CHAPTER 3

RESEARCH RELATING TO LEARNER FACTORS ASSOCIATED WITH ACADEMIC SUCCESS IN SCHOOLS

3.1 Introduction

Although not easy to separate from those connected with school and teacher, certain factors can be assumed to be peculiar to learners themselves, and thus, in the case of every individual, to have some influence on their performance. To some extent personality factors must clearly influence performance: the way in which learners respond to the situation in which they find themselves.

One South African-based study encompassing 10 secondary schools in a particular administrative area (Semenya 1997) concluded that poor examination performance was strongly related to the high level of stress among candidates, although the cause of the stress was not possible to identify (Semenya 1997:81), it being assumed that both culture and history played a role in creating stress among black learners in secondary school. This is one instance of school and possibly teacher factors eliciting a response among learners. In this chapter the aim will be to look at factors which may be both measurable and independent of school and teacher factors.

3.2 Learner Factors Influencing Academic Performance

3.2.1 Intelligence and/or verbal skills

The notion of Intelligence Quotient or IQ comes and goes according to fashion, and it has long been recognized as culture and context-dependent (see arguments presented by Madolo 1995:25). Nonetheless, as a predictor of achievement, it has its uses.

After pointing out that "one of the strongest characteristics of most IQ tests is that the verbal skills of a person are being measured", Myburgh *et al.* (1999:168) found that the measured IQ of learners accounted for as much as 32% of the variance in learners' scholastic achievement in a fairly large cross-

cultural study conducted in the Roodepoort area (Myburgh *et al.* 1999:173). Although this study covered three language groups and the schools catering for them, and language was included as a variable, it turned out to have a minimal effect (Myburgh *et al.* 1999:177), suggesting that verbal skills are, to all intents and purposes, independent of language as a predictor.

It could reasonably be said that language is more closely related to culture than to intelligence, as it is generally agreed to be a cultural artefact. More than that, language has been defined as –

• A part of culture

• An index of culture

• Symbolic of culture.

Most human behaviours are language-embedded, thus language is an inevitable part of culture. …But such complex cultural areas as socialization, education, barter and negotiation are also entirely awash in language. Language is, therefore, not only a part of culture but a major and crucial part (Fishman 1985:444).

It is, however, useful to treat language separately for purposes of argument here.

3.2.2 Language

That language can have an effect on learning is certainly believed by the respondents in the study conducted by Malan, Ackerman, Cilliers and Smit (1996:59,61), it being seen as "causing inadequate understanding of subject matter" related to reading and comprehension skills, when the learner's mother tongue is different to the language in which learning is required (see also Mostert 1998:127). Perhaps supporting the dimension of comprehension, research from the Americas (Slavin & Madden 2001) suggests that some

teaching in the mother-tongue actually improves performance in the second language.

3.2.3 Learner motivation

One interesting aspect of the typical teacher description of good students is the relatively little emphasis given to intelligence. While intelligence may be a desirable quality, motivation is more so (Spaulding 1992:3)

The motivation of learners is a complex issue consisting of many components, some of which are subheadings here, such as home environment (2.5.7.), expectations (2.5.9.), participation (2.5.11) and the like.

Cultural differences in motivation may exist, as has been found between China (where the strategic use of effort is emphasized) and England (where motivation arises from concern with ability) (Rogers 1998).

As already mentioned in the previous chapter (sections 2.4.; 2.4.3.), the expectations of teachers can have a profound effect on learner motivation (Bester & Swanepoel 2000:258; Stipek 1988:207), which has been defined as "a multi-staged process encompassing needs, values, goals and behaviour where each stage amplifies inter-individual differences" (Keeling, Jones, Botteril & Gray 1998:155; similarly Dembo & Eaton 2000). As with teacher motivation discussed in section 2.4.3., definition of learner motivation is difficult.

Weinstein (1996:89) cites a definition of motivation as:

$$\boxed{\textit{Expectation of success x value = motivation}}$$

In such a definition the expectations component as described in section 3.2.9 below would be a major dimension, leaving the value component to be determined variously by society, school and teacher, but broadly definable in

terms of culture as being the area where all these come together. The rewards to be obtained by achievement are primarily those defined by the culture in which a learner is embedded, and perceptions regarding their value can even vary with gender (Chetty 1996:182).

