students.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	1,00																
2. SES	-0,39*	1,00															
3. Aspirations	-0,34*	0,18	1,00														
4. Family size	-0,04	0,12	0,02	1,00													
5. Sibling size	0,30	-0,22	-0,23	0,43*	1,00												
6. Birth order	0,15	-0,18	0,08	0,40*	0,67	1,00											
7. SRLS	-0,01	-0,08	0,03	0,07	0,28	0,03	1,00										
8. Self-efficacy strength	-0,16	-0,14	-0,11	-0,03	0,07	-0,17	0,64*	1,00									
9. Self-efficacy level	-0,14	-0,20	-0,18	-0,03	0,13	0,00	0,26	0,76*	1,00								
10. Learning	-0,0	0,10	0,05	-0,15	0,05	0,16	0,15	0,05	-0,00	1,00							
11. Motivation	0,14	-0,16	-0,10	0,07	0,15	-0,02	-0,02	0,05	0,20	-0,05	1,00						
12. Creativity	-0,05	0,31	-0,01	-0,15	-0,13	-0,16	0,09	0,22	0,10	0,42*	-0,00	1,00					
13. Leadership	-0,11	0,26	0,24	0,01	0,03	0,23	0,00	0,03	0,04	0,24	-0,11	0,23	1,00				
14. English	-0,13	-0,01	-0,14	-0,01	0,06	0,09	0,09	0,19	0,23	0,37*	0,03	0,22	0,05	1,00			
15. Maths	-0,25	0,21	-0,08	0,03	0,23	-0,03	0,35*	0,41*	0,39*	0,15	-0,33*	0,23	0,28	0,26	1,00		
16. Science	-0,40*	0,11	0,12	0,05	0,03	-0,07	0,25	0,37*	0,39*	-0,11	-0,12	0,19	0,13	0,48*	0,52*	1,00	
17. Biology	-0,36*	0,06	0,13	0,07	0,11	-0,02	0,29	0,41*	0,43*	0,09	-0,14	0,18	0,14	0,47*	0,55*	0,98*	1,00
Mean	15,95	49,30	4,65	6,48	3,53	1,25	123,08	15,86	42,50	24,57	23,90	28,07	30,97	86,40	88,47	83,05	82,25
Standard Deviation	1,63	10,73	0,94	2,24	1,75	1,51	13,38	1,91	6,05	4,15	3,25	3,70	3,55	24,75	33,26	42,60	43,08

* For all correlation coefficients $\geq 0{,}31$ $p < 0{,}05$ (see Snedecor & Cochran, 1967:557)

TABLE 5.3: Correlation coefficients of the disadvantaged non-gifted students.

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age	1,00																
2. SES	-0,44*	1,00															
3. Aspirations	0,18	-0,18	1,00														
4. Family size	-0,03	-0,09	-0,16	1,00													
5. Sibling size	-0,00	-0,28	0,01	0,46*	1,00												
6. Birth order	0,09	-0,36*	-0,08	0,16	0,71*	1,00											
7. SRLS	-0,17	0,08	-0,18	-0,17	-0,18	-0,19	1,00										
8. Self-efficacy strength	-0,16	0,11	-0,14	-0,21	-0,15	-0,33*	0,48*	1,00									
9. Self-efficacy level	0,01	-0,21	0,16	-0,15	-0,03	-0,04	0,49*	0,69*	1,00								
10. Learning	-0,01	0,06	0,06	0,34*	0,06	-0,03	0,11	-0,13	-0,26	1,00							
11. Motivation	-0,05	-0,40*	0,06	0,00	0,09	0,27	0,16	0,06	0,31	0,28	1,00						
12. Creativity	-0,11	0,07	-0,04	-0,08	-0,09	0,01	0,08	0,07	0,07	0,26	0,33*	1,00					
13. Leadership	-0,12	0,32*	-0,07	-0,32*	0,26	-0,22	0,45*	0,23	0,12	0,22	0,07	0,36*	1,00				
14. English	-0,23	0,15	0,22	0,22	0,24	0,04	0,23	0,05	-0,04	0,28	0,05	0,04	0,22	1,00			
15. Maths	-0,24	0,03	-0,18	0,14	0,09	-0,13	0,07	0,00	0,05	-0,13	-0,17	-0,12	-0,01	0,38*	1,00		
16. Science	-0,16	0,09	-0,08	-0,13	-0,09	-0,17	0,26	0,28	0,07	0,24	-0,01	0,35*	0,29	0,29	0,46*	1,00	
17. Biology	-0,21	0,07	-0,14	-0,11	-0,07	-0,18	0,24	0,28	-0,08	0,20	-0,03	0,24	0,28	0,27	0,52*	0,97*	1,00
Mean	16,40	48,15	4,42	5,55	4,57	1,97	119,37	15,45	41,85	15,80	19,12	18,80	23,20	73,52	73,75	64,50	66,95
Standard Deviation	1,73	10,07	1,33	2,48	1,93	1,88	14,23	2,09	5,73	3,07	3,26	4,07	5,36	24,26	26,88	34,61	32,13

* For all correlation coefficients $\geq 0,31$ $p < 0,05$ (see Snedecor & Cochran, 1967:557)

There is a statistically significant relationship between achievement in English of the disadvantaged gifted students and their achievement in Science ($r=0,48$; $p<0,05$) and Biology ($r=0,47$; $p<0,05$). With relation to the disadvantaged non-gifted students there is no statistically significant relationship between English and the achievement in Science and Biology, though there is a statistically significant relationship between English and their achievement in Maths ($r=0,38$; $p<0,05$). It can therefore be concluded that English is an important variable that influences the academic achievement of disadvantaged gifted students and disadvantaged non-gifted students.

There is a statistically significant relationship between the achievement in Maths and achievement in Science with relation to both the disadvantaged gifted and the disadvantaged non-gifted students (gifted students: $r=0,52$; $p<0,05$, non-gifted students: $r=0,46$; $p<0,05$) and Biology (gifted students: $r=0,55$; $p<0,05$, non-gifted students: $r=0,52$; $p<0,05$). A conclusion can therefore be made that students who score high in Maths will also score high in Science and Biology.

There is a statistically significant relationship between the achievement in Science of the disadvantaged gifted students and their achievement in Biology ($r=0,98$; $p<0,05$). There is also a statistically significant relationship between the achievement in Science of the disadvantaged non-gifted students and their achievement in Biology ($r=0,97$; $p<0,05$). It can be concluded therefore, that students who score high in Science will also score high in Biology.

From Tables 5.2 and 5.3 it can therefore be concluded that the academic achievement of disadvantaged gifted students and disadvantaged non-gifted students is influenced differently by the same set of variables.

5.5.2 The influence of the independent variables on achievement in English

TABLE 5.4: Contribution of the independent variables to R^2 of disadvantaged gifted students. Criterion: achievement in English.

$R^2 = 0,1198$ ($R_a^2 = -0,1074$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	0,405	0,0213	0,75	0,02+
Aspirations	-6,489	0,0442	1,56	0,05+
Family size	-0,934	0,0052	0,18	0,01+
Sibling size	-1,613	0,0047	0,17	0,01+
Birth order	3,976	0,0239	0,84	0,03+
Motivation	-0,516	0,0321	0,13	0,04+
Self-regulated learning strategies	0,334	0,0118	0,42	0,01+
Self-efficacy strength	3,499	3,0385	1,36	0,04+
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 69,197				

TABLE 5.5: Contribution of the independent variables to R^2 of disadvantaged non-gifted students. Criterion: achievement in English.

$R^2 = 0,3303$ ($R_a^2 = 0,1574$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	0,664	0,0617	2,86*	0,09+
Aspirations	7,096	0,1189	5,50**	0,18++
Family size	1,987	0,0255	1,18	0,03+
Sibling size	3,434	0,0244	1,13	0,04+
Birth order	-0,363	0,0003	0,01	0
Motivation	-0,264	0,0121	0,56	0,02+
Self-regulated learning strategies	0,681	0,0998	4,62*	0,15++
Self-efficacy strength	0,157	0,0001	0	0
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: -67,852				

An analysis of Tables 5.4 and 5.5 indicates that the independent variables collectively explain 11,9 percent ($R^2=0,1198$) of the variance in the achievement in English of the disadvantaged gifted students compared to 33 percent ($R^2=0,3303$) of the disadvantaged non-gifted students.

Although the independent variables contribute to achievement in English of the disadvantaged gifted students, this contribution is not of statistical significance and is also of little educational significance because of the small effect sizes.

With relation to the disadvantaged non-gifted students the contribution to R^2 of only three of the independent variables is of statistical significance, i.e. socio-economic status which explains 6,17 percent [contribution to $R^2=0,0617$; $F(1,31)=2,86$; $p<0,1$; $f^2=0,09$] although statistically significant at only the 10 percent level, aspirations which explains 11,89 percent

[contribution to R^2=0,1189; F(1,31) = 5,50; $p<0,05$; f^2=0,18] and self-regulated learning strategies which explain 9,98 percent [contribution to R^2=0,0998; F(1,31)=4,62; $p<0,05$; f^2=0,15] of the variance in English achievement. The contributions of aspirations and self-regulated learning strategies to achievement in English are of medium educational significance.

It can therefore be concluded that the academic achievement of the disadvantaged gifted students and non-gifted students in English is influenced differently by the same set of variables.

5.5.3 The influence of the independent variables on achievement in Mathematics

TABLE 5.6: Contribution of the independent variables to R^2 of disadvantaged gifted students. Criterion: achievement in Mathematics.

R^2 = 0,3767 (R_a^2 = 0,218) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	1,396	0,1403	6,98***	0,23++
Aspirations	-1,203	0,0028	0,14	0
Family size	-2,275	0,0171	0,85	0,03+
Sibling size	8,727	-0,0758	3,77*	0,12+
Birth order	-4,106	0,0142	0,71	0,02+
Motivation	-0,779	0,0406	2,02	0,07+
Self-regulated learning strategies	0,562	0,0185	0,92	0,03+
Self-efficacy strength	7,428	0,0963	4,79**	0,15++
	* $p<0,1$ ** $p<0,05$ *** $p<0,01$	+ Small effect f^2 = 0,02 ++ Medium effect f^2 = 0,15 +++ Large effect f^2 = 0,35		
Intercept: -73,546				

TABLE 5.7: Contribution of the independent variables to R^2 of disadvantaged non-gifted students. Criterion: achievement in Mathematics.

$R^2 = 0,2094$ ($R_a^2 = 0,0053$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	-0,269	0,0083	0,33	0,01+
Aspirations	-4,169	0,0334	1,31	0,04+
Family size	-1,005	0,0053	0,21	0
Sibling size	6,786	0,0777	3,05*	0,10+
Birth order	-9,120	0,1331	5,22**	0,17++
Motivation	-0,612	0,0528	2,07	0,06+
Self-regulated learning strategies	0,411	0,0297	1,16	0,03+
Self-efficacy strength	-1,966	0,0139	0,55	0,02+
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 152,525				

An analysis of Tables 5.6 and 5.7 indicates that the independent variables collectively explain 37,6 percent ($R^2=0,3767$) of the variance in the achievement in Maths of the disadvantaged gifted students compared to 20,9 percent ($R^2=0,2094$) of the disadvantaged non-gifted students.

