

CHAPTER EIGHT

SUMMARY, RECOMMENDATIONS AND CONCLUSION

8.1 INTRODUCTION

This chapter consists of a summary of the research. A statement of the problem is given in paragraph 8.2. The review of the literature is summarised in paragraph 8.3, followed by a discussion of the method of research in paragraph 8.4, the procedure of the research in paragraph 8.5 and the results in paragraph 8.6. The limitations of the study are discussed in paragraph 8.8, and lastly, some recommendations are made in paragraph 8.9.

8.2 STATEMENT OF THE PROBLEM

Black students' poor academic achievement can be attributed to problems in the home, school; with teachers, the community and students themselves (Pendarvis *et al.*, 1990:315-316, 318; Tozer *et al.*, 1993:308). These problems include amongst others, a lack of discipline, learning facilities, parental care; a low socio-economic status, overcrowding, ill-trained teachers, and a lack of knowledge of learning and motivation (Flaxman, 1985:887-889). The assumption is made that these problems create, amongst others, a poor culture of learning and a lack of control over and responsibility for learning. Parents do not support their children, the community does not build schools and teachers do not teach the students in class (Ross, 1991:69; Mthembu, 1993a:2; Luti, 1993b:3). The students themselves do not demand or request their teachers to teach them, hence, they (students) neither study nor feel responsible for failure they incur in the academic area (Luti, 1993a:3; Mthembu, 1993b:3).

The aim of the research was therefore to determine how:

- * personal variables (i.e., age, attitude, motivation, anxiety, goal setting, intrinsic value and goal setting),
- * environmental variables (i.e., socio-economic status, living space, home and teacher support), and

- * behavioural variables (e.g., learning strategies) influence the self-regulated learning abilities, and the academic achievement of students from an environmentally deprived community.

8.3 REVIEW OF THE LITERATURE

8.3.1 SELF-REGULATED LEARNING

Self-regulated learning (see paragraph 2.2) requires students to be metacognitively, motivationally, and behaviourally active participants in their own learning (Zimmerman, 1986:208; 1989:329). Self-regulated students initiate and direct their efforts to acquire knowledge and skills and value, *inter alia*, the use of learning strategies to achieve academic goals (Zimmerman, 1988:3; 1990:5).

Zimmerman and Martinez-Pons (1990:51; 1988:284) assert that self-regulated learners plan, organize, self-instruct, set goals, self-monitor and self-evaluate during the learning process. They perceive themselves as self-efficacious, autonomous, and intrinsically motivated. Self-regulated learners are self-starters who display extraordinary effort and persistence during learning. They select, structure and understand their environment and improve it through the use of various strategies (Zimmerman, 1990:5).

Social cognitive theories postulate three assumptions that underlie students' self-regulated learning (Bandura, 1985:267, Schunk, 1989b:84; Zimmerman, 1989:330) i.e., triadic reciprocity (among personal, environmental and behavioural variables), self-efficacy and the existence of the subprocesses, viz., self-observation, self-judgment and self-reaction.

According to Zimmerman (1989:332), self-regulated learning is determined by personal, behavioural and environmental influences. Personal influences involve four types of variables: namely, students' knowledge (i.e., declarative or propositional knowledge), self-regulative knowledge (i.e., procedural and conditional knowledge), metacognitive processes and goals (Zimmerman, 1989:332). Behavioural influences that determine self-regulated learning are self-observation, self-judgment, and self-reaction, whereas environmental influences consist of the social and physical context (Zimmerman, 1989:335).

The social context involves modelling, direct assistance from teachers, other students and adults, verbal persuasion by teachers and students themselves, and other symbolic forms

of information such as diagrams, pictures and formulas (Zimmerman, 1989:336; see paragraph 2.4.3.1).

According to Jones and Idol (1990:249) and Zimmerman (1988:23; 1989:336), the physical context involves the structure of the learning environment. Inadequate housing and overcrowding that are characteristics of poor people cause the child to have little privacy or room to study. The child's homework is done against a background of noisy children, radios, or television. Such a background is where the environmentally deprived child is often found, and is detrimental to self-regulated learning.