Entwistle (1998:17) distinguishes between extrinsic and intrinsic motivation, as well as achievement motivation, arguing that each is differentially related to any approach to learning Adapted by a student. Motivation can also correlate positively with student autonomy (Cock & Halvari 1999) and participation, while at the same time learners who are assisted in managing their time effectively, can also show increased levels of motivation (Spaulding 1992:121-2).

3.2.4 Background culture

Culture is another dimension that is multistranded and difficult to define. The relationship between culture and language has already been described (section 2.5.1.). Collins Shorter English Dictionary defines culture as "the total of the inherited ideas, beliefs, values and knowledge which constitute the shared bases of social action".

Both the goals and rewards for which learners will be aiming when achievement is at issue (Rogers 1998) fall within this definition. In addition, cultures can have specific attitudes towards education (Asakawa & Csikszentmihalyi 1998) which may in any case define goals and rewards differently.

A definition of culture should also include language, since each language provides a clear expression of the norms of its culture, and the learning of a language, whether by children or adults, also involves the assimilation of culture.

In the United States of America, where many cultures co-exist but learning usually has to take place in the hitherto dominant, WASP (white, Anglo-

Saxon, protestant) culture – so not very different in this respect from the South African situation – learners from minority cultures can attain different levels of achievement which may be related to their background culture first and foremost (Calderon 1998; Clarke 1997; Rigsby, Stull & Morse-Kelley 1997; Sanacore 2000; Wang, Haertel & Walberg 1997). Thus, the performance of Asian Americans who obtain higher than average results particularly in quantitative subjects (Hsia & Peng 1998; see also Chao 2000), contrasted with the systematic poorer results of African Americans who see academic success as being in conflict with their cultural identity (Cook & Ludwig 1998), which discourages anything which involves standing out from the crowd.

In South African studies of behaviours in school, race is often considered to be a variable (Badenhorst, Forster & Lea 1990; see also Rigsby *et al.* 1997), but by now it should be clear that the issue is much more complicated than a simple one of skin colour. Differences between population groups are based much more profoundly in the different cultures.

It has already been pointed out that other elements of culture, specifically the historical and social context of the region under study (section 2.2.2.), could have positive effects on achievement, and this relates to the broad culture of the region. Where any individual learner is concerned, however, there are more particular definitions of culture: the culture of the peer group, the culture of the circle of friends, the culture of the classroom. All these have an effect on attitude and by extension on attitude to learning and achievement.

Under this heading, too, should perhaps be considered the notion of self-concept as explored by Myburgh *et al.* (1999). They see this as being composed of academic self and social self, of which the former turned out to be more important. Since academic self is defined as "students' … conceptions of their academic competence" (*Ibid.*:174; see also Bester & Swanepoel 2000:258), it can be argued that this relates more to expectations and self-assessment as discussed in sections 3.2.9. and 3.2.10. below.

In the matter of the social self, however, it is clear that the background culture would be a major determinant, as already theorized for the particular culture under consideration here (section 2.2.2.).

Concepts of gender are cultural concepts, too (Mokgalabone 1999), and operate in much the same way, but may be considered separately here.

3.2.5 Gender

Gender, although a cultural issue, is a very a particular one (Hay, Ashman, & Van Kraayenoord 1998; Rigsby *et al.* 1997). Almost all cultures distinguish between male and female roles, and between the behaviours expected of each. Where, however, particular behaviours are encouraged or discouraged – not just not expected, but actively eliminated – then it is necessary to know which of them have a bearing on educational achievement. For instance, Holland (1998) speculates on the effect of a stereotype that discourages boys from working hard in school, which is perhaps related to disruptive and inattentive behaviours as found among boys in New Zealand (Fergusson & Horwood 1997), whereas Malan *et al.* (1996:59) identify as a gender disadvantage the fact that "female students refrain from asking questions".

In the UNESCO studies, it was found that:

> *girls tend to do better than boys in the earlier grades, especially in literacy skills. Later on, for any number of socio-economic reasons – decreasing expectations, early marriage and pregnancy, work outside the home taking precedence – girls' performance begins to lag (Chinapah 1997:75).*

All these are also true of South Africa, except that boys, if anything are more subject to dropping out due to employment opportunities and economic pressure, especially in rural areas (Gaganakis 1999:149), which rather contradicts the conclusions of Mokgalabone (1999), that girls are more likely than boys to drop out of secondary education. On the other hand, if

motherhood is going to disqualify a girl from education, then girls can be seriously disadvantaged.