With relation to the disadvantaged gifted students the contribution to R^2 of only three of the independent variables is of statistical significance. Sibling size explains 7,58 percent [contribution to $R^2=0,0758$; $F(1,31)=3,77$; $p<0,1$; $f^2=0,12$] although statistically significant at only the 10 percent level, socio-economic status explains 14,03 percent [contribution to $R^2=0,1403$; $F(1,31)=6,98$; $p<0,05$; $f^2=0,23$] and self-efficacy strength explains 9,63 percent [contribution to $R^2=0,0963$; $F(1,31)=4,79$; $p<0,05$; $f^2=0,15$] of the

variance in Maths achievement. The contributions of socio-economic status and self-efficacy strength to achievement in Maths are of medium educational significance.

With relation to the disadvantaged non-gifted students the contribution to R^2 of only two of the independent variables is of statistical significance. Sibling size explains 7,77 percent [contribution to $R^2=0,0777$; $F(1,31)=3,05$; $p<0,1$; $f^2=0,10$] although statistically significant at only the 10 percent level, and birth order explains 13,31 percent [contribution to $R^2=0,1331$; $F(1,31)=5,22$; $p<0,05$; $f^2=0,17$] of the variance in Maths achievement. The contribution of birth order to achievement in Maths is of medium educational significance. It can therefore be concluded that the academic achievement of disadvantaged gifted students and disadvantaged non-gifted students in Maths is influenced differently by the same set of variables.

5.5.4 The influence of the independent variables on achievement in Science

TABLE 5.8: Contribution of the independent variables to R^2 of disadvantaged gifted students. Criterion: achievement in Science.

$R^2 = 0,2254$ ($R_a^2 = 0,0255$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	0,898	0,0354	0,14	0,05+
Aspirations	5,649	0,0113	0,45	0,01+
Family size	0,013	0,0000	0	0
Sibling size	4,133	0,0104	0,42	0,01+
Birth order	-3,789	0,0073	0,29	0
Motivation	-0,859	0,0299	1,20	0,03+
Self-regulated learning strategies	0,355	0,0045	0,18	0,01+
Self-efficacy strength	10,397	0,1149	4,61**	0,15++
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: -102,000				

TABLE 5.9: Contribution of the independent variables to R^2 of disadvantaged non-gifted students. Criterion: achievement in Science.

$R^2 = 0,1639$ ($R_a^2 = -0,0519$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	-0,006	0,0000	0	0
Aspirations	-0,622	0,0004	0,01	0
Family size	-2,356	0,0176	0,65	0,02+
Sibling size	3,470	0,0123	0,46	0,01+
Birth order	-5,286	0,0269	1,00	0,03+
Motivation	-0,680	0,0397	1,46	0,05+
Self-regulated learning strategies	0,664	0,0466	1,73	0,06+
Self-efficacy strength	2,495	0,0135	0,50	0,02+
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 39,1630				

An analysis of Tables 5.8 and 5.9 indicates that the independent variables collectively explain 22,5 percent ($R^2=0,2254$) of the variance in achievement in Science of the disadvantaged gifted students compared to 16,3 percent ($R^2=0,1639$) of the disadvantaged non-gifted students.

The contribution to R^2 of only one of the independent variables is of statistical significance and also of medium educational significance, i.e. self-efficacy strength which explains 11,49 percent of the variance [contribution to $R^2=0,1149$; $F(1,31)=4,61$, $p<0,05$; $f^2=0,15$] in achievement in Science.

With relation to the disadvantaged non-gifted students the contributions of the independent variables to achievement in Science are not of statistical significance and are also of little educational significance because of the small effect sizes.

It can therefore be concluded that self-efficacy strength is an important variable in the achievement in Science of disadvantaged gifted students.

5.5.5 *The influence of the independent variables on achievement in Biology*

TABLE 5.10: Contribution of the independent variables to R^2 of disadvantaged gifted students. Criterion: achievement in Biology.

$R^2 = 0,2784$ ($R_a^2 = 0,0921$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	0,921	0,0364	1,56	0,05+
Aspirations	6,254	0,0135	0,58	0,02+
Family size	-0,464	0,0004	0,01	0,00
Sibling size	6,864	0,0279	1,19	0,03+
Birth order	-4,466	0,0099	0,42	0,01+
Motivation	-1,133	0,0510	2,19	0,07+
Self-regulated learning strategies	0,527	0,0096	0,41	0,01+
Self-efficacy strength	11,239	0,1313	5,63**	0,18++
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: -113,771				

TABLE 5.11: Contribution of the independent variables to R^2 of disadvantaged non-gifted students. Criterion: achievement in Biology.

$R^2 = 0,1892$ ($R_a^2 = -0,0200$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	-0,160	0,0021	0,08	0,00
Aspirations	-2,309	0,0072	0,27	0,01+
Family size	-2,468	0,0224	0,85	0,03+
Sibling size	4,262	0,0215	0,82	0,03+
Birth order	-6,441	0,0465	1,77	0,06+
Motivation	-0,756	0,0564	2,15	0,07+
Self-regulated learning strategies	0,582	0,0416	1,59	0,05+
Self-efficacy strength	2,267	0,0129	0,49	0,02+
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 78,1649				

An analysis of Tables 5.10 and 5.11 indicates that the independent variables collectively explain 27,8 percent ($R^2=0,2784$) of the variance in achievement in Biology of the disadvantaged gifted students compared to 18,9 percent ($R^2=0,1892$) of the disadvantaged non-gifted students.

With regard to the gifted students the contribution to R^2 of only one of the independent variables is of statistical and also of medium educational significance, i.e. self-efficacy strength which explains 13,13 percent [contribution to $R^2=0,1313$; $F(1,31)=5,63$; $p<0,05$; $f^2=0,18$] of the variance in achievement in Biology.

With relation to the disadvantaged non-gifted students, although the independent variables contribute to achievement in Biology, their contributions

are not of statistical significance and therefore also of little educational significance because of the small effect sizes.

It can therefore be concluded that self-efficacy strength is an important variable that influences the achievement in Biology of disadvantaged gifted students.

5.5.6 Variables that make a statistical and educational significant contribution to achievement in the different subjects of disadvantaged gifted students and disadvantaged non-gifted students

TABLE 5.12: Contribution of the different independent variables to R^2 in English, Maths, Science and Biology.

Variables	English		Maths		Science		Biology	
	Gifted	Non-gifted	Gifted	Non-gifted	Gifted	Non-gifted	Gifted	Non-gifted
R^2 for all variables	0,1198	0,3303	0,3767	0,2094	0,2254	0,1639	0,2784	0,1892
Socio-economic status	-	-	0,1403	-	-	-	-	-
Aspirations	-	0,1189	-	-	-	-	-	-
Family size	-	-	-	-	-	-	-	-
Sibling size	-	-	0,0758	-	-	-	-	-
Birth order	-	-	-	0,1331	-	-	-	-
Motivation	-	-	-	-	-	-	-	-
Self-regulated learning strategies	-	0,0998	-	-	-	-	-	-
Self-efficacy strength	-	-	0,0968	-	0,1149	-	0,1313	-

An analysis of Table 5.12 indicates that the achievement in English, Maths, Science and Biology of disadvantaged gifted students and disadvantaged non-gifted students is influenced differently by the same set of variables.

Self-efficacy strength is an important variable that influences the achievement in Maths, Science and Biology of the gifted students. This confirms that self-efficacy beliefs of the disadvantaged gifted students influences their choice of tasks (see par. 2.5.1), persistence with the learning task and effort expenditure (see par. 2.5.2), choice of learning strategies (see par. 2.5.3) and their self-regulated learning activities (see par. 2.5.4) in the subjects they study at school more than the disadvantaged non-gifted students.

Hypothesis 2, that there is a relationship between certain variables and the academic achievement, respectively, of disadvantaged gifted students and disadvantaged non-gifted students could therefore be accepted.

5.6 *THE INFLUENCE OF THE INDEPENDENT VARIABLES ON THE SELF-EFFICACY STRENGTH AND SELF-EFFICACY LEVEL OF DISADVANTAGED GIFTED STUDENTS AND DISADVANTAGED NON-GIFTED STUDENTS*

To test hypothesis 3, that there is a relationship between certain variables and the self-efficacy beliefs of disadvantaged gifted students and disadvantaged non-gifted students correlation co-efficients were first calculated whereafter multiple regression analysis was used to determine the collective and separate influence of the independent variables on the self-efficacy level and self-efficacy strength with relation to both groups of students.

5.6.1 *Correlation coefficients with relation to self-efficacy beliefs*

An analysis of Tables 5.2 and 5.3 reveals that:

With relation to disadvantaged gifted students there is a statistically significant relationship between their self-regulated learning strategies (SRLS) and their self-efficacy strength ($r=0,64$; $p<0,05$). With relation to the disadvantaged non-gifted students there is also a statistical significant relationship between self-regulated learning strategies and self-efficacy strength ($r=0,48$; $p<0,05$).

There is also a statistically significant relationship between the self-regulated learning strategies of the disadvantaged non-gifted students and their

self-efficacy level ($r=0,49$; $p<0,05$). However, there is no statistically significant relationship between the self-regulated learning strategies of the disadvantaged gifted students and their self-efficacy level.

There is a statistically significant relationship between the self-efficacy strength of the disadvantaged gifted students and their self-efficacy level ($r=0,76$; $p<0,05$). With relation to the non-gifted students there is also a statistically significant relationship between their self-efficacy strength and their self-efficacy level ($r=0,69$; $p<0,05$).

There is a statistically significant relationship between the self-efficacy level of the disadvantaged gifted students and their achievement in Maths ($r=0,39$; $p<0,05$), Science ($r=0,39$; $p<0,05$) and Biology ($r=0,43$; $p<0,05$), as well as between self-efficacy strength and Maths ($r=0,41$; $p<0,05$).

No statistically significant relationships were found between the self-efficacy level of the disadvantaged non-gifted students and their achievement in Maths, Science and Biology and other variables.

It can therefore be concluded that self-regulated learning strategies are an important variable that influences the self-efficacy of disadvantaged gifted students. A conclusion can also be made that self-efficacy is an important variable that influences the academic achievement of disadvantaged gifted students.

5.6.2 The influence of the independent variables on self-efficacy strength

To determine the influence of the independent variables on the self-efficacy strength of the disadvantaged gifted students and the disadvantaged non-gifted students an analysis of variance was performed. Multiple regression analysis was used to determine the collective and separate influence of the independent variables on the self-efficacy level and self-efficacy strength of both groups of students.

TABLE 5.13: Contribution of the independent variables to R^2 of gifted students. Criterion: self-efficacy strength.

$R^2 = 0,4728$ ($R_a^2 = 0,3576$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	-0,029	0,0201	1,22	0,04+
Aspirations	-0,129	0,0029	0,18	0,01+
Family size	0,025	0,0006	0,04	0
Sibling size	-0,093	0,0029	0,16	0
Birth order	-0,106	0,0029	0,18	0,01+
Motivation	0,032	0,0209	0,26	0,04+
Self-regulated learning strategies	0,07	0,1038	6,29**	0,20++
	* p<0,1 ** p<0,05	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 5,788				

TABLE 5.14: Contribution of the independent variables to R^2 of disadvantaged non-gifted students. Criterion: self-efficacy strength.