8.3.2 THE RELATIONSHIP BETWEEN BEHAVIOURAL VARIABLES, SELF-REGULATED LEARNING AND ACADEMIC ACHIEVEMENT

In order to understand the role of learning strategies within the context of learning, the levels at which information is processed were discussed. According to Houston (1981:183), levels of processing information differentiate into a deep and a surface approach. With a deep approach to learning, the student learns or studies with the intention to extract personal meaning from the text to be studied while with a surface approach to learning, the student is concerned with a verbatim recall of either the whole text or the facts and ideas presented in it (Entwistle, 1988:24; Herriot, 1974:25). Deep processing information leads to meaningful understanding whereas surface processing leads to rote or meaningless understanding.

Meaningful learning relates to a deep approach to learning (Schmeck, 1988:322). Within the context of meaningful learning, learning is defined as an active, constructive, cumulative, and goal-oriented process (Shuell, 1988:277). Meaningful learning depends on a student's application of learning strategies (also see paragraph 3.3). Meaningful learning also extends over a prolonged period and involves different phases of learning. During the initial phase of learning, for example, the acquisition of more or less isolated facts may provide the conceptual glue necessary for an initial structure.

Learning strategies can be defined as the cognitive processes students use to process information that will enhance comprehension; integrate new information with existing knowledge; and to learn and aid them to retain information (O'Malley and Chamot, 1990:1; Weinstein, 1987:590; Mayer, 1988:11). An important issue concerning learning strategies is that learning requires awareness (McKeachie *et al.*, 1994:360). Students need to be aware about the learning strategies they use when they perform a learning task (see paragraph 3.4.1). The functions of the learning strategies are to help students know how to learn the task and to adapt their learning to the learning task.

Cognitive strategies include rehearsal, elaboration, and organizational strategies. Each of these three types of strategies has a basic and complex version, depending on the nature of the learning task (Weinstein and Mayer, 1986:316; also see paragraph 3.4.3.1). Cognitive strategies process information on either a deep or a shallow level. For example, elaboration and organizational strategies lead to deep or meaningful understanding, whereas rehearsal strategies lead to surface or meaningless understanding.

Metacognition includes cognitive activities such as self-appraisal and self-management (Jacobs and Paris, 1987:258; Cross and Paris, 1988:131). Self-appraisal involves three subcategories of knowledge: viz., declarative knowledge (knowing what and that), procedural knowledge (knowing how), as well as conditional knowledge (knowing when and why) (Paris, Lipson and Wixon, 1983:294; Paris and Jacobs, 1984:2084; Paris and Winograd, 1990:17). Flavell (1979:906; 1981:109) divides metacognitive knowledge into three main categories: viz., knowledge of the self- or other persons as learners, knowledge about the learning task and knowledge about strategies. The functions of these strategies is to make a person aware of his own knowledge and the ability to understand that knowledge, control, and manipulate it.

Self-management refers to the dynamic aspects of translating declarative, procedural, and conditional knowledge into learning (Jacobs and Paris, 1987:259). A student who monitors his work without supervision from a parent, teacher or any agent, is self-managing his learning and is learning effectively. There are three general processes that make up self-management strategies; namely; planning, monitoring and self-regulation (Pintrich, 1989:132; Jacobs and Paris, 1987:259). Self-management strategies' functions are to manage and to evaluate whether the learner is on track or not when using each of the categories of learning strategies in a learning situation.

Affective strategies include methods students use to help create and maintain climates conducive to learning, while resource management strategies involve a variety of strategies that assist students in managing their environment and the resources available (Weinstein and Mayer, 1986:317). These resources include managing the time available for studying, the actual study environment (i.e., place for studying), seeking help from teachers and peers, effort management and persistence (Pintrich, 1989:133). All these strategies help students to adapt to the environment as well as change the environment to fit their needs (Sternburg, 1985:123). The functions of affective strategies are to enhance or to improve students' motivation in a learning situation.