In some ways, girls may be positively advantaged. It should not be forgotten that verbal skills are usually better developed in girls, even though they may not ask questions, and this gives them an advantage in measurements of intelligence (Myburgh *et al.* 1999: 168). Also to be considered is the fact that because parents of educated girls can claim a higher dowry from prospective husbands, they may have a vested interest in keeping their girls in school (Gaganakis 1999:149), but changing curricula can have an even greater effect, as do perceptions of the labour market (Gaganakis 1999:149,151). Girls in particular have to balance the need for self-sufficiency and independence against the need to be responsive to the needs of others, and this can have an effect on academic achievement (Gaganakis 1999:152; similarly Scales *et al.* 2000), though it is not always a negative one (Chetty 1996:182). It has been found (McGrath & Repetti 2000) that girls respond more positively to encouragement from their fathers rather than from their mothers, but that boys received less encouragement from either parent.

One of the more persistent problems affecting the differential performance of learners according to gender can be the perception among parents, teachers and learners themselves that different subjects are suitable for particular genders (Beyer 1999).

Where it is found that teachers treat girls differently to boys, there is no firm conclusion as to the effects of this (Stipek 1988:215). Much of the response of girls in school is in fact governed by their expectations about what they are to do *after* they leave school (Rayman 1997; Sullivan 1997), but this also relates to girls' own perceptions of themselves (Chetty 1996:182).

3.2.6 Parental involvement

The recognition of the effect of parents on the achievements of their schoolgoing children (Chetty 1996:181; DeGarmo, Forgatch & Martinez 1999;

McConkey 1985; McEwan 1998; Marjoribanks 2001; Miliotis, Sesma & Masten 1999; Shaver & Walls 1998; Stright *et al.* 2001; Vondra 1999; Yan 1999; Zangqa 1999) has a long history (Berger 2000:88-9).

Parents are their child's first educators and, as such, are responsible for the child's survival and for providing an environment that facilitates brain development and attachment in their child (Berger 2000:37).

Morrison and Cooney (2002) define five dimensions of parenting:

- Quality of the learning environment
- Parental warmth and responsiveness
- Parental control and discipline strategies
- Parental beliefs about childrearing and qualities necessary in children for success
- Parental organization and traditions.

In addition there are studies to show that the way in which parents structure their children's learning behaviour in the home can have a major influence on the way in which the same children will behave in a classroom (Stright *et al.* 2001).

That having being said, what should be referred to here is not just home environment (dealt with in section 2.5.7.), but the active interaction between parents and their child's teacher, school, and schoolwork (Asakawa & Csikszentmihalyi 1998; Heacox 1991; McConkey 1985; McEwan 1998), also called home-school relations (Bastiani 1989; see also Vondra 1999) which can take different forms according to the specific culture of the parents (Chao 2000). Parents who themselves have a reasonably high level of education tend to be more aware of the importance of this than uneducated parents, and would also be able to be much more realistic in their expectations, an important element of their involvement (Bester & Swanepoel 2000:258), as would also seem to be – according to parents themselves as well as school

psychologists – their ability to provide information on how schools function (Christenson, Hurley, Sheridan & Fernstermarcher 1997).

Indeed there is good evidence to show that parents' involvement in a child's education before that child even starts school can be as important as any other kind of involvement (Madolo 1995:20, Winter & McDonald 1997), and has much to do with a child's level of literacy (Lauren & Allen 1999).

It is worth noting that mothers' involvement may turn out to be more important than fathers' (Bogenschneider 1997). In the study conducted by Myburgh *et al.* (1999:176), it was the mother's level of education rather than the father's that was the more significant, so the occurrence of teenage motherhood is a cause for concern (Barbour, Richardson & Bubenzer 1993), especially if it results in the mother's loss of education.   Furthermore, depending on the context (whether rural or urban, for instance) and other factors such as culture, there may be different types of families. Madolo (1995:20) identifies three different types of the South African family:

• The extended family,

• the nuclear family,

• the single-headed families – that are caused by either divorce, death, employment of one of the parents, and unmarried mothers.