$R^2 = 0,4059$ ($R_a^2 = 0,2760$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	-0,009	0,0020	0,11	0
Aspirations	-0,310	0,0322	1,73	0,05+
Family size	-0,259	0,0646	3,47*	0,11+
Sibling size	0,549	0,0649	3,49*	0,11+
Birth order	-0,542	0,0891	4,79**	0,15++
Motivation	0,026	0,0155	0,83	0,03+
Self-regulated learning strategies	0,049	0,0768	4,13*	0,13++
	* p<0,1 ** p<0,05	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 8,852				

An analysis of Tables 5.13 and 5.14 indicates that the independent variables collectively explain 47,28 percent (R^2=0,4728) of the variance in the self-efficacy strength of the disadvantaged gifted students compared to 40,59 percent (R^2=0,4059) of the disadvantaged non-gifted students.

With relation to the disadvantaged gifted students the contribution to R^2 of only one of the independent variables to self-efficacy strength is of statistical and of medium educational significance, i.e. self-regulated learning strategies which explain 10,38 percent [contribution to R^2=0,1038; $F(1,32)=6,29$; $p<0,05$; $f^2=0,20$] of the variance in self-efficacy strength.

To determine whether students who had stronger self-efficacy beliefs made more use of self-regulated learning strategies than students who felt less efficacious a one way analysis of variance was performed (see Table 5.15) .

TABLE 5.15: Average self-efficacy strength per level of self-regulated learning strategies for disadvantaged gifted students.

Subgrouping	Level of self-regulated learning strategies	Number of subjects	Average self-efficacy strength	Comparison between subgroups	Difference between means
1	-88				
2	89 - 99	1	12,3		
3	100 - 110	8	15,0		
4	111 - 121	8	14,8		
5	122 - 132	12	16,0		
6	133 - 143	8	16,9		
7	144 +	3	19,1	7 - 5	3,1*
				7 - 3	4,1*
				7 - 4	4,2*
				7 - 2	6,8*
* $p<0,05$					

A one-way analysis of variance revealed a statistically significant difference in self-efficacy strength between students who use self-regulated learning

strategies and those who do not use them $F(5:34)=5,78$; $MSe=2,27$, $p<0,0006$. Tukey's post hoc comparison (see Table 5.15) revealed that disadvantaged gifted students who make more use of self-regulated learning strategies have higher self-efficacy strength than those who make less use of self-regulated learning strategies.

With relation to the disadvantaged non-gifted students the contribution to R^2 of only two of the independent variables are of statistical significance. Self-regulated learning strategies explains 7,68 percent [contribution to $R^2=0,0768$; $F(1,32)=4,13$; $p<0,1$; $f^2=0,13$], although statistically significant at only the 10 percent level, and birth order 8,91 percent [contribution to $R^2=0,0891$; $F(1,32)=4,79$; $p<0,05$; $f^2=0,15$] of the variance in self-efficacy strength. The contribution of birth order is of medium educational significance.

A one-way analysis of variance revealed no significant difference in self-efficacy strength between the disadvantaged non-gifted students who use self-regulated learning strategies and the disadvantaged non-gifted students who do not use them.

As the self-regulated learning strategies scale comprised two subscales; i.e. cognitive strategy use and self-regulation, two further ANOVA'S were performed to determine the relation between these variables and self-efficacy strength.

A one-way analysis of variance revealed a statistically significant difference in self-efficacy strength $F(3,36)=4,78$, $MSe=2,84$, $p<0,007$, between disadvantaged gifted students high and disadvantaged gifted students low in cognitive strategy use. Tukey's post hoc comparison (see Table 5.16) revealed that disadvantaged gifted students who make more use of cognitive strategies have stronger self-efficacy beliefs than students who make less use of cognitive strategies.

TABLE 5.16: Average self-efficacy strength per level of cognitive strategy use for disadvantaged gifted students.

Level of cognitive strategy use	Number of subjects	Average self-efficacy strength	Comparison	Difference between means
1	7	14,6		
2	11	15,1		
3	14	16,1		
4	8	17,6	4 - 1	3,0*
			4 - 2	2,4*
			4 - 3	1,5
* $p < 0,05$				

A one-way analysis of variance revealed a statistically significant difference in self-efficacy strength $F(3,36)=3,77$, $MSe=3,62$, $p<0,0188$; between disadvantaged non-gifted students high and disadvantaged non-gifted students low in cognitive strategy use. Tukey's post hoc comparison (see Table 5.17) revealed that disadvantaged non-gifted students who make use of cognitive strategies have stronger self-efficacy beliefs than disadvantaged non-gifted students who make less use of cognitive strategies.

TABLE 5.17: Average self-efficacy strength per level of cognitive strategy use for disadvantaged non-gifted students.

Level of cognitive strategy use	Number of subjects	Average self-efficacy strength	Comparison	Difference between means
1	9	13,7		
2	10	15,6		
3	14	15,9		
4	7	16,6	4 - 1	2,9*
			3 - 1	2,24*
* $p < 0,05$				

The conclusion can be made that the ability to use cognitive strategies for learning is an important variable that influences the self-efficacy strength of disadvantaged gifted students and disadvantaged non-gifted students. It can also be concluded that disadvantaged gifted students and disadvantaged non-gifted students who make more use of cognitive strategies for learning have stronger self-efficacy beliefs than those who make less use of cognitive strategies for learning. This means that there is a relationship between cognitive strategy use and the academic self-efficacy beliefs of disadvantaged gifted students and disadvantaged non-gifted students. This confirms that knowledge of the application of a learning strategy leads to a higher sense of self-efficacy (see par. 2.4.2.3).

A one-way analysis of variance indicated a statistically significant difference, $F(3,36)=5,25$; MSe 2,76, $p<0,004$, in self-efficacy strength between disadvantaged gifted students who are more self-regulated and students who are less self-regulated in academic learning. Tukey's post hoc comparison revealed that gifted disadvantaged students who are more self-regulated have stronger self-efficacy beliefs than disadvantaged gifted students who are less self-regulated (see Table 5.18). No significant differences in self-efficacy strength were found between disadvantaged non-gifted students who were more self-regulated and disadvantaged non-gifted students who were less self-regulated.

TABLE 5.18: Average self-efficacy strength per level of self-regulation for disadvantaged gifted students.

Level of cognitive strategy use	Number of subjects	Average self-efficacy strength	Comparison	Difference between means
1	7	15,0		
2	14	14,8		
3	13	16,7		
4	6	17,4	4 - 2	2,5*
			4 - 3	1,9*
* $p<0,05$				

It can therefore be concluded that the ability to use self-regulated learning strategies is an important variable that influences the self-efficacy beliefs of disadvantaged gifted students. The conclusion can therefore be made that disadvantaged gifted students who make more use of self-regulated learning strategies have stronger self-efficacy beliefs than disadvantaged gifted students who make less use of self-regulated learning strategies. This means that there is a relationship between self-regulated learning strategies and the self-efficacy beliefs of disadvantaged gifted students.

5.6.3 The influence of the independent variables on the self-efficacy level

Multiple regression analysis was also used to determine the collective and separate influence of the independent variables on self-efficacy level with relation to disadvantaged gifted students and disadvantaged non-gifted students (see Tables 5.19 and 5.20).

TABLE 5.19: Contribution of the independent variables to R^2 of disadvantaged gifted students. Criterion: self-efficacy level.

$R^2 = 0,1269$ ($R_a^2 = -0,0641$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	-0,083	0,0156	0,57	0,02+
Aspirations	-1,009	0,0180	0,66	0,02+
Family size	-0,078	0,0006	0,02	0,00
Sibling size	0,020	0,0000	0,00	0,00
Birth order	0,028	0,0000	0,00	0,00
Motivation	0,008	0,0001	0,00	0,00
Self-regulated learning strategies	0,109	0,0255	0,93	0,03+
	* p<0,1 ** p<0,05	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 37,2007				

TABLE 5.20: Contribution of the independent variables to R^2 of disadvantaged non-gifted students. Criterion: self-efficacy level.

$R^2 = 0,4173$ ($R_a^2 = 0,2899$) N=40

Variable	Regression coefficient	Contribution to R^2	F-value	Effect size f^2
Socio-economic status	-0,161	0,0649	3,56*	0,00
Aspirations	-0,961	0,0411	2,26	0,01
Family size	-0,474	0,0287	1,58	0,03+
Sibling size	0,539	0,0119	0,65	0,03+
Birth order	-0,212	0,0018	0,09	0,06+
Motivation	0,128	0,0521	2,86*	0,07+
Self-regulated learning strategies	0,140	0,0854	4,69**	0,05+
	* $p<0,1$ ** $p<0,05$	+ Small effect $f^2 = 0,02$ ++ Medium effect $f^2 = 0,15$ +++ Large effect $f^2 = 0,35$		
Intercept: 22,2961				

An analysis of Tables 5.19 and 5.20 indicates that the independent variables collectively explain 12,69 percent ($R^2=0,1269$) of the variance in the self-efficacy level of the disadvantaged gifted students compared to 41,73 percent ($R^2=0,4173$) of the disadvantaged non-gifted students.

The contribution of the independent variables to the self-efficacy level of the disadvantaged gifted students though, is of no statistical and of little educational significance because of the small effect sizes.

With relation to the disadvantaged non-gifted students the contribution to R^2 of only three of the independent variables are of statistical significance. Socio-economic status explains 6,49 percent [contribution to $R^2 = 0,0649$; $F(1,32=3,56$; $p<0,1$; $f^2=0,11]$, motivation 5,21 percent [contribution to $R^2=0,0521$; $F(1,32)=2,86$; $p<0,1$; $f^2=0,09]$, although both statistically significant at only the 10 percent level, and self-regulated learning strategies

8,54 percent [contribution to $R^2=0,0854$; $F(1,32)=4,69$; $p<0,05$; $f^2=0,15$] of the variance in self-efficacy level. The contribution of self-regulated learning strategies is of medium educational significance.

It can therefore be concluded that the self-efficacy level of disadvantaged gifted students and disadvantaged non-gifted students is influenced differently by the same set of variables.

Hypothesis 3, that there is a relationship between certain variables and the academic self-efficacy beliefs of the disadvantaged gifted students, could therefore be accepted.

5.7 CONCLUSION

In this chapter the following hypotheses were tested:

Hypothesis 1

There is a difference between disadvantaged gifted students and disadvantaged non-gifted students with respect to certain variables.

Hypothesis 2

There is a relationship between certain variables and the academic achievement of, respectively, disadvantaged gifted students and disadvantaged non-gifted students.

Hypothesis 3

There is a relationship between certain variables and the self-efficacy beliefs of disadvantaged gifted students.

It was found that:

1. There is a difference between disadvantaged gifted students and disadvantaged non-gifted students with relation to certain variables.

2. There is a relationship between certain variables and the academic achievement of disadvantaged gifted students and disadvantaged non-gifted students.

3. There is a relationship between certain variables and the self-efficacy beliefs of disadvantaged gifted students.

4. Self efficacy strength and socio-economic status were found to be the most important variables that influence the academic achievement of the disadvantaged gifted students.

5. Self-regulated learning strategies and cognitive strategy use were found to be the most important variables that influence the self-efficacy beliefs of disadvantaged gifted students.

In the next chapter the summary of the study, conclusions, limitations are provided and recommendations made.