8.3.3 THE RELATIONSHIP BETWEEN PERSONAL VARIABLES, SELF-REGULATED LEARNING AND ACADEMIC ACHIEVEMENT

Self-efficacy is an important variable for understanding personal learning, which is to acquire skills and knowledge or master material (Schunk, 1994c:48; see paragraph 4.1).

Self-efficacy is defined as a student's personal beliefs about his capabilities to organize and implement actions necessary to attain designated performance levels (Bandura, 1982:123; 1986:391; Schunk, 1985:208). According to Bandura (1986:399), knowledge about one's self-efficacy, whether accurate or faulty, is based on certain sources of information. These sources of information contribute to the development of one's judgments of one's self-efficacy (Nisbett and Ross, 1980:101). These sources of self-efficacy can be differentiated into sources internal to the learner and sources external to the learner. Enactive experiences, for example, can be considered to be internal sources to the learner, and are important because such experiences convey feedback about personal efficacy to the learner of the consequences of his or her learning (Schunk, 1991:103). A student who tries very hard to solve maths problems and fails several times no matter how much effort he puts in, may come to believe that he is not good at solving maths problems, etc.

Goal setting refers to the quantity, quality or rate of performance (Schunk, 1991:91). Goals can motivate and inform students about their capabilities. Goals raise self-efficacy because their attainment conveys progress (Schunk, 1990:76). When students establish or are given a goal, they may experience a sense of efficacy for attaining it and engage themselves in appropriate activities, persist and expend effort to attain their goals (Bandura, 1988:38).

Attributions (see paragraph 4.6.1) mediate the influence of self-efficacy on academic achievement. Attributions (Schunk, 1985:208) can be described as perceptions of the causes of learning performances and results (Weiner, 1985:549). Attributing success to ability and failure to a lack of effort stimulates high self-efficacy, while attributing success to external help and failure to a lack of ability leads to decreased self-efficacy (Weiner, 1985:560).

Weiner (1979: quoted by Van Overwalle, 1989:400) proposes a causal taxonomy with three dimensions (see paragraph 4.6.2). The first dimension, locus, distinguishes causes within the person (e.g., ability and effort) from external causes (e.g., luck and task difficulty). The second dimension, stability, distinguishes stable causes (e.g., aptitude) from instable ones (e.g., luck). The third dimension, controllability, reflects causes that

are under the control of the learner (e.g., effort) or other people (e.g., help) versus causes that are totally uncontrollable (e.g., luck).

8.3.4 THE RELATIONSHIP BETWEEN ENVIRONMENTAL VARIABLES AND ACADEMIC ACHIEVEMENT

Environmental variables (see paragraph 5.1) such as the social and physical setting in which the family lives, have an influence on the child's cognitive development and academic achievement (Stokols, 1978:750; Zimmerman, 1989:336; Scott-Jones, 1984:267). Family and school variables are considered important environmental variables which influence academic achievement.

Families can be divided into small and large families which are also classified into two types, namely, nuclear and extended families (Morrish, 1972:163; see paragraph 5.2.1.1).

Sibsize refers to the total number of children in a family (brothers and sisters) (Steelman, 1985:354; also see paragraph 5.2.1.1). Though family size and sibsize are related they are treated separately in order to separate their respective influences on academic achievement. In the absence of parents, sibsize can play a positive role in the child's intellectual development, because the older siblings will take the positions of parents as educators to their younger siblings (Mwamwenda, 1989:35).

Birth order is defined as the relative rank of a child in terms of the age hierarchy among siblings in the family, while the spacing between siblings can be defined as the distance in time or the birth interval between consecutive children in the family (Steelman, 1985:355). Children born in closely spaced families are less likely to be exposed to an intellectual stimulating environment than children in widely spaced families as the older siblings have not yet developed to teach the younger (see paragraph 5.2.1.3).