For the more urban environments of the United States of America, Berger (2000:97) distinguishes between two-parent families, father-child families and mother-child families, this third category being further subdivided into divorced, separated and never married. Oddly enough, widowed does not seem to be a category.   It is also conceived that there may be different parenting styles, such as authoritative, authoritarian*, laissez-faire*, and dysfunctional (Berger 2000: 99), each one of which would have its effect on the learning environment of children as well as determining to what extent the parents would involve themselves in their children's education.   Interactions

between different types of parents should also be considered (McCall, Evahn & Kratzer 1992:29; similarly Elder & Russell 1996).

Sometimes it is hard to know the particular role that family may play. For instance, in the study conducted by Van der Westhuizen, Mentz, Mosoge, Nieuwoudt, Steyn, Legotlo, Maaga, & Sebego (1999), family-related issues only accounted for two of the seventy questions, and were not specified in any further detail. Yet, "all groups cite parental involvement as a most important single reason for the high failure rate in the Grade 12 results", although the researchers quoted see this as more probably reflecting the 'blame-it-on-someone-else syndrome', parents not having been one of the responding groups (Van der Westhuizen *et al.*318). See similar results brought to the fore by Malan, Ackerman, Cilliers & Smit (1996:59,61; see also Chetty 1996; Zangqa 1999) should also perhaps be seen in this light. It is even suggested that special training to enable them to participate in their children's education should be provided for parents (Mostert 1998:130). South Africa still has some way to go before it can be argued that parents have the power entirely to change schools (McEwan 1998), but such a thing is implicit in the new drive to involve parents in the education of their children.

When there is parent-teacher interaction, in the form of one-to-one informal contact rather than structured meetings, this can often be as a result of a particular problem teachers are experiencing with a particular learner. The difficulty then is to ensure that such interaction should not have negative consequences arising from parents being cornered into a defensive position (Rosen 1997:31), whereupon they may either punish their children or side with them. Neither response is likely to solve the original problem.

3.2.7 Home environment

The UNESCO report on monitoring learning achievement found that

> importance of the home environment on the learning achievement of children has not been adequately analysed in school survey studies.

Policy-makers, very often, are keen to know only about the importance of school inputs on learning outcomes and neglect the role played by the child's home environment. With the exception of the life skills' domain,… Differences in learning outcomes are strongly associated with differences in the level of the socio-economic status, parental educational and professional backgrounds, family size and family income … In other words, children from better-off families. They outperform children from poorer home environments. It is important to note that children with married parents outperformed children with divorced and/or single parents (Chinapah 1997:91).

These conclusions mostly derive from a study conducted in Mauritius, but recognized the generalizability of the results. Not only must the home environment be emotionally close (DeGarmo, Forgatch & Martinez 1999; Miliotis, Sesma & Masten 1999) as well as sympathetic towards the learning process in an intellectual way (Crooks 1997; Fuligni 1997; Stright *et al.* 2001), but there are physical aspects to be considered as well, such as space for study, time and peace. Intellectual support may be present when the other aspects are absent through sheer economic pressure. Moreover, as has been found in South Africa, there may be considerations of health and nutrition of the children (Madolo 1995:14), although these might have less effect than other family factors and attitudes towards education (Crooks 1997).

Home environment, in its turn, is to some extent determined by the environment in which the home itself exists – such as rural or urban, slum or suburb, each of which will provide different activities and pressures for the learner when not in school, and these can make a great difference (Goldenberg 1996). Both groups of respondents (teachers and learners) to the study conducted by Malan *et al.* (1996:59-61) identified "negative home conditions, including being disturbed by other people, home duties and inadequate physical facilities" as being high on the list of factors which caused problems. As long ago as 1966, the concern was expressed in Europe that

changing family structures there, particularly the changing role of women, would impact negatively on the education of children (Musgrove 1966: 51,55).

Madolo's (1995) study of socio-economic background has relevance here, as it was found that among 195 learners from six different schools in the Eastern Cape

> *the occupation of the parents, the educational level of parents and the frequency of borrowing books from the library correlated positively with the pupil's standard ten June marks* (Madolo 1995:69),

somewhat contradicting the findings of studies conducted in other countries (Bogenschneider 1997; DeGarmo *et al.* 1999; Madolo 1995:23).

