

CHAPTER 3

INTERNAL AND EXTERNAL FACTORS UNDERLYING THE NEED FOR SUPPORT SERVICES IN SECONDARY SCHOOLS

3.1 INTRODUCTION

Moletsane (1996:10) states that the word determinant has been defined by several people, each person giving it his own meaning. The ideas exposed by some are given below. He states that Webster defined "determinant" as a fact, circumstance or situation that identifies aids diagnoses or determines the nature of something. Malao has defined determinants as a fundamental, semantic and formative. In analysing these definitions, there is close relationship between the characteristics of the education system and its determinants becomes apparent

Steyn (1997:100) states that internal determinants or factors imply the forces and factors in the education system, where one component influences the other positively or negatively. He further states that internal determinants or factors may be educative, historic or interactive in nature. Malao (1985:202) defines internal determinants as those determinants that take their origin within an education system of a particular country. Vos and Barnard (1984:43) state that the education system can be fully understood by and explained with due regard to the particular ground motive that guides and determines individualising effect of cultural and natural factors on an education system.

Education is necessary but not sufficient to move a people out of Third World living conditions. It is necessary to combine economic, social cultural and political with educational institutions to improve the standard of living of people (Poonwassie, 1998:217; Young, 1990:227).

Internal determinants or factors in the provision of education are of utmost importance. Support services can be provided regarding the internal determinants or factors of a particular territory.

External determinants are external forces and factors influencing the generality of the educational system to the uniqueness of its characteristics. The external determinants refer to those outside factors that influence the education system. These factors are primarily concerned with the target group (Steyn, 1997:101 and Steyn *et al.*, 1997:11).

External factors point to the factors that determine the educational needs of the target group. They are therefore concerned with the physical environment and educational needs of the target group, recognising the mutual relationship between the target group and social community. It therefore means that the external factors are concerned with the physical surroundings and educational needs of the learners as members of the target group (Steyn, 1997:101).

The following discussion will focus on internal and external determinants.

3.2 INTERNAL FACTORS

There are different types of internal factors or determinants. Steyn (1997:100) states that there are different internal determinants or factors, namely determinants which are educative in nature, determinants of historic nature and determinants of interactive nature.

The Northern Province Strategic Plan (1996:10-12) also states that there are internal environmental analyses. The internal environmental analyses are infrastructure, learners, educators, curriculum and examinations, schools management, government, stakeholders and financial resources. These correlate with the internal determinants as given.

Determinants of educative, historic and interactive nature as well as the internal environmental structures will be discussed in the following paragraphs, with reference to the situation in the Northern Province where possible.

3.2.1 Internal factors of educative nature

When the focus is placed upon the learners, the character of the determinants or factors is educative in nature (Steyn, 1997:100). In this factor learners are of importance as they are to be provided with support services for effective education. Steyn (1997:100) states that character and contents of the education system are determined by age, sex, culture, individual aptitude, interests and numbers of learners as well as sound education basics. Examples of sound basics are methods of teaching, curricula, evaluation and certification. Education is imparted to the learners so that they acquire certain knowledge, skills and attitude, learning is taken to mean any change in behaviour, knowledge, understanding, skills and/or capabilities (Steyn, 1997:8 and Thompson, 1981:23). The levels of the structure of teaching are also determined by the age of learners. Support services are essential for effective education in all levels of the teaching structures.

In the case of age as internal determinant or factor, Burns (1982:44) states that the types of information which are given less frequently with age are more objective. He further states that as the subject gets older, the learners stress personal attributes, values and attitudes. Burns (1982:44) agrees with Jerslid when he says younger children tend to describe themselves by external characteristics and physical attributes whereas older learners mention inner resources and equality of relationship with others.

The number of learners as a factor of educative nature influences the provision of education. Institutions may be of primary, secondary and tertiary levels. Primary and secondary education are the only levels of education provision where the learner is prepared for his or her role in life (Steyn, 1997:64). The state, when considering the number of its school age population, must consider the number of institutions. The number of institutions must vary according to the number of the learners.

According to Burns (1982:107) gender as an internal determinant of educative nature is the identification with the behaviour that culture identifies masculine or feminine.

Identification is essentially an unconscious process that enables a child to think, feel and behave along similar lines to his or her significant others (Burns, 1982:107).

It is very important for the providers of education (state) to consider the importance of gender- roles. The state must be able to identify how many boys and girls there are in the education system. There should be development programmes to improve and achieve the goal of quality education for all learners. The programmes should aim at facilitating the process of making the system responsive to diversity in education, whether it results from gender or race (Lazarus, 1997:97).

Culture as a determinant of educative nature has influence in the provision of education. As an example Berkhout (1995:140) states that in the Netherlands different ethnic minority languages that were increasing in numbers were given mandate to study their languages as optional subjects.