The mother plays an important role in the language development of the child (Blake, 1981:423). The way in which mothers talk to their children is positively related to academic achievement (Mwamwenda, 1989:116; also see paragraph 5.3.1).

Children from single-parent families are less successful at school than children from two-parent families because of the low family income which would prevent the children from benefitting from educational or intellectual stimulation through educational field trips etc. A single-parent family, especially a mother-only family income may be insufficient as she is the only breadwinner (McCartin and Meyer, 1988:385).

Vandal and Corasaniti (1990:24) argue that children whose mothers are employed demonstrate better development progress than low-income children whose mothers are not employed. Children from lower socio-economic status families are less likely to complete school, i.e., are more likely to drop out (Kelly, 1994:5226).

Wang and Lindvall (1984:170) argue that time spent on a learning task is essential for student achievement as it concerns the amount of student learning that takes place in the specific learning task.

School variables refer to school learning environments which facilitate or debilitate (see paragraph 5.4) students' attainment of their academic goals (Wang and Lindvall, 1984:161). School variables include rural versus urban schools, the sizes of the schools, the class size, the age of the child, and the language of instruction (Holiday, 1992:16).

According to Gumedé (1989:97), rural schools are smaller than urban schools and pupils from urban schools perform better than pupils from rural schools (see paragraph 5.4.1). The relationship between school size and academic achievement depends on the school size, whether the school is small or large (see paragraph 5.4.1).

Students' achievements can be more effective if classes are reduced from an average of 30 or 45 to 10 or 15, because small classes make it easier for teachers to give individual attention (Alspaugh, 1987:597).

8.4 METHOD OF RESEARCH

8.4.1 SUBJECTS

All the standard 7 Vatsonga students (N=2771; see table 6.1) in the secondary schools which fall in the Ritavi 1(one) and 2 (two) circuits of the Northern Province constituted the population for this study. A stratified cluster sample of seven classes, giving a sample of 374 subjects was drawn from the population (see table 6.2).

8.4.2 INSTRUMENTS

The following instruments were used:

8.4.2.1 The Biographical Questionnaire (BQ)

The Biographical Questionnaire consisted of a number of items (N=39) designed to obtain information on the subjects' age, sex, family characteristics, learning and home related characteristics etc. (also see appendix A and paragraph 6.4.1).

8.4.2.2 The Learning and Study Strategies Inventory-High School Version (LASSI-HS)

The Learning and Study Strategies Inventory-High School Version (LASSI-HS) (also see paragraph 6.4.2) is an assessment tool consisting of 76 items, designed to measure students' use of learning and study strategies and methods at the secondary and high school level (Weinstein and Palmer, 1990:3). Students responded to the items on a 5-point Likert-type scale (ranging from 1="not at all like me" to 5="Very much like me") (see paragraph 6.4.2).

The LASSI-HS consists of the following ten subscales: attitude, motivation, time management, anxiety, concentration, information processing, selecting main ideas, study aids, self-testing and test strategies.

8.4.2.3 The Motivated Strategies for Learning Questionnaire (MSLQ)

The MSLQ (paragraph 6.4.3) included 44 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 self-regulated learning strategies. Students responded to the items on a 7-point Likert scale (ranging from 1="not at all true of me" to 7="very true of me") in terms of their behaviour in the class and were not used as the CMSES and the anxiety subscale of the LASSI-HS were used.

8.4.2.4 Children's Multidimensional Self-efficacy Scales (CMSES)

The Children's Multidimensional Self-efficacy Scales (CMSES) developed by Bandura (paragraph 6.4.4) was used to assess self-efficacy. The Children's Multidimensional Self-efficacy Scales (CMSES) consisted of 40 items. These items were categorised into: self-efficacy in enlisting social resources, self-efficacy for academic achievement, self-efficacy for self-regulated learning, self-assertive efficacy and self-efficacy for enlisting parental and community support. For each item, students rated their perceived self-

efficacy according to a 7-point scale (ranging from 1="not well at all" to 7="very well") in terms of their behaviour in the class.