The time that parents are able to spend with their children may also be determined by socio-economic status irrespective of (whether or not both of them work; what their working hours are, etc.), so that even where the quality of parental involvement may be high, its volume may be limited. High-income parents can be just as easily affected by this as low-income parents. In New Zealand, however, it was found that working mothers produced higher-performing children (Horwood & Fergusson 1999), reflecting perhaps better income and better-educated mothers.

3.2.8 Foundation

Where secondary level learners are concerned, the idea of foundation refers to an individual's early learning experience, mainly to the type of education provided and the achievements reached in primary school. It should be borne in mind that learning behaviours may be established even before that (Madolo 1995:17; Winter & McDonald 1997). Literacy, particularly the establishment of recreational reading habits, is an important component of foundational learning (Lauren & Allen 1999). It is no great leap to reason that, if early learning has not been successful, then later achievements will be that much more difficult (Barnett 1998; Brossard & Magendie 1994; Stipek 2001). The

importance of establishing at an early stage the motivation to learn, should be kept in mind since this motivation can decline from an early high (Gottfried & Fleming 2001).

Strategies to deal with the foundation problems of primary learning have been embodied in the Headstart programme initiated recently in South Africa by the Ministry of Education, Arts and Culture, and the importance of the principles was reflected in a recent discussion on the merits and otherwise of 'better late than never' which was aired on SAfm with the Director General of Education, Mr Mseleku, being interviewed on the Tim Modise show early in 2002.

In the United States of America similar programmes have been found to be effective (Barnett, Young & Schweinhart 1998; Campbell, Helms, Sparling & Ramey 1998) and have had the greatest impact on children who suffered from the disadvantage of having to learn in a language which was not their mother tongue (Slavin, Madden, Dolan, Wasik, Ross, Smith & Dianda 1998). The role of parents is very important here as well (Morrison & Cooney 2002).

The practice, particularly in primary schools, of allowing learners to advance through grades regardless of their performance in those grades, not unexpectedly has an adverse effect on later learning because earlier learning is incomplete. The effects of this have been quantified by Gamaroff (1999) at Mmabatho High School, where learners coming from DET (Department of Education and Training) primary schools proved to perform at a significantly lower level than those coming from private schools. On the other hand, given that teacher-learner involvement is greater in primary schools (Selaledi 1999), the picture is not entirely one of disadvantage.

Under this heading one should perhaps consider literacy, which is often also a function of home environment, as described in section 3.2.7. above. Madolo (1995) certainly found that use of and access to books and magazines – either at home or in a library – were important determinants of academic achievement. In the absence of all other factors which favour such achievement, if a learner has repeated chances of reading, and makes use of

them, then learning can hardly fail to take place. Motivation is present however well it may be hidden (Turpie & Paradore 1995). On the other hand, the actual teaching of literacy is no easy matter (Roehler 1992).

3.2.9 Expectations

All learners have some kind of expectations concerning their own performance, which can affect that performance (Leondari, Syngollitou & Kioseoglou 1998) and this may or may not relate to parents' expectations (Bester & Swanepoel 2000:258; Madolo 1995:45) or teachers' expectations (Herman & Tucker 2000). The notion of expectations is also directly related to the notions of self-concept or self-attitude (Madolo 1995:27). The realism or otherwise of these expectations can have a profound effect on continuing achievement: if learners expect to perform well and then perform badly, this can have negative results. It may well have a demoralizing effect and bring a halt to further effort, as it contributes to a low level of self-concept (Madolo 1995:27). Equally, if a learner expects to do badly and then performs well, this may stimulate over-confidence and thus also diminish effort.

Teacher expectations may also contribute to self-expectation, and have, as described above, a very important effect on learner motivation (Bester & Swanepoel 2000; Clarke 1997; Stipek 1988: 207).

The research conducted by Chetty (1996) is of importance here, although somewhat limited by the sampling which covered only a single school and therefore was possibly restricted in cultural terms, although this was not specified. It explored learners' perceptions of a number of variables, covering their own ability to improve and the roles of rewards, gender and culture. She concludes, *inter alia,* that

- "those pupils with high self-concepts achieve better academic results"
- Those with "negative perceptions … tend to be more playful"

- Rewards have a greater effect at matriculation/the highest school-leaving level than at lower levels.
- Boys are more inclined than girls to accept their shortcomings and try not to overcome them.