CHAPTER SIX

SUMMARY AND CONCLUSION

6.1 INTRODUCTION

This chapter comprises a summary of the research described in the preceding chapters. The problem addressed with this research is stated in paragraph 6.2. A summary of the literature review is given in paragraph 6.3 as well as a discussion of the method of research in paragraph 6.4. The results of the research are summarized in paragraph 6.6, followed by the discussion of limitations in paragraph 6.8. The chapter is concluded by the discussion of the recommendations and concluding remarks in paragraphs 6.9 and 6.10 respectively.

6.2 STATEMENT OF THE PROBLEM

The majority of disadvantaged black students in the North West Province of South Africa perform below average and have higher failure and dropout rates than whites (Harker, 1990:28). This includes gifted students who should rightfully be obtaining high marks in their academic performance because of their superior capabilities and potential for learning. In accordance with Swassing (1985:7) gifted students have a very high level of confidence which may be regarded as a key ingredient in self-efficacy.

Self-efficacy beliefs are postulated to refer to an individual's capability to organize and implement actions necessary to attain designated levels of performance even in the face of stressful conditions (Schunk, 1991:86). Because gifted students among disadvantaged communities do not perform as well as they should (Mortimore & Blackstone, 1983:3), a question that arises is how the academic achievement and the self-efficacy beliefs of disadvantaged gifted students is influenced by their disadvantaged environment.

The aim of this research was therefore to determine the influence of certain variables on the academic achievement and the academic self-efficacy beliefs

of the Standard 7 disadvantaged gifted students in the North West Province of South Africa.

6.3 REVIEW OF THE LITERATURE

6.3.1 Sources of self-efficacy

Students come to know their level of self-efficacy (par. 2.2) defined as personal judgements of one's capabilities to organize and execute courses of actions necessary to attain designated levels of performance (Bandura, 1986:391), through various sources which are differentiated in two categories. The first category comprises sources related to the learner and are: enactive and vicarious experiences, persuasions, psychological state and attributions (par. 2.4.1). The second category comprises sources related to the learning setting and are: instructional events, task difficulty, learning strategies, performance feedback and goal setting (par. 2.4.2). McCombs (1988:144) asserts that these sources contribute to the development of students' judgements of their self-efficacy beliefs.

6.3.2 The influence of self-efficacy on learning

Zimmerman (1989:331) states that students' self-efficacy perceptions are closely related to the tasks they are engaged in as well as their performance levels and outcomes. Self-efficacy influences students' choice of learning tasks, persistence and effort expenditure on the learning task, choice of learning strategies and self-regulated learning (par. 2.5).

According to Schunk (1984:4) students who have a high sense of self-efficacy will choose and participate more eagerly in a learning task whereas those who hold a low sense of self-efficacy about themselves may attempt to avoid a learning task or working hard. Students who have a high sense of self-efficacy also choose better and more effective learning strategies and are more self-regulated than those with a low sense of self-efficacy (Zimmerman, 1989:331).

6.3.3 Gifted students and disadvantageness

There is no theoretically based definition of giftedness that is universally accepted (Frasier, 1987:157). There are those that view giftedness as being single-dimensional and those that regard giftedness as being multi-dimensional (par. 3.2). A single-dimensional view of giftedness regards intelligence as the sole indicator of giftedness. Multi-dimensional view of giftedness regards multiple abilities and intelligences as indicators of giftedness (Borland, 1989:10).

There is no fixed pattern of characteristics for gifted students but according to Renzulli (1987:180) there is a range of characteristics that gifted children may display such as logical thinking, precocious language, advanced comprehension, creativity and advanced concentration span (par. 3.3). Gifted students can be identified through the use of educational and psychological testing, teachers, parents, peers and biographical information from students themselves (par. 3.4).

Disadvantaged gifted students often do not show themselves as gifted because of the disadvantaged environment in which they live (Pendarvis ***et al.***, 1990:301). They are characterised by under-achievement, lack of general motivation to learn, parents with low level of education, poor socio-economic background, academic skill deficit, low self-esteem, rebellious attitude, lower expectations and avoidance behaviour (par. 3.5). In the identification of giftedness, gifted children among the disadvantaged communities are not always identified through the tests used. As Reid (1989:30) asserts, concepts and approaches used in these tests are unfamiliar to disadvantaged gifted students hence their poor performance. These tests are also not culture free thus preventing disadvantaged gifted students to score as they should (Van den Berg, 1989:92).

6.4 METHOD OF RESEARCH

6.4.1 Subjects

All the Standard 7 students (N=809, see table 4.1) in the middle schools in the Winterveldt area of the North West Province of South Africa constituted

the population for this study. From the population a random cluster sample of 4 (four) schools was drawn out of which 40 disadvantaged gifted students and 40 disadvantaged non-gifted students were identified (see table 4.2).

6.4.2 Instruments

The following instruments were used:

6.4.2.1 Scales for Rating Behavioural Characteristics of Superior Students (SRBCSS)

The Scales for Rating Behavioural Characteristics of Superior Students (SRBCSS) (par. 4.5.1) is an assessment tool consisting of a series of short descriptive statements that characterize gifted students. The descriptors comprise four categories, namely learning, motivation, creativity and leadership. Teachers rated students according to a four point scale value for each descriptor in each of the four categories.

6.4.2.2 Self-Efficacy Questionnaire (SEQ)

The Self-Efficacy Questionnaire (SEQ) (see par. 4.5.2) was developed as a paper-and-pencil test to assess a student's perceived capability to correctly perform a variety of learning related tasks. The questionnaire consisted of two parts.

Part 1 (one) of the SEQ assessed self-efficacy in a way similar to that used by Berry *et al.* (1980). Part one consisted of 62 statements of which 50 items were used. These items assessed a student's perceived capability to perform learning related tasks.

Part 2 (two) of the SEQ consisted of 12 passages of which two were used as sample passages to train the subjects in completing part two. The passages described events familiar to the culture of subjects. From two to three questions with multiple choice answers were set on each passage. Both passages and questions ranged from easy to difficult and corresponded in reading level to that expected from Standard 7 students (see par. 4.5.3).

6.4.2.3 Motivated Strategies for Learning Questionnaire (MSLQ)

The Motivated Strategies for Learning Questionnaire (par. 4.5.3) included 56 items on students' motivation and their use of self-regulated learning strategies. Three motivational factors, viz. self-efficacy, intrinsic value and test anxiety constituted motivation while cognitive strategy use and self-regulation constituted the use of self-regulated learning strategies. Students responded to the items on a 7-point Likert scale (1 = "not at all true of me" to 7 ="very true of me") in terms of their behaviour in academic achievement.

6.4.2.4 Socio-Economic Status and Biographical Questionnaire

The Socio-Economic Status and Biographical Questionnaire (par. 4.5.4) was developed to elicit descriptive personal and family information of the students.

The Socio-Economic Status and Biographical Questionnaire prompted students to give information on age, birth order, sex, sibling size, family size, home language, parents' level of education, parents' employment, aspirations, size of the dwelling and household possessions and their conditions (see par. 4.5.4).

6.5 PROCEDURE

Identification of gifted students and non-gifted students was done by means of the Scales for Rating Behavioural Characteristics of Superior Students (SRBCSS) (par. 4.4.2). Two groups of 40 gifted students and 40 non-gifted students were identified and used for this study (see table 4.2).

Both the gifted and non-gifted students were subjected to the test battery consisting of three questionnaires, namely, Self-Efficacy Questionnaire (par. 4.7.2.1), Motivated Strategies for Learning Questionnaire (par.4.7.2.2) and Socio-Economic Status and Biographical Questionnaire (par. 4.7.2.3). After completion of the questionnaires, these were scored and the data analysed.

6.6 RESULTS

6.6.1 Hypothesis 1

Hypothesis 1, that there is a difference between disadvantaged gifted students and disadvantaged non-gifted students with relation to certain variables proved acceptable. That is, there is such a difference.

6.6.2 Hypothesis 2

Hypothesis 2, that there is a relationship between certain variables and the academic achievement of, respectively, disadvantaged gifted students and disadvantaged non-gifted students, proved acceptable.

6.6.3 Hypothesis 3

Hypothesis 3, that there is a relationship between certain variables and the self-efficacy beliefs of disadvantaged gifted students, proved acceptable.

6.7 CONCLUSION

There is a difference between disadvantaged gifted students and disadvantaged non-gifted students with relation to certain variables. Certain variables influence the academic achievement of disadvantaged gifted students and disadvantaged non-gifted students. Certain variables influence the academic self-efficacy beliefs of disadvantaged gifted students.

6.8 LIMITATIONS

The self-efficacy questionnaire is still a new instrument that has not yet been thoroughly evaluated and is still in the process of improvement. Because of this it may have some limitations that may make it not a sensitive enough instrument to determine students' self-efficacy. Furthermore students may also have not been quite familiar with the term self-efficacy thus not responding properly to the items.

6.9 RECOMMENDATIONS

This study was the first of its kind in the North West Province of South Africa. No similar research has been conducted before. A recommendation is therefore made that a similar research be conducted in other areas of disadvantaged communities in the North West Province of South Africa on a larger sample.

Efforts should be made to make disadvantaged gifted students aware that self-efficacy strength is an important variable that influences their academic achievement. It should also be attempted to make disadvantaged gifted students aware that self-regulated learning strategies and cognitive strategy use are important variables that influence their self-efficacy beliefs.

A programme should be developed to train teachers on how to improve the self-efficacy perceptions of disadvantaged gifted students. A programme should also be developed to improve disadvantaged gifted students' use of self-regulated learning strategies and cognitive learning strategies to help them improve their readiness and ability to exercise control over their learning activities in order to improve their academic self-efficacy beliefs and academic achievement.

6.10 CONCLUDING REMARKS

In this research certain variables that influence the academic achievement and self-efficacy beliefs of disadvantaged gifted students and disadvantaged non-gifted students were investigated. It is hoped that the findings of this research will make teachers aware that the academic achievement of disadvantaged gifted students is influenced by their self-efficacy beliefs. It is also hoped that teachers will realize that the self-efficacy beliefs of disadvantaged gifted students are influenced greatly by self-regulated learning strategies and cognitive learning strategy use. Thorough training of disadvantaged gifted students on the use of self-regulated learning strategies and cognitive learning strategies can help boost their self-efficacy beliefs thus improve their academic achievement.

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APPENDIX A

SCALES FOR RATING BEHAVIORAL CHARACTERISTICS OF SUPERIOR STUDENTS

SCALES FOR RATING BEHAVIORAL CHARACTERISTICS OF SUPERIOR STUDENTS

Name ..... Date .....

School ..... Standard ..... Age .....

Teacher or person completing this form .....

How long have you known this child? .....months

DIRECTIONS: These scales are designed to obtain teacher estimates of a student's characteristics in the areas of learning, motivation, creativity, and leadership. The items are derived from the research literature dealing with characteristics of gifted and creative persons. It should be pointed out that a considerable amount of individual differences can be found within this population; therefore, the profiles are likely to vary a great deal. Each item in the scales should be considered separately and should reflect the degree to which you have observed the presence or absence of each characteristic. Since the four dimensions of the instrument represent relatively different sets of behaviors, the scores obtained from the separate scales should not be summed to yield a total score. Please read the statements carefully and place an X in the appropriate place according to the following scale of values.

1. If you have seldom or never observed this characteristic
2. If you have observed this characteristic occasionally
3. If you have observed this characteristic to a considerable degree
4. If you have observed this characteristic almost all of the time

Space has been provided following each item for your comments.