8.4.2.5 The Support Questionnaire (SQ)

The Support Questionnaire (SQ) (paragraph 6.4.5) consisted of 24 items to assess the support students get from their fathers, mothers and teachers. Students rated their support according to a 5-point scale for each item (ranging from 1="never to 5="always) in terms of the support they get.

8.5 PROCEDURE

A stratified cluster sample of 374 subjects was selected (see paragraph 6.3) from a population of 2771 standard 7 students from the Ritavi 1(one) and 2(two) circuits in the Northern Province.

Students completed the questionnaires during class periods. To make sure that the opinions expressed by students were their own, they were not allowed to discuss the items with each other. The first items of each section were completed under the guidance of the researcher so that students would know exactly how to answer each section of the questionnaires.

After completing the questionnaires, they were scored and the data analysed by means of the BMDP-9R and PROC. CORR statistical programmes.

8.6 RESULTS

8.6.1 HYPOTHESIS 1

With relation to self-regulated learning, it was established that personal variables such as attitude and intrinsic value, behavioural variables such as concentration, selecting main ideas, study aids and strategy use affected the self-regulated learning abilities of the subjects who participated in this study. It was further established that students who are self-regulated have: a more positive attitude to academic tasks; a higher intrinsic value in learning, are better at selecting main ideas when studying; can maintain a higher level of concentration on learning-related tasks such as studying and listening in class; and know how to use study aids and various learning strategies during the process of learning.

Comparing the contribution of the individual variables to R^2 (table 7.7) it can thus be concluded that the three variables that have the biggest impact upon self-regulated learning are study aids, intrinsic value and the selection of main ideas. This means that self-regulated learning students have a high intrinsic interest in learning, use more study aids and are better at selecting main ideas when studying and learning.

According to the literature review, there is a relationship between personal variables such as attitude, intrinsic value and self-regulated learning. A positive attitude and an intrinsic interest in learning, influence students' self-regulated learning. It was reviewed that there is a relationship between behavioural variables such as the selection of main ideas, concentration, study aids, strategy use and self-regulated learning. Students who are self-regulated select main ideas when learning, have a long concentration span during the process of learning, and use more study aids and learning strategies when studying.

8.6.2 HYPOTHESIS 2

With reference to academic achievement in English, it was found that personal variables (i.e., motivation and intrinsic value), environmental variables (i.e., socio-economic status) and behavioural variables (i.e., concentration, strategy use and self-regulated learning) affected the academic achievement in English of the subjects who participated in this study. It was further found that students who are self-regulated are highly motivated to learn, attribute a higher intrinsic value to their studies, are from higher socio-economic status families, well supported, have higher levels of concentration, use various strategies and are more self-regulated in learning.

Comparing the contribution of the individual variables to R^2 (table 7.9), it can be concluded that the three variables that have the biggest impact on academic achievements in English are socio-economic status, concentration and intrinsic value. It implies that socio-economic status has a strong positive influence on academic achievement in English and that good performers in English can maintain concentration and are characterised by a more positive intrinsic value than students who don't perform well in English.

According to the review of the literature, a relationship exists between personal variables such as motivation, intrinsic value and achievement in English. Students who are motivated to learn and are intrinsically interested in studying, achieve better in English. It was reviewed that there is a relationship between behavioural variables such as socio-economic status and academic achievement in English. It was further reviewed that students from high socio-economic status families perform well in English. With

relation to behavioural variables, it was also reviewed that there is a relationship between behavioural variables such as concentration, strategy use, self-regulated learning and achievement in English. As reviewed in the literature, students who perform at a higher level in English have a long concentration span when studying, they use learning strategies and are more self-regulated.