3.2.10 Self-assessment

Related to the general notion of realistic expectations (Bester & Swanepoel 2000; Leondari *et al.* 1998; Packham & Sutherland 2000) is the ability of learners to assess their own performance, not only in advance but retrospectively. This is a question of identifying areas of weakness, in order to remedy them, and is properly seen as a matter of ownership and control over the continuation of learning (Belfiore & Hornyak 1998; Dembo & Eaton 2000; Duffield *et al.* 2000), although the assessment of self can have a parental dimension (McGrath & Repetti 2000). Moreover, the exercise of self-assessment requires some skill in critical thinking (Thoma & Walker 1997).

As Steyn (1999b:349) puts it, the use of self-assessment "is to ensure that students progress beyond the mere completion of assignments to where they commit themselves to internalizing the learning material", this being because "reflection (is) an essential part of learning, professional growth and development" (Steyn 1999b:350).

Self-assessment is seen as serving to ground learners firmly in their own abilities, and avoiding self-delusion:

> *Such knowledge would prevent unrealistic expectations and would support the child in the formulation of realistic goals. It is important to differentiate between goals which are within the child's power and those which are not* (Bester & Swanepoel 2000:258).

3.2.11 Participation

Most professional teachers are by now aware that unless a learner takes an active part in his or her own learning, very little that is learned will be retained, and the authoritarian model of learning has its limitations (Dembo & Eaton 2000; Duffield, Allan, Turner & Morris 2000; G. Steyn 2000:267). The relative level of participation of any one learner may also have an effect on how a teacher perceives, and therefore responds to that learner (Herman & Tucker 2000). Many learners, however, seem as yet unaware of this, possibly as a legacy from parents who passed through a system in which it was believed that a teacher had passed on accumulated knowledge, of which the pupil was a passive receiver.

This may have a direct relationship with the ability of learners to perceive their own responsibilities where learning is concerned. Such responsibilities may require a certain amount of independence of thought. It has indeed been found that an independent learning ability at a higher education level is one of the better predictors of achievement (Fransman 1995).

The participation or otherwise of learners in their own education is also, to some degree, a function of the teacher's classroom management, discussed in section 2.4.2. Not all learner participation is beneficial, as some can be disruptive. McCall *et al.* (1992:30) enumerate some school behaviours of underachievers in which counterproductive kinds of participation are recognized (see also Zangqa 1999:96-7). It is thus clear that the goal of participation must be clear to the learner as well as the teacher, or learning will not result.

3.2.12 Study skills

Given that learners must be active and energetic on their own behalf, it becomes important that they have the necessary skills to be effective. As has been said (Van Aardt & Van Wyk 1996:168) "the use of effective learning

and study strategies is an important factor in determining academic success".
In almost all subjects, skills such as the ability to identify important points, the
ability to summarize and the ability to organize material are important (Malan
et al. 1996:59) as is, even more importantly, the ability to apply critical thinking
(Thoma & Walker 1997). Malan *et al.* (1996:61) also include as important the
use of available resources and planning strategies.

3.2.13 Time management

The assisting of students in managing their time has been found to have a
positive effect on motivation, feeding as it does into self-esteem and positive
expectations:

> [These techniques] *provide students with a great deal of predictive*
> *control, at the same time that they subgoal the larger*, *more ambiguous*
> *task of being a success in school into a series of smaller, manageable*
> *tasks, thereby increasing the students' success experiences and thus*
> *their self-perceived competence* (Spaulding 1992:121-2).

Although the management of time may thus be thought of as one of the more
essential study skills, it is useful to think of it separately, as it may cover
leisure just as much as it does study. How much and what kind of leisure is
incorporated into a timetable can be just as important as the work schedule,
and to some extent time management is another aspect of discipline, and can
be thought of as a question of establishing routines, especially for the
housekeeping-type of activities within a single class period (Edwards 2000:
364-7). The establishment of any routine can have a beneficial effect on time
management as a whole.

3.3 Conclusions

To account for academic success anywhere, it is evident that certain factors
can be core indicators. Some are more measurable than others, and in an
investigation such as this one, it is only sensible to use those that are

measurable. Bearing in mind (as argued in Chapter 4) that the chief respondents in this investigation are to be teachers, not all the factors peculiar to learners are accessible to a study such as this.