SCORING: Separate scores for each of the four dimensions may be obtained as follows:

Add the total number of X's in each column to obtain the "Column Total".
Multiply the Column Total by the "Weight" for each column to obtain the "Weighted Column Total".
Sum the Weighted Column Totals across to obtain the "Score" for each dimension of the scale.
Enter the Scores below.

Learning Characteristics .....

Motivational Characteristics .....

Creativity Characteristics .....

Leadership Characteristics .....

PART I: LEARNING CHARACTERISTICS

	1*	2	3	4
1. Has unusually advanced vocabulary for age or grade level; uses terms in a meaningful way; has verbal behavior characterized by "richness" of expression, elaboration, and fluency.				
2. Possesses a large storehouse of information about a variety of topics (beyond the usual interests of youngsters his or her age).				
3. Has quick mastery and recall of factual information.				
4. Has rapid insight into cause-effect relationships; tries to discover the how and why of things; asks many provocative questions (as distinct from information or factual questions); wants to know what makes things (or people) "tick".				
5. Has a ready grasp of underlying principles and can quickly make valid generalizations about events, people, or things; looks for similarities and differences in events, people, and things.				
6. Is a keen and alert observer; usually "sees more" or "gets more" out of a story, film, etc., than others.				
7. Reads a great deal on his or her own; usually prefers adult-level books; does not avoid difficult material; may show a preference for biography, autobiography, encyclopedias, and atlases.				
8. Tries to understand complicated material by separating it into its respective parts; reasons things out for himself or herself; sees logical and common sense answers.				
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

* 1 - Seldom or never
2 - Occasionally
3 - Considerably
4 - Almost always

PART II: MOTIVATIONAL CHARACTERISTICS

	1	2	3	4
1. Becomes absorbed and truly involved in certain topics or problems; is persistent in seeking task completion. (It is sometimes difficult to get him or her to move on to another topic.)				
2. Is easily bored with routine tasks.				
3. Needs little external motivation to follow through in work that initially excites him or her.				
4. Strives toward perfection; is self-critical; is not easily satisfied with his or her own speed or products.				
5. Prefers to work independently; requires little direction from teachers.				
6. Is interested in many "adult" problems such as religion, politics, sex, race - more than usual for age level.				
7. Often is self-assertive (sometimes even aggressive); stubborn in his or her beliefs.				
8. Likes to organize and bring structure to things, people, and situations.				
9. Is quite concerned with right and wrong good and bad; often evaluates and passes judgment on events, people, and things.				
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

PART III: CREATIVITY CHARACTERISTICS

1	2	3	4

1. Displays a great deal of curiosity about many things; is constantly asking questions about anything and everything.

2. Generates a large number of ideas or solutions to problems and questions; often offers unusual ("way out"), unique, clever responses.

3. Is uninhibited in expressing opinion; is sometimes radical and spirited in disagreement; is tenacious.

4. Is a high risk taker; is adventurous and speculative.

5. Displays a good deal of intellectual playfulness; fantasizes; imagines ("I wonder what would happen if ..."); manipulates ideas (i.e., changes, elaborates upon them); is often concerned with adapting, improving, and modifying institutions, objects, and systems.

6. Displays a keen sense of humor and sees humor in situations that may not appear to be humorous to others.

7. Is unusually aware of his or her impulses and more open to the irrational in himself or herself (freer expression of feminine interest for boys, greater than usual amount of independence for girls); shows emotional sensivity.

8. Is sensitive to beauty; attends to aesthetic characteristics of things.

9. Is nonconforming; accepts disorder; is not interested in details; is individualistic; does not fear being different.

10. Criticizes constructively; is unwilling to accept authoritarian pronouncements without critical examination.

1	2	3	4

Column Total

Weight

Weighted Column Total

TOTAL

PART IV: LEADERSHIP CHARACTERISTICS

	1	2	3	4
1. Carries responsibility well; can be counted on to do what he or she has promised and usually does it well.				
2. Is self-confident with children his or her own age as well as adults; seems comfortable when asked to show his or her work to the class.				
3. Seems to be well-liked by classmates.				
4. Is cooperative with teacher and classmates; tends to avoid bickering and is generally easy to get along with.				
5. Can express himself or herself well; has good verbal facility and is usually well understood.				
6. Adapts readily to new situations; is flexible in thought and action and does not seem disturbed when the normal routine is changed.				
7. Seems to enjoy being around other people; is sociable and prefers not to be alone.				
8. Tends to dominate others when they are around; generally directs the activity in which he or she is involved.				
9. Participates in most social activities connected with the school; can be counted on to be there if anyone is.				
10. Excels in athletic activities; is well-coordinated and enjoys all sorts of athletic games.				
Column Total				
Weight	1	2	3	4
Weighted Column Total				
TOTAL				

APPENDIX B

SELF-EFFICACY QUESTIONNAIRE (SEQ)

SELF-EFFICACY QUESTIONNAIRE

1992

J.L. de K. Monteith

Department of Educational Psychology, Guidance and Orthopedagogics

Potchefstroom University for Christian Higher Education

and

M.J. Mathebula

SELF-EFFICACY QUESTIONNAIRE

Self-efficacy is your appraisal of your ability to master a task.

Self-efficacy includes your judgments about your ability to perform a task as well as your confidence in your skills to perform that task.

There are no right or wrong answers to this questionnaire.

This is not a test.

We want you to respond to the questionnaire as accurately as possible, reflecting your own judgments and confidence.

SELF-EFFICACY QUESTIONNAIRE

PART ONE

INSTRUCTIONS

Read the following statements and indicate if you can perform the task by circling **NO** or **YES**. If you circle **YES** indicate **how** sure you are that you can perform the task by circling a confidence rating. If you circle **NO** don't circle a confidence rating.

No	Yes	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

1. I can make the teacher explain classwork I don't understand.
2. When I study I can find connections between what I am studying and my own experience.
3. Even when I don't like a subject I still work hard to obtain good marks.
4. I expect to do well in school.
5. When writing a test I can concentrate on the answering of the questions for more than half the time.
6. When I study I can relate information in one subject to information in other subjects.
7. I will receive good marks in school.
8. I know that I will be able to learn the material taught in class.
9. When interruptions disturb my studies when studying at home, I see to it that the interruptions are removed.
10. When I study I have no trouble figuring out just what to do to learn the material.
11. When studying, I outline the material to help me organize my thoughts.
12. I usually understand fully more than half of the facts I have to learn.
13. I know how to study for different subjects.
14. I can explain most of the work I learn to my fellow students.
15. I can control problems out of school to prevent them from interfering with my homework.
16. I change the material I study into my own words.
17. I usually understand fully most of the facts the teacher explains.

18. I am confident that I can learn the basic concepts taught in class.

19. When I read a chapter in a book I know when I don't understand what I am reading.

20. My study skills are excellent compared with others in my class.

21. I use different study methods for different subjects.

22. If I have problems with my work I ask a friend for help.

23. I am certain I can understand the ideas taught in class.

24. I ask a teacher for further explanation of a task that is not clear to me.

25. When I study for a test I usually know when I am ready for the test.

26. When I study for a test I can make the ideas fit together to make sense.

27. I plan a homework schedule and stick to it.

28. I can discriminate between the more and less important facts for most of the time.

29. Before starting to do homework or studying for a test I make certain that I understand what is wanted before I start working.

30. When studying, I relate the material to what I already know.

31. I isolate myself from anything that distracts me.

32. When studying for a test I divide the work into smaller units and first learn one unit before going on to the next unit.

33. When a task is uninteresting I can force myself to complete it.

34. I can point out the work I don't understand in class.

35. I can make effective notes of important facts the teacher explains for most of the time.

36. I am sure I can do a very good job on the problems and tasks in school.

37. At the beginning of a study period I plan my work so that I will make best use of my time.

38. I have no problem to find the important ideas in the material I prepare for a test.

39. I can get 75% in a test.

40. I can give my undivided attention to what the teacher says for a whole classperiod.

41. I keep my work up to date by doing it regularly from day to day.

42. Even when a task is dull and boring I stick to it until it is completed.

43. I am confident that I can understand the most complex material taught in class.

44. When learning something I ask myself questions to make sure I know the work.

45. When preparing for a test I can memorise more than half of the facts.

46. When I study for a test I usually know when the learning strategy I use is not the correct one.

47. When I make summaries I don't copy the sentences from the book, but rewrite the sentences in my own words.

48. I check over my work to make sure I have it right.

49. When I study for a test I know when I am not making any progress.

50. When writing an exam I can concentrate fully on the answering of the questions for most of the exam session.

51. I can apply most of the facts I learn when I have to solve a problem.

52. When I don't understand what the teacher is saying, I can ask him to explain the work again.

53. I can make summaries of the main ideas of the work I have to prepare for a test.

54. I turn off the radio so I can concentrate on what I am learning.

55. When writing a test or answering a question I can recall most of the facts I have learned.

56. When absent from class I make up for missed lessons without being told to do so.

57. When I have trouble with my school work, I talk it over with my teachers.

58. When learning something I write the work over in my own words in order to remember it better.

59. I can usually discriminate between the more and less important facts I have to learn.

60. Compared to other students in my class, I am a better student.

61. I can make effective/good notes of important facts the teacher explains during the classperiod for more than half the time.

62. I can concentrate for most of a classperiod on what the teacher says.

PART TWO

INSTRUCTIONS

There are 12 passages in this part of which two (2) are example passages. Each passage has multiple choice questions. Read each passage carefully and wait for further instructions. Do not look at the questions. Read the questions with me and indicate how sure you are that you can answer the questions on each passage by circling a confidence rating. You are not required to answer the questions. Only indicate how sure you are that you can answer each question. Do not turn back to the passage when you decide to how sure you are that you can answer each question.

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

EXAMPLE PASSAGE (E1)

Sangura the Rabbit went one day to call on his friend the Cock and found him asleep with his head under his wing. The Rabbit had never seen the cock in this position before, but the hens informed him (as previously instructed) that their husband was in the habit of taking off his head and giving it to his sons the herd-boys to carry with them to the pasture.

"Never!" said the Rabbit. "But when the herd-boys come back, will he get up again?"

And the hens said, "Just wait and see!"

At last when the herd-boys arrived their mother said, "Just rouse your father there where he is sleeping".

The Cock's head at once reappeared. He welcome his guest, and they sat talking till dinner was ready, and went on conversing during the meal. The Rabbit was anxious to know how it was done, and the Cock told him it was quite easy. "If you think you would like to do it", he said, "why don't you try?".

Do not turn the page. Wait for further instructions.

E1. What is the most important idea in this passage?

The most important idea is:

A. the stupidity of the Rabbit.

B. the danger of having bad friends.

C. the death of the stupid Rabbit.

D. the cleverness of the Cock that killed the Rabbit.

Don't answer the question. Only indicate how sure you are that you can answer the question by circling a confidence rating on the answer sheet.

EXAMPLE PASSAGE (E2)

"Yes, Wise one. My story is short, but painful. It will not take long to tell. It is a story of love."

"Love and pain. Those two are inseparable twins, my son. A story of love is always a story of pain, of tears. But we of our profession make it our business to decrease the pain and tears, and increase the love and happiness. Speak on, Ntabeni Mlilo. I am all ears."

She's eighteen years of age. She accepted me in spite of the difference in our age. Uphoselwe, she is bewitched. That's the trouble.