Methods of teaching, curriculum, evaluation and classification are examples of sound education basics (Steyn, 1997:100). The curriculum is central to the education process, and refers to teaching and learning activities and experiences provided by the schools. Curriculum policy is concerned with the following questions: What should the schools teach, to whom, how and what conditions? Who should make these decisions and on what criteria? (NEPI, 1993:102).

According to NEPI (1993:103) the curriculum should be related with teaching and learning. Curriculum policies should encourage sound teaching and learning. In progression and assessment curriculum policies should help students to progress through the curriculum and assessment or evaluation helps to increase student participation in schooling and facilitate student learning (NEPI, 1993:103). Educators should have the capacity to adapt the curriculum to facilitate learning among learners to prevent learning breakdown (Lazarus, 1997:vii).

In any education system, there should be mechanisms that can enable the development and ensure that the system and the curriculum are transformed to address the needs of all learners. This requires provision of additional support services to learners (Lazarus, 1997:2).

3.2.2 Internal factors of historic nature

When the existing content or condition of education system components stimulates or restricts the provision for educational needs of target group, the internal determinants obtain historic nature (Steyn, 1997:100). Steyn (1997:100-1) further states that the existing education facilities or qualifications of the educators can limit the introduction of new subject or course, whereas sufficient provision of educational facilities and a high level of educators' competencies stimulate the introduction of new subjects, courses and programmes.

According to Gaunt (1995:117) continuing professional development largely means courses leading to qualifications together with the provision for shorter specific period of

training. Education facilities should be upgraded for the smooth running of education. Educators should also undergo professional development through in-service training, and going to universities. The state should make provision for financial resources for educators who would like to undergo professional development.

If educators are highly qualified, there is a possibility of introducing new subjects or courses in the education system. If educators are underqualified, it is a mammoth task to introduce new courses or subjects as the new courses will be a serious challenge to them. This failure of upgrading qualifications contributes towards low schooling or educational development of the target group. The lack of educational facilities such as classrooms or accommodation for learners, education media, examination service and educational media services and libraries hinder the progress of effective education (Steyn, 1997:70 and Steyn, *et al.* 1997:102).

According to Morphet *et al.* (1974:430) development is defined as provisions made by the school system for improving the performance of school personnel from initial employment to retirement. It is very important for any education system to improve its personnel to improve the quality of learning and education as a whole. Morphet *et al.* (1974:430) further state that personnel development is aimed at satisfying two kinds of expectations:

- The contribution required for the individual by the school system.
- The material and emotional rewards anticipated by the individual staff members as performance residuals.

Morphet *et al.* (1974:430) state that, of emerging concepts and practices relating to staff development in education system, the following are noteworthy:

- Performance appraisal is basic to the initiation of plans for improving individual performance.
- Development programmes in the future will be focused upon goals. The prime concerns of the programmes include the following questions:
 - What behaviour do we want to change?
 - What types of newer training technologies shall be employed (computers, closed circuit TV, programmed text materials and video cassettes?).

The professional development of experienced educators is of greater importance to school improvement than ever before. Increasingly, educators see vital connections between school reform and teacher learning, necessitating the establishment of new patterns of educator education, both at pre- and in-service (Hobbs *et al.*, 1998:47).

Hobbs *et al.* (1998:49) further state that in-service acts as a springboard for educators to design and seek support the school-within-a school charter school concept, where educators develop an integrated science and humanities curriculum involving a cohort of mixed-ability students.

Staff development as a concept differs from educator training or educator education in

extending to all categories of staff, managers as well as educators, experienced staff as well as new entrants. The needs for staff development are:

- Knowledge and skills both technical, specific to the task to be performed, and conceptual, necessary for understanding of role and purpose.
- Personal characteristics necessary for the effective application of this knowledge and skill, that is morale, motivation, commitment, credibility, etc.
- Opportunity both to acquire new knowledge and skill and to utilise it in the field, a process through which desirable personal characteristics may also be enhanced (Thompson, 1990:221).

Educators recognise that the skills they have developed in the past are no longer sufficient to meet their learners' diverse needs. They see a need for change and seek opportunities to develop their knowledge and repertoire of effective instructional practices. Educators often seek out development opportunities on their own and attempt to apply new knowledge and teaching strategies without the help of others (Swafford, 1998:54).

3.2.3 Internal factors of interactive nature

According to Steyn (1997:101) internal factors or determinants have a character of interaction when the character or content of one component stimulates or limits the character or content of another component. When the fixing of the school times (structure of teaching) should coincide with the possibility of the use of school bus (support services), or the distribution of the education institutions (structure of teaching) necessitates the decentralisation of distribution of offices (education system administration) for educative material (Steyn, 1997:101).

Steyn *et al.* (1997:11) state that internal factors of interactive nature refer to the influence that different components and elements have on each other.

Certain characters may influence or limit provision of education. The start of the school day may be influenced by the arrival of transport of the learners. Afternoon studies can be done if there is transport that will come and fetch children and transport them to their respective homes.