8.6.3 HYPOTHESIS 3

With regard to academic achievement in maths, it was established that personal variables such as age self-efficacy for academic achievement, environmental variables such as socio-economic status and living space and behavioural variables such as self-regulated learning affected the achievement in maths of the subjects who took part in this study. It was established that students' age, self-efficacy for academic achievement, socio-economic status, living space and self-regulated learning have a strong and positive influence in academic achievement in maths.

Comparing the contribution of the individual variables to R^2 (table 7.11) it can be concluded that three of the variables have the biggest impact upon academic achievement in maths, viz., socio-economic status, age and self-regulated learning. This implies that socio-economic status, age and self-regulated learning have a stronger influence on academic achievement in maths.

According to the literature review, there is a relationship between personal variables such as age and self-efficacy for academic achievement in maths. It was reviewed that younger students perform better than older students, and that students who perform at a higher level in maths are characterised by self-efficacy for academic achievement. It was further reviewed that there is a relationship between environmental variables such as socio-economic status, living space and achievement in maths. It was also reviewed that students from low socio-economic status families are good achievers in maths and that students who have less living space achieve better in maths. With reference to behavioural variables, it was further reviewed that there is a relationship between behavioural variables such as self-regulated learning and academic achievement in maths, and that self-regulated learners achieve well in maths.

8.7 CONCLUSION

Hypothesis 1 (paragraph 7.7), that *there is a relationship between personal, environmental and behavioural variables and self-regulated learning* could therefore be

accepted only in sub-hypothesis 1.1 (paragraph 7.7.1), that *there is a relationship between personal variables (e.g., attitude and intrinsic value) and self-regulated learning*. This implies that personal variables such as attitude and intrinsic value have strong and positive influences in self-regulated learning, and

sub-hypothesis 1.3 (paragraph 7.7.3), that *there is a relationship between behavioural variables (i.e., selecting main ideas, concentration, study aids and strategy use) and self-regulated learning* were found to influence self-regulated learning abilities of students from environmentally deprived community. This indicates that behavioural variables such as selecting main ideas, concentration, study aids and strategy use have much more influence in self-regulated learning (also see paragraphs 7.7.1 and 7.7.3).

Hypothesis 2 (paragraph 7.8), that *there is a relationship between personal, environmental and behavioural variables and academic achievement in English* could thus be accepted with relation to:

Sub-hypothesis 2.1 (paragraph 7.8.1), that *there is a relationship between personal variables (i.e., motivation and intrinsic value) and academic achievement in English*. The implication is that personal variables, motivation and intrinsic value have strong and positive influences on academic achievement in English.

Sub-hypothesis 2.2 (7.8.2), that *there is a relationship between environmental variables (socio-economic status) and academic achievement in English*. It implies that an environmental variable such as socio-economic status has a stronger influence on academic achievement in English and

sub-hypothesis 2.3 (7.8.3), that *there is a relationship between behavioural variables (i.e., concentration, strategy use and self-regulated learning) and academic achievement in English* of students from an environmentally deprived community. This implies that behavioural variables such as concentration, strategy use and self-regulated learning have a positive influence on academic achievement in English.

Hypothesis 3 (7.9), that *there is a relationship between personal, environmental and behavioural variables and academic achievement in the maths* of students from an environmentally deprived community could therefore be accepted in all the sub-hypotheses, e.g.,

Sub-hypothesis 3.1 (paragraph 7.9.1), that *there is a relationship between personal variables and academic achievement in maths* could only be accepted with reference to personal variables such as self-efficacy for academic achievement. It implicates that age

and self-efficacy for academic achievement have positive influences on academic achievement in maths.

Sub-hypothesis 3.2 (Paragraph 7.9.2), that *there is a relationship between environmental variables and academic achievement in maths could therefore be accepted with relation to environmental variables such as socio-economic status and living space and academic achievement in maths*. This means that environmental variables such as socio-economic status and living space have more positive influences on the academic achievement in maths of the above-mentioned students.