"My job is to give satisfaction to the people who appeal to me" said the Wise one. "If you are willing to take the risk, I can prepare a strong potion for you, the strongest I have, which I call Velabahleka, Appear-and-they-laugh, stronger than the more popular Vamna, Feel-me.

Do not turn the page. Wait for further instructions.

E2.1 What is the first paragraph about?

A. The passage is about "love and pain".

B. Vamna, Feel-me is all that is in the first passage.

C. Uphoselwe is bewitched.

E2.2 What strong potion would the Wise one like to prepare for Ntabeni Mlilo?

A. Velabahleka, Appear-and-they-laugh.

B. The popular Vamna, Feel-me, the strongest of them all.

C. Both Velabahleka and Vamna.

D. Not one strong-potion.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

1.

One afternoon, Lily Rose came home early from School. The front door was shut and locked, so evidently her mother and the two youngest children were out. She found the key in its usual place under a broken brick on the second step, and went in.

It was ironing day, and piles of ironed and unironed garments lay about. The brilliant thought occurred to her that it would be a good idea if she finished off the ironing by the time her mother returned. Without further hesitation she seized one of the irons heating on the stove and put it down on the ironing-table. Immediately a rich smell of burning blanket filled the room. Lily Rose hastily, put the iron on its stand and waited patiently for it to cool, testing the heat at intervals by the professional method of spitting on her finger and dabbing it quickly on the iron.

After some minutes of this she decided the iron was ready, and set to work on a baby's overall.

Do not turn the page. Wait for further instructions.

1.1 Where was Lily Rose coming from in the afternoon?

A. From the river to fetch water.

B. From school that afternoon.

C From the forest to collect wood.

D. No, she was at home the whole day.

1.2 What did she do at home that afternoon?

A. She was busy with her school-work.

B. Lily Rose was finishing off the ironing.

C. She was sleeping from morning to sunset.

D. Lily Rose visited the friends next door.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

2.

This was a new terror. The lions became expert at scraping them out like winkles from the shell. Many men returned to the trees and the cages. Some, of whom Natha Singh was the first, took loaded rifles into the tanks.

This was a mistake. One night Singh, alarmed by an unusually persistent lion and the claw which hooked and swung in the blackness of the tank, pushed the rifle through the opening and pulled the trigger. Only those who have fired a rifle inside a metal tank can appreciate the appalling nature of the explosion. The lion fled. Singh was later sent home, and taking his shattered ear-drums to Korachi, spent the remainder of his days in blessed silence.

On that same night, a certain Amam Din lowered himself into his chosen tank and found that he had shut himself up with a spitting-cobra. In the morning no amount of effort could extract the corpse, and Patterson was presented with a difficult burial problem.

Do not turn the page. Wait for further instructions.

2.1 Who was the first to take loaded rifles into the tanks?

A. Korachi.

B. Natha Singh.

C. Amam Din.

D. All of them.

2.2 What happened to Amam Din that same night?

A. Amam Din ran away and was never seen again.

B. He shut himself up with a spitting-cobra.

C. Amam Din spent the remainder of his days in silence.

D. Nothing happened to Amam Din.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

3.

White, is regarded as the colour of love, purity, or vision. In the case of red, the exact shade woven into a necklace is all important. Opaque red beads represent blood and tears, but transparent bright-red beads stand for love - "the great love that burns like a fire". Another shade of red signifies anger.

Green, the colour of gall, represents either love-sickness or jealousy. Beads of different blues all have different meanings. One shade means the sky, another the sea; dark blue represents faithfulness, a lighter blue talkativeness - "Do not go around gossiping about me".

Yellow generally means wealth, and sometimes a succession of yellow beads tells the number of cattle necessary for the lobola. Black stands for unhappiness, disappointment or misfortune, but it can also mean reassurance - "Nevermind the dark clouds: I will be on your side, and together we will pull through."

Do not turn the page. Wait for further instructions.

3.1 What is this story mainly about?

This story is about:

A. the meanings of colours.

B. colours for love and unhappiness.

C. all the different meanings.

D. cattle necessary for the lobola.

3.2 What is the best title for this passage?

A. The meanings of colours.

B. Gossiping about someone you love most.

C. Number of cattle for lobola.

D. "The great love that burns like a fire."

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

4.

A woman was brought into the clerk's office. She had been fined five pounds for fighting with another woman. She had come to court well prepared and as soon as she got into the room, she untied the edges of her cloth and brought out five red pound notes out of many. If only I had her dough!

I watched the clerk through half-closed eyes as he counted the woman's money and pulled out his drawer to give her a receipt. He searched through the drawer several times but without success.

Then remembrance came into his eyes and he hit his palm hard on the table and said: "Oh, yes" and got up and made for the door that led to the courtroom. The effort of remembering where the receipt-book was had been so much for him that he had apparently forgotten all about me.

I seized the chance and within a tenth of a second, I had bounded up from my chair and crossed over to stand behind the door.

Do not turn the page. Wait for further instructions.

4.1 Why had the woman been fined?

A. She untied the edges of her cloth.

B. For fighting with another woman.

C. She brought out five red pounds.

D. She got into the clerk's office, and was fined.

4.2 Did she have money?

A. No, the woman had no money at all.

B. The woman had five red pound notes.

C. She had only her cloth, and nothing else.

D. The woman brought out five red pound notes out of many.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

5.

At a glance, Soweto looks dull and lifeless. Almost all the houses are built to the same pattern - thousand upon thousand of small match-box cottages separated from each other by wire fencing. Yet there are few places I know which are as lively as this enormous township.

There are people, no doubt, who grumble that Soweto is too far from town and the factories where everybody works; that many of the houses are still without electricity although Africa's biggest power-station lies next door. Yet, in spite of this, Soweto lives. It lives insecurely, sometimes dangerously, but with a determined will to survive.

Not many people earn much money here. There are people, thousands of them, who don't eat three meals a day. There are homes where husbands give instructions that visitors are not to be served with tea, however long they may stay. That is the more depressing face of this place. But then Soweto has many faces.

Do not turn the page. Wait for further instructions.

5.1 What does Soweto look like?

A. Almost all the houses are built to the same pattern.

B. There are no schools, because there is no electricity.

C. Blacks and whites are fighting for electricity.

D. There is only a small power-station that lies next door.

5.2 What is the writer's problem in this passage?

A. That Soweto is too far from town.

B. His house is well electrified, but he is not working.

C. He wants to serve his visitors with tea daily.

D. He does not know how long they may stay in the house.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

6.

At midnight Chaka went alone to the grave of his father Senzangakona, and when he came there Isanusi the Diviner appeared through the darkness with his companions, Ndlebe and Malunga. And there at the grave at midnight Isanusi doctored Chaka with many medicines, smearing most of them on his body, and when he had finished he placed charms on the grave and made a small hole in it over which he sat. And then he spat and began to speak in a tongue not known to Chaka. He seemed to be in pain and very sorrowfull, and the sound of his voice inspired pity. He was not speaking to Chaka, but to the spirits in the grave.

While he spoke thus, the earth on top of the grave moved and was shaken. Ndlebe stood up at once and ran round and round the grave. Malunga struck the ground repeatedly with Chaka's spear, then raised it up, aimed it towards the east, and struck the ground with it again.

Do not turn the page. Wait for further instructions.

6.1 To whom was Isanusi the Diviner Speaking?

Isanusi was speaking to

A. everybody at the grave.

B. his companions, Ndlembe and Malunga.

C. the spirits in the grave.

D. Chaka's father, Senzangakona.

6.2 What was Isanusi doing at the grave?

A. He was doctoring Zenzangakona, the old man.

B. He was smearing Chaka's body with his medicines.

C. Isanusi was having a traditional party with friends.

D. He was moving up and down as if he was mad.

6.3 What happened at the grave when the earth on top of the grave moved?

A. Malunga ran home to seek for help.

B. Ndlebe stood up at once and ran round and round the grave.

C. Chaka was happy and danced around the grave.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

7.

The locust swarms hummed closer and closer leaving an area of destruction behind them. They devoured every blade of green grass and every leaf on the tall trees. Millions settled and laid eggs, soon to hatch young to join in the destruction. They dropped in their millions as they came against the unbroken well of smoke. They dropped until the ground was a struggling mass of crawling insects. Men and women - those who were not engaged in tending the fires - waded knee-deep into the vast mass, armed with skin bags, cooking-pots, and all sorts of other vessels, scooping a great bowlfuls of locusts and emptying them into large grain-baskets. Ox-sleds carried these baskets to the kraals, where the old women were busy cooking the vast piles of locusts.

For five days the desperate battle raged. Finally the locusts broke through the wall of smoke. It was impossible to maintain the defence against them any longer. Entire fields, whole mopani forests were set on fire, destroying millions and millions of the invaders. But millions more came, bred, and passed on.

Do not turn the page. Wait for further instructions.

7.1 What happened in this passage?

A. Locusts devoured every blade of green grass.

B. People were becoming mad all over the country.

C. Men and women started dancing when the sun rose.

D. People had no place to cook the locusts.

7.2 What were the people doing about these locusts?

A. People were scooping up a great bowlful of locusts.

B. Women were fighting for the locusts.

C. The locusts were very big to carry home.

D. They cooked the locusts in the forest.

7.3 For how many days were people scooping up the locusts?

A. For only one day.

B. The desperate battle raged for five days.

C. For two days only, and then everything returned to normal.

D. This battle lasted for almost a year.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

8.

"I am sure I have not offended him in any way. If I had offended him, I would render an apology easily. I have not even quarrelled with him for not eating my food. For a long time now we have not lived as husband and wife. If he wants to marry a second wife I shall be perfectly happy. In fact, I have been thinking of it for some time for I have not had a second baby, and now I wonder whether a second one will ever come."

"Have patience, my daughter. Don't be in a hurry. Everything will be all right. Don't mind my daughter. It is only youth that is worrying him and nothing else. He will soon realize what a fool he has been, and will come crawling back to you. Look after your daughter and your trade. Your husband will come back to you after all his wanderings. Men are always like that."

When Efuru went away her mother-in-law was very sorrowful. "The son of a gorilla must dance like the father gorilla. Our elders were quite right when they said this. Adizua is every inch like his father. God, please don't let him be like his father."

Do not turn the page. Wait for further instructions.

8.1 Who is speaking in this passage?

A. Efuru's husband.

B. Efuru's grandmother.

C. Efuru's younger sister.

D. Efuru and her mother-in-law

8.2 What is this paragraph about?

A. Efuru wants to divorce her husband.

B. They are not living as husband and wife.

C. The husband is beating her every day.

D. Efuru does not give birth.

8.3 What did Efuru's mother-in-law tell her?

A. To pack all her belongings and go back home.

B. That he will soon realize what a fool he has been and will come back to her.

C. To render apology to her husband.

D. That they must stop quarrelling with the husband.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

9.

" I have promised marriage to a sweet young girl of the Bhele clan down at our village, a girl as bright and beautiful as the clear waters of Xesi river, and as warm as sunshine in Spring. She accepted me, and her family gave consent to my family, all according to custom, as you know. Suddenly I learnt that a Thembu boy had corrupted my girl when she visited her malume* at the Thembu village. Then my girl rejected me. Can you believe it, wise one? My sweet Zusiwe rejected me for a wild, uncircumcised boy. The boy used a love-potion, I am sure of that. Please help me, Gabulamehlo! Give me the strongest potion in your stock so that I may win back my girl."