As with school and teacher factors discussed in Chapter 2, it will be seen that some of the factors already discussed will be ignored. These factors cannot be measured sufficiently well through the methods and instruments that are to be used for this investigation. Further limitations are discussed in Chapter 4, although the object is to range as widely as possible over the factors in order to find meaningful correlations with the performance levels of learners in the area of study.

The list of the factors discussed above is repeated here, with some consideration as to their measurability for the purposes of this study:

3.3.1 Learner intelligence and/or verbal skills

Unless the school has been conducting IQ or language tests, and figures are available, it may be assumed that the required information will not be accessible for this investigation.

3.3.2 Learners' home language

For the area under investigation here, it is more than likely that all learners are being taught and are responding in a language not their own – in other words, they are second- (or third-) language learners. The main interest in recording their home language would be as an indicator of culture, as an adjunct to 2.6.10.

3.3.3 Learner motivation

The level of motivation of learners, again, would be a subtle measure and not easily described except as a teacher's perception. It is not intended to administer psychological tests to elicit the motivation of learners.

3.3.4 Background culture

The strength of the language-related culture may vary from student to student, and can be assumed to be stronger in a rural area than in an urban one. Traditional culture is more adhered to, the more rural the area, mainly because occupations are more traditional, and there is less influence from outsiders. The notion of 'tribe' must nonetheless be avoided, being a recent and artificial construct (Ranger 1985).

The travel distance from school can, on the basis of such arguments, be taken as an indicator of the strength of background culture as well.

3.3.5 Gender

School records should make available the number of the learners according to their genders.

3.3.6 Parental involvement

The participation of parents in their children's education is in fact required by new laws and the constitution. Important elements of parental participation are the number and quality of encounters between teachers and parents, as also the number and quality of encounters between learners and their parents where schoolwork is concerned. These encounters could fairly be described as interaction.

Measures of interaction could be the frequency with which teachers meet the parents, and teachers' own perceptions of the importance of such interaction. Teachers perceive parental involvement as important if they also perceived that it had had a positive effect on their learners' work.

3.3.7 Home environment

Here the type of family needs to be examined. In rural South Africa, where extended families are common, and children do not necessarily live with their own parents, only the simplest divisions are possible. The presence or absence of a mother is probably the most important, as the literature suggests.

3.3.8 Foundation

In the area covered by the current study it may be assumed that some early learning experiences – such as primary education – are common to all learners, and in any case will be accessible from school records.

3.3.9 Expectations

Learners' expectations are difficult to access in a study such as the current investigation, which aims to generalize and also elicits information from teachers, not learners. It is more convenient to assume that, in broad terms, expectations are those of the peer group. Individual differences, apart from being difficult to measure, would have less effect on the overall picture for which clarity is sought in this investigation.

3.3.10 Self-assessment

As already discussed (section 2.5.10.), self-assessment is difficult to distinguish from expectations. It may be also be assumed that the District Six schools do not commonly ask learners to predict and then retrospectively analyse their results – even though individual teachers might do this. Thus, as a quantifiable measure, self-assessment would be difficult to access.

3.3.11 Participation

Learner participation in the learning process could emerge from the measures applied to classroom management (section 2.6.5.), namely frequency of opportunities for discussion and level of involvement in decisions on discipline.

3.3.12 Study skills

Again, the teacher's perception of learners' study skills may be adequate here for purposes of generalization. The ability to take meaningful notes and to summarize are important skills in this context (Malan *et al.* 1996:59), and are accessible to a teacher, whose task is anyway to inculcate such skills.

3.3.13 Time management

Classroom management by the teacher structures the time of the learners. Thus, a teacher's time management activities can to some extent reflect the time management of learners.

3.4   Chapter Summary

Examination of the literature on research already conducted shows a number of variables to be important in learner academic achievement. These variables fall into four main categories –

- Cultural and historical background
- School factors
- Teacher factors
- Learner factors.

Since the current investigation will limit itself to questionnaires submitted to teachers only, augmented by some research into school records, not all the theorized factors will be accessible, even where they may be quantifiable. It is theorized that many of the learner factors will emerge by implication from information provided by the teachers.

Nonetheless, enough factors should be available for numerical and statistical tests. From these results sufficient information should emerge to provide a convincing explanation for the difference in performance shown by Thohoyandou and Mutale Districts of Limpopo Province, where Grade 12 results were significantly better than in other parts of the province in the years 2002 to 2006.