Sub-hypothesis 3.3 (paragraph 7.9.3), that *there is a relationship between behavioural variables and academic achievement* could only be accepted with reference to such a behavioural variable as self-regulated learning. This implies that self-regulated learning has a strong influence on academic achievement in maths.

8.8 LIMITATIONS OF THE STUDY

The study may have suffered because of the following limitations:

8.8.1 MISSING DATA

Due to either a lack of a clear understanding of the questionnaires, or a negative attitude towards the questionnaires, some students failed to complete them fully. This resulted in missing data and an inconsistency in the numbers of sample sizes for the various analyses.

8.8.2 LANGUAGE MEDIUM

The subjects were Vatsonga students who speak Xitsonga, while the questionnaires were in English. The assumption can be made that students did not understand the questionnaires, hence they failed to answer some items correctly.

8.8.3 INSTRUMENTATION

With relation to instrumentation, questionnaires such as the Learning and Study Strategies Inventory-High School Version (LASSI-HIGH), Motivated Strategies for Learning Questionnaire (MSLQ) and Children's Multidimensional Self-efficacy Scale (MCSES) were the questionnaires used from the United States of America. These

questionnaires had been adapted but had not been standardised for use in South Africa. Questionnaires developed and standardized for South African conditions were not available, therefore, there was no choice, but to use those mentioned.

8.8.4 THE DISTANCE PROBLEM

Most of the community schools are situated away from the villages. The majority of students walk for a distance of 2 to 3 km to school daily. As they become physically and mentally tired from the long distance walked, they may actually not be able to perform as well as expected in the questionnaires.

8.8.5 HUNGER

Most of the environmentally deprived students are from low socio-economic status families, and have no money for food. They cannot maintain concentration in class because of hunger as they sometimes have only one meal a day or nothing at all. Students with a hungry stomach cannot perform well in the questionnaires.

8.8.6 AVAILABLE LITERATURE

As not much research has been done about the influence of variables such as self-regulated learning, self-efficacy, attributions etc., on South African students in the African situation, therefore not much is known. One has to use literature and the results based on the Western world, i.e., United State of America, generalise from this research and literature and apply it to the predominantly rural situation in South Africa.

8.9 RECOMMENDATIONS

It is recommended that:

- * More research should be done on South African children/students, to determine which variables affect their academic performance and how or why certain variables are more important than others. Knowledge of such variables is necessary to develop special educational programmes to address the problem of poor academic achievement in black schools.
- * Teachers should be made sensitive to those variables that have a bigger impact on academic achievement and should be trained to manipulate variables such as

self-regulated learning, self-efficacy, selecting main ideas, study aids, strategy use, intrinsic value, etc., to create if possible, a more positive learning environment for their students.

- * They should use learning strategies effectively to improve their learning. When a student, for example, realises that there is a noise in the room where he is studying and looks for another place to study, it shows that he is aware of the influence of environmental strategies.
- * It is also recommended that the questionnaires and tests used with black students should perhaps be translated into their mother tongue to make sure that they understand what is expected from them.
- * All the questionnaires mentioned should be standardised for use in South Africa to make certain they are relevant for, *inter alia*, deprived students.
- * Some students still have a negative attitude towards learning, therefore a programme to cultivate and develop a learning culture should be developed by, for example, establishing community clubs where the importance of learning could be addressed. In some Urban areas, for example, community building clubs have been established to organize the youth to clean their surroundings, acquire job skills and cultural activities such as dramas etc. have also been introduced. Community youth clubs for learning could motivate the youth towards positive learning.

8.10 CONCLUDING REMARKS

In this research, the determinants of self-regulated learning (i.e., personal, environmental and behavioural variables and academic achievement) were analysed. It is hoped that the conclusions/results will help to solve those problems which affect self-regulated learning and the poor achievement in English and maths of the students from environmentally deprived communities. This can be solved by the parents taking better care of their children, the community building schools and supplying learning facilities, teachers teaching students in class and finally students themselves taking the responsibility for their own failure.