"What makes you certain that the boy has used a love-potion? I must be careful, you see. If I give you a strong potion for a girl who has never taken one before, she will become mad."

"He must have used a love-potion, wise one. What other explanation can there be for her rejection of me?"

* *Uncle on the mother's side.*

Do not turn the page. Wait for further instructions.

9.1 What is the first paragraph mostly about?

The first paragraph is about:

A. the boy who uses a love-potion.

B. Gabulamehlo the wise man in the village.

C. a sweet young girl who rejected the speaker.

D. the custom marriage of the black people.

9.2 What does the speaker want Gabulamehlo to do for him?

A. The speaker wants Gabulamehlo to give him a strong-potion.

B. That Gabulamehlo must kill the Thembu boy.

C. Gabulamehlo must bewitch Zusiwe, the sweet girl.

D. The two families must meet and discuss marriage.

9.3 Why did Zusiwe reject the speaker?

A. The speaker was not fit to marry her.

B. Because Zusiwe was corrupted by a Thembu boy.

C. Zusiwe's family hated the speaker's family.

D. The speaker was very unlucky.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

10.

Lusu felt his shaky courage evaporating fast. He had depended on his club because he was quite skilled with it. He wept openly with fear and the villagers howled with laughter. Cries of "shame" and "coward" filled his ears and his nerve collapsed altogether. He turned and tried to run, but one of his own advisers kicked him in the buttocks, slapped him soundly and pushed him back into the clearing. Mutengu tore into him with the violence of a thunderstorm.

Violent clouds of dust were stirred by the feet of the fighting men and for a long time the only sounds were those of blows well and truly landed. Then finally a loud scream was torn from the throat of the coward Lusu and he turned and ran like a madman. He bowled men over in his great hurry to escape the wrath of Mutengu. He leapt a high fence and thudded to the ground beyond like a hippopotamus. He got to his feet again and sped into the forest with Mutengu and all the villagers in hot pursuit. When he noticed his pursuers were gaining on him he urged his short fat legs to increase their effort.

Do not turn the page. Wait for further instructions.

10.1 What made everybody laugh?

Everybody laughed because

A. Lusu wept openly with fear.

B. Lusu turned and tried to run.

C. his adviser kicked him in the buttocks.

D. Mutengu tore into him.

10.2 What did Lusu do to save his life?

A. Lusu screamed aloud to save his life.

B. He ran like a madman to save his life.

C. Lusu stood very quietly behind the hippopotamus.

D. He fell down because he did not know what to do.

10.3 Where was Lusu running to when the villagers were chasing him?

A. He got to his feet again and sped into the forest.

B. Lusu never ran, instead he stood up and fought.

C. He quickly ran into the river where there were crocodiles.

D. He did not know where to run to.

Don't answer the questions. Only indicate how sure you are that you can answer the questions by circling a confidence rating on the answer sheet.

selfeq1/1992-07-10

Questionnaire number [ ][ ][ ][ ] (1-4)

Card number [1] (5)

Names & Surname: .....

Date of Birth: [ ][ ] [ ][ ] [ ][ ] (6-11)

Year Month Day

Age: [ ][ ] (12-13)

Sex: Male [1]

Female [2] (14)

SELF-EFFICACY
PART 1

		NO	YES	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
(15)	1	1	2	01	02	03	04	05	06	07	08	09	10	(16-17)
(18)	2	1	2	01	02	03	04	05	06	07	08	09	10	(19-20)
(21)	3	1	2	01	02	03	04	05	06	07	08	09	10	(22-23)
(24)	4	1	2	01	02	03	04	05	06	07	08	09	10	(25-26)
(27)	5	1	2	01	02	03	04	05	06	07	08	09	10	(28-29)
(30)	6	1	2	01	02	03	04	05	06	07	08	09	10	(31-32)
(33)	7	1	2	01	02	03	04	05	06	07	08	09	10	(34-35)
(36)	8	1	2	01	02	03	04	05	06	07	08	09	10	(37-38)
(39)	9	1	2	01	02	03	04	05	06	07	08	09	10	(40-41)
(42)	10	1	2	01	02	03	04	05	06	07	08	09	10	(43-44)
(45)	11	1	2	01	02	03	04	05	06	07	08	09	10	(46-47)
(48)	12	1	2	01	02	03	04	05	06	07	08	09	10	(49-50)
(51)	13	1	2	01	02	03	04	05	06	07	08	09	10	(52-53)
(54)	14	1	2	01	02	03	04	05	06	07	08	09	10	(55-56)
(57)	15	1	2	01	02	03	04	05	06	07	08	09	10	(58-59)
(60)	16	1	2	01	02	03	04	05	06	07	08	09	10	(61-62)

Card number 2 (1)

		NO	YES	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
(2)	17	1	2	01	02	03	04	05	06	07	08	09	10	(3-4)
(5)	18	1	2	01	02	03	04	05	06	07	08	09	10	(6-7)
(8)	19	1	2	01	02	03	04	05	06	07	08	09	10	(9-10)
(11)	20	1	2	01	02	03	04	05	06	07	08	09	10	(12-13)
(14)	21	1	2	01	02	03	04	05	06	07	08	09	10	(15-16)
(17)	22	1	2	01	02	03	04	05	06	07	08	09	10	(18-19)
(20)	23	1	2	01	02	03	04	05	06	07	08	09	10	(21-22)
(23)	24	1	2	01	02	03	04	05	06	07	08	09	10	(24-25)
(26)	25	1	2	01	02	03	04	05	06	07	08	09	10	(27-28)
(29)	26	1	2	01	02	03	04	05	06	07	08	09	10	(30-31)
(32)	27	1	2	01	02	03	04	05	06	07	08	09	10	(33-34)
(35)	28	1	2	01	02	03	04	05	06	07	08	09	10	(36-37)
(38)	29	1	2	01	02	03	04	05	06	07	08	09	10	(39-40)
(41)	30	1	2	01	02	03	04	05	06	07	08	09	10	(42-43)
(44)	31	1	2	01	02	03	04	05	06	07	08	09	10	(45-46)
(47)	32	1	2	01	02	03	04	05	06	07	08	09	10	(48-49)
(50)	33	1	2	01	02	03	04	05	06	07	08	09	10	(51-52)
(53)	34	1	2	01	02	03	04	05	06	07	08	09	10	(54-55)
(56)	35	1	2	01	02	03	04	05	06	07	08	09	10	(57-58)
(59)	36	1	2	01	02	03	04	05	06	07	08	09	10	(60-61)
(62)	37	1	2	01	02	03	04	05	06	07	08	09	10	(63-64)
(65)	38	1	2	01	02	03	04	05	06	07	08	09	10	(66-67)
(68)	39	1	2	01	02	03	04	05	06	07	08	09	10	(69-70)
(71)	40	1	2	01	02	03	04	05	06	07	08	09	10	(72-73)
(74)	41	1	2	01	02	03	04	05	06	07	08	09	10	(75-76)
(77)	42	1	2	01	02	03	04	05	06	07	08	09	10	(78-79)

Card number 3 (1)

		NO	YES	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
(2)	43	1	2	01	02	03	04	05	06	07	08	09	10	(3-4)
(5)	44	1	2	01	02	03	04	05	06	07	08	09	10	(6-7)
(8)	45	1	2	01	02	03	04	05	06	07	08	09	10	(9-10)
(11)	46	1	2	01	02	03	04	05	06	07	08	09	10	(12-13)
(14)	47	1	2	01	02	03	04	05	06	07	08	09	10	(15-16)
(17)	48	1	2	01	02	03	04	05	06	07	08	09	10	(18-19)
(20)	49	1	2	01	02	03	04	05	06	07	08	09	10	(21-22)
(23)	50	1	2	01	02	03	04	05	06	07	08	09	10	(24-25)
(26)	51	1	2	01	02	03	04	05	06	07	08	09	10	(27-28)
(29)	52	1	2	01	02	03	04	05	06	07	08	09	10	(30-31)
(32)	53	1	2	01	02	03	04	05	06	07	08	09	10	(33-34)
(35)	54	1	2	01	02	03	04	05	06	07	08	09	10	(36-37)
(38)	55	1	2	01	02	03	04	05	06	07	08	09	10	(39-40)
(41)	56	1	2	01	02	03	04	05	06	07	08	09	10	(42-43)
(44)	57	1	2	01	02	03	04	05	06	07	08	09	10	(45-46)
(47)	58	1	2	01	02	03	04	05	06	07	08	09	10	(48-49)
(50)	59	1	2	01	02	03	04	05	06	07	08	09	10	(51-52)
(53)	60	1	2	01	02	03	04	05	06	07	08	09	10	(54-55)
(56)	61	1	2	01	02	03	04	05	06	07	08	09	10	(57-58)
(59)	62	1	2	01	02	03	04	05	06	07	08	09	10	(60-61)
(62)	63	1	2	01	02	03	04	05	06	07	08	09	10	(63-64)
(65)	64	1	2	01	02	03	04	05	06	07	08	09	10	(66-67)
(68)	65	1	2	01	02	03	04	05	06	07	08	09	10	(69-70)
(71)	66	1	2	01	02	03	04	05	06	07	08	09	10	(72-73)
(74)	67	1	2	01	02	03	04	05	06	07	08	09	10	(75-76)
(77)	68	1	2	01	02	03	04	05	06	07	08	09	10	(78-79)

Card number | 4 | (1)

SELF-EFFICACY
PART 2

	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Example E1	01	02	03	04	05	06	07	08	09	10
Example E2.1	01	02	03	04	05	06	07	08	09	10
Example E2.2	01	02	03	04	05	06	07	08	09	10

1	01	02	03	04	05	06	07	08	09	10	(2-3)
2	01	02	03	04	05	06	07	08	09	10	(4-5)
3	01	02	03	04	05	06	07	08	09	10	(6-7)
4	01	02	03	04	05	06	07	08	09	10	(8-9)
5	01	02	03	04	05	06	07	08	09	10	(10-11)
6	01	02	03	04	05	06	07	08	09	10	(12-13)
7	01	02	03	04	05	06	07	08	09	10	(14-15)
8	01	02	03	04	05	06	07	08	09	10	(16-17)
9	01	02	03	04	05	06	07	08	09	10	(18-19)
10	01	02	03	04	05	06	07	08	09	10	(20-21)
11	01	02	03	04	05	06	07	08	09	10	(22-23)
12	01	02	03	04	05	06	07	08	09	10	(24-25)
13	01	02	03	04	05	06	07	08	09	10	(26-27)
14	01	02	03	04	05	06	07	08	09	10	(28-29)
15	01	02	03	04	05	06	07	08	09	10	(30-31)
16	01	02	03	04	05	06	07	08	09	10	(32-33)
17	01	02	03	04	05	06	07	08	09	10	(34-35)
18	01	02	03	04	05	06	07	08	09	10	(36-37)
19	01	02	03	04	05	06	07	08	09	10	(38-39)
20	01	02	03	04	05	06	07	08	09	10	(40-41)
21	01	02	03	04	05	06	07	08	09	10	(42-43)
22	01	02	03	04	05	06	07	08	09	10	(44-45)
23	01	02	03	04	05	06	07	08	09	10	(46-47)
24	01	02	03	04	05	06	07	08	09	10	(48-49)
25	01	02	03	04	05	06	07	08	09	10	(50-51)

APPENDIX C

MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE (HIGH SCHOOL)

MOTIVATED STRATEGIES FOR LEARNING QUESTIONNAIRE

(HIGH SCHOOL)

National Center for Research to Improve Postsecondary Teaching
and Learning
(NCRIPTAL)

School of Education, The University of Michigan,
Ann Arbor, Michigan

Adapted by

J.L. de K. Monteith (Potchefstroom University for CHE)

and

M.J. Mathebula

for

standard 7 students

The questionnaire asks you about your study habits, your learning skills, and your motivation for learning or studying.

THERE ARE NO RIGHT OR WRONG ANSWERS TO THE QUESTIONNAIRE. THIS IS NOT A TEST.

We want you to respond to the questionnaire as accurately as possible, reflecting your attitudes and behaviors in this course.

PART A. MOTIVATIONAL BELIEFS

The following questions ask about your motivation for and attitudes about this class. **Remember there are no right or wrong answers, just answer as accurately as possible.** Use the scale below to answer the questions.

Not at all true of me	1	2	3	4	5	6	7	Very true of me

If you think the statement is very true of you, cross out 7; if a statement is not at all true of you, cross out 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you. Cross out this number.

1. I prefer class work that is challenging so that I can learn new things.
2. Compared with other students in this class I expect to do well.
3. I am so nervous during a test that I cannot remember facts I have learned.
4. It is important for me to learn what is being taught in this class.
5. I like what I am learning in this class.
6. I'm certain I can understand the ideas taught in this course.
7. I think I will be able to use what I learn in this class in other classes.
8. I expect to do very well in this class.
9. Compared with others in this class, I think I'm a good student.
10. I often choose paper topics I will learn something from even if they require more work.
11. I am sure I can do an excellent job on the problems and tasks assigned for this class.
12. I have an uneasy, upset feeling when I take a test.
13. I think I will receive a good grade in this class.
14. Even when I do poorly on a test I try to learn from my mistakes.
15. I think that what I am learning in this class is useful for me to know.
16. My study skills are excellent compared with others in this class.
17. I think that what we are learning in this class is interesting.
18. Compared with other students in this class I think I know a great deal about the subject.
19. I know that I will be able to learn the material for this class.
20. I worry a great deal about tests.
21. Understanding this subject is important to me.
22. When I take a test I think about how poorly I am doing.

PART B. SELF-REGULATED LEARNING STRATEGIES

The following questions ask about your learning strategies and study skills for this class. **Again, there are no right or wrong answers. Answer the questions about how you study in this class as accurately as possible.** Use the same scale to answer the remaining questions.

Not at all true of me	1	2	3	4	5	6	7	Very true of me

If you think the statement is very true of you, cross out 7; if a statement is not at all true of you, cross out 1. If the statement is more or less true of you, find the number between 1 and 7 that best describes you. Cross out this number.

23. When I study for a test, I try to put together the information from class and from the book.

24. When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly.

25. I ask myself questions to make sure I know the material I have been studying.

26. It is hard for me to decide what the main ideas are in what I read. (*R)

27. When work is hard I either give up or study only the easy parts. (*R)

28. When I study I put important ideas into my own words.

29. I always try to understand what the teacher is saying even if it doesn't make sense.

30. When I study for a test I try to remember as many facts as I can.

31. When studying, I copy my notes over to help me remember material.

32. I work on practice exercises and answer end of chapter questions even when I don't have to.

33. Even when study materials are dull and uninteresting, I keep working until I finish.

34. When I study for a test I practice saying the important facts over and over to myself.

35. Before I begin studying I think about the things I will need to do to learn.

36. I use what I have learned from old homework assignments and the textbook to do new assignments.

37. I often find that I have been reading for class but don't know what it is all about. (*R)

38. I find that when the teacher is talking I think of other things and don't really listen to what is being said. (*R)

39. When I am studying a topic, I try to make everything fit together.

40. When I'm reading I stop once in a while and go over what I have read.

41. When I read material for this class, I say the words over and over to myself to help me remember.

42. I outline the chapters in my book to help me study.

43. I work hard to get a good grade even when I don't like a class.

44. When reading I try to connect the things I am reading about with what I already know.

MSLQ-HS

Card number [5] (1)

Part A: MOTIVATION

1	1	2	3	4	5	6	7	(2)
2	1	2	3	4	5	6	7	(3)
3	1	2	3	4	5	6	7	(4)
4	1	2	3	4	5	6	7	(5)
5	1	2	3	4	5	6	7	(6)
6	1	2	3	4	5	6	7	(7)
7	1	2	3	4	5	6	7	(8)
8	1	2	3	4	5	6	7	(9)
9	1	2	3	4	5	6	7	(10)
10	1	2	3	4	5	6	7	(11)
11	1	2	3	4	5	6	7	(12)
12	1	2	3	4	5	6	7	(13)
13	1	2	3	4	5	6	7	(14)
14	1	2	3	4	5	6	7	(15)
15	1	2	3	4	5	6	7	(16)
16	1	2	3	4	5	6	7	(17)
17	1	2	3	4	5	6	7	(18)
18	1	2	3	4	5	6	7	(19)
19	1	2	3	4	5	6	7	(20)
20	1	2	3	4	5	6	7	(21)
21	1	2	3	4	5	6	7	(22)
22	1	2	3	4	5	6	7	(23)

Part B: LEARNING STRATEGIES

23	1	2	3	4	5	6	7	(24)
24	1	2	3	4	5	6	7	(25)
25	1	2	3	4	5	6	7	(26)
26	1	2	3	4	5	6	7	(27)
27	1	2	3	4	5	6	7	(28)
28	1	2	3	4	5	6	7	(29)
29	1	2	3	4	5	6	7	(30)
30	1	2	3	4	5	6	7	(31)
31	1	2	3	4	5	6	7	(32)
32	1	2	3	4	5	6	7	(33)
33	1	2	3	4	5	6	7	(34)
34	1	2	3	4	5	6	7	(35)
35	1	2	3	4	5	6	7	(36)
36	1	2	3	4	5	6	7	(37)
37	1	2	3	4	5	6	7	(38)
38	1	2	3	4	5	6	7	(39)
39	1	2	3	4	5	6	7	(40)
40	1	2	3	4	5	6	7	(41)
41	1	2	3	4	5	6	7	(42)
42	1	2	3	4	5	6	7	(43)
43	1	2	3	4	5	6	7	(44)
44	1	2	3	4	5	6	7	(45)

School [ ][ ] (46-47)

APPENDIX D

ANSWER SHEETS

Questionnaire number [ ][ ][ ] (1-3)

Card number [6] (4)

1. Name of Student: .....

2. Age: [ ][ ] (5,6) Years [ ][ ] (7,8) Months

3. Sex: Male [1] Female [2] (9)

4. Home language: Setswana [1] Other [2] (10)

5. Indicate with a cross your father's highest level of education.

Std 6 or lower	1
Std 7	2
Std 8	3
Std 9	4
Std 10	5
Post matric qualification	6 (11)

6. Indicate with a cross your mother's highest level of education.

Std 6 or lower	1
Std 7	2
Std 8	3
Std 9	4
Std 10	5
Post matric qualification	6 (12)

7. Are you living with both your father and mother?

Yes	1
No	2 (13)

8. If not, indicate with an X with whom you are living.

Mother	1	
Father	2	
Relatives	3	
Friends	4	
Alone	5	(14)

9. Are both your father and mother employed?

No	1	
Yes	2	(15)

10. If not, indicate with an X which one is unimployed.

Mother	1	
Father	2	
Both	3	(16)

11. Name or describe in the space provided the work your father is doing

..... | | | (17,18)

12. Name or describe in the space provided the work your mother is doing

..... | | | (19,20)

13. Is your father's place of work in your neighbourhood?

No	1	
Yes	2	(21)

14. Is your mother's place of work in your neighbourhood?

No	1	
Yes	2	(22)

15. When do your parents arrive home from work?

Before sunset	1	
After sunset	2	(23)

16. Which highest standard would your parents like you to pass?

Std 7 or lower	1	
Std 8	2	
Std 9	3	
Std 10	4	
Post matric qualification	5	(24)

My parents leave the decision to me	No	1	
	Yes	2	(25)

17. Which career would your parents like to see you follow?
(Write career parents wish in the space provided.)

Career parents wish		
		(26,27)
My decision		
		(28,29)

18. How many people (including yourself) live at your home where you live?

2	3	4	5	6	7	8	9	10	11	12	more	
												(30,31)

19. How many children do your parents have including yourself?

1	2	3	4	5	6	7	8	9	10	more	
											(32,33)

20. How many of these children (brothers and sisters) are older than you?

0	1	2	3	4	5	6	7	8	9	10	
											(34,35)

21. How would you describe your house? Indicate your choice with a cross.

1. It is a shack

No	1	
Yes	2	(36)

2. Built with concrete or brick walls

No	1	
Yes	2	(37)

3. Number of rooms

1	2	3	4	5 or more	
					(38)

4 Sitting room

No	1	
Yes	2	(39)

5. Dining room

No	1	
Yes	2	(40)

6. Kitchen

No	1	
Yes	2	(41)

7. Bathroom

No	1	
Yes	2	(42)

8. Number of bedrooms

1	2	3	4	5 or more	
					(43)

9. Garage

0	1	2 or more	
			(44)

10. Electrified

No	1	
Yes	2	(45)

22. How many cars do you have at home?

0	1	2	3	4	
					(46)

23. Give the names and models of these cars?

.....

.....

.....

..... (47)

24. Are these cars in working conditions?

No	1	
Yes	2	(48)

25. How many T.V. sets do you have at home?

0	1	
1	2	
more	3	(49)

26. Is it a colour T.V.?

No	1	
Yes	2	(50)

27. Does it work?

No 1
Yes 2 (51)

28. Do you have a radio at your home?

No 1
Yes 2 (52)

29. Does it ever play?

No 1
Yes 2 (53)

30. Do you have a Hifi set?

No 1
Yes 2 (54)

31. Does it play?

No 1
Yes 2 (55)

32. Do you have a refrigirator?

No 1
Yes 2 (56)

33. Does it work?

No 1
Yes 2 (57)

34. Do you have a deep freezer?

No 1
Yes 2 (58)

35. Does it work?

No 1
Yes 2 (59)

36. Do you have a donkey-cart?

No 1
Yes 2 (60)

37. Do you use it?

No 1
Yes 2 (61)

38. Do you have a horse-cart?

No 1
Yes 2 (62)

39. Do you use it?

No	1	
Yes	2	(63)

40. Do you have a bicycle?

No	1	
Yes	2	(64)

41. Does it work?

No	1	
Yes	2	(65)

42. Do you have a motor bike?

No	1	
Yes	2	(66)

43. Does it work?

No	1	
Yes	2	(67)

44. Do you have books for leasure reading in your home?

No	1	
Yes	2	(68)

45. Do you read two or more newspapers or magazines per week?

No	1	
Yes	2	(69)

Card number 7 (1)

1. Academic achievement in English (2-4)
2. Academic achievement in Mathematics (5-7)
3. Academic achievement in Physical Science (8-10)
4. Academic achievement in Biology (11-13)
5. LC (14-15)
6. MC (16-17)
7. CC (18-19)
8. LC (20-21)