Infrastructure

Poor people, especially those in rural communities continue to attend decrepit schools, too often without libraries, workshops or laboratories (Asmal, 1999:4).

According to Asmal (1999:8) the three largest provinces have the gravest difficulties. They are also the poorest provinces, with largest backlogs of school buildings and services and poor communications infrastructure in rural areas.

The Northern Province faces a severe problem of overcrowding in schools and

inadequate facilities in terms of basic services such as water, sanitation, electricity and telephone and additional facilities such as libraries, recreation facilities, and laboratories (Northern Province Strategic Plan, 1996:10).

According to Gursky (1998:16) research shows that small classes are great because:

- The benefits boil down to better discipline.
- More individual attention for students.
- Opportunities for educators to use more varied types of instruction that engage learners.
- Educators complete a year's required curriculum in time, and there is time to move on to more advanced material or topics in more depth.
- Educators understand better their learners' strengths and weaknesses.

Students

A school's ability to add value to student learning depends on many factors such as the characteristics of its students. For example, on the one hand, because students from a better socio-economic background have access to supplemental resources and materials to support their educational progress, schools with a large share of these students might achieve better results, other conditions being the same. On the other hand students from poorer families may be better motivated to perform well in school (Lassibile *et al.*, 2000:12).

According to the Northern Province Strategic Plan (1996:11) there is high proportion of overage pupils due to the repetition of academic years resulting from pass rates. The lack of discipline among the student population is a problem that is visible. Lack of discipline is reflected in lateness, absenteeism, misconduct, drug and alcohol abuse, pregnancies, the lack of respect for authority and protests. A culture of learning can never take place in a school where there is zero discipline.

Educators

Educators at all levels may suffer a subtle and insidious form of demoralisation if they are not professionally equipped or resourced to cope with the new demands that are being made of them, whether arising racial integration, or new curricula and pedagogy (Asmal, 1999:5).

The oversupply and poor quality of educators, and high pupil/educator ratios have already been observed. Teaching methods are weak, with too little written work, non-participatory approaches, a lack of preparation and failure to complete the curriculum. Educators are not supervised and discipline is a problem in terms of punctuality, absenteeism, drug and alcohol abuse, the relations with female learners, attending to private studies, dress and unprofessional conduct. As with students, motivation is poor and culture of teaching does not exist (Northern Province Strategic Plan, 1996:11). This brings about poor education to the learners.

Curriculum and examinations

In any education system, there should be mechanism that can enable the development and ensure that the system and the curriculum are transformed to address the needs of all learners. The curriculum is central to the education process, and refers to teaching and learning activities and experiences provided by the schools (NEPI, 1993:102).

According to the Northern Province Strategic Plan (1996:11) the curriculum in the schools is regarded as irrelevant as it does not impart life skills. Learners receive inadequate guidance on subject choice and career paths. There are no regular and standardised tests (Northern Province Strategic Plan, 1996:11).

Schools management

Asmal (1999:9) states that the school principal, who represents the provincial department of education and is head of the school management team, has the crucial role of professional and administrative leadership, and is responsible for the standard of learning and teaching in the school. The principal needs to forge a working partnership with the governing body, so that they will jointly serve the vision and mission of the school in the community. Both parties require guidance in exercising their respective roles. It is therefore important that the school leadership team, headed by the principal, and the governing body in each public school, is given the opportunity to create the sense of common purpose and mutual support.

Relationships, communication and co-ordination between schools and parents staff, learners and the community are weak. Principals have insufficient management training to undertake their roles (Northern Province Strategic Plan, 1996:11).

3.3 SYNTHESIS

Internal factors play a role in the provision of education. The internal factors discussed above are:

- Educative nature that place focus on learners;
- Historic nature where the existing content or condition of the components of the education system stimulates or restricts the provision for the educational needs ; and
- Internal factors of interactive nature.

The Northern Province Strategic Plan has its own internal factors that were discussed above. The internal factors are:

- Infrastructure, this is the way in which buildings should be;
- Learners, what is the age of the learners and how disciplined are they;
- Educators, how committed they are;
- Curriculum and examinations; and

-School management.

3.4 EXTERNAL FACTORS

According to Steyn (1997:102-109) and Steyn *et al.* (1997:11-12) there are different types of external factors. External factors together with an external analysis of the Northern Province Strategic Plan will be discussed below:

3.4.1 Demography

Demography refers to the influence of the number, settlement and movement of the target group on the education system (Steyn, 1997:102 ; Steyn *et al.*, 1997:11; Stone, 1981:65, Barnard, 1991:503 and Steyn *et al.*, 2000:15). Van Schalkwyk(1995:34) defines demography as the circumstances of a country or region including aspects such as numbers, distribution and demographic change. De Lange (1981:20) states that the demand of education in a country should in the first place be judged in the light of demographic data, like knowledge of fertility, mortality, immigration, emigration and the internal mobility of the population.

The numbers referred above refer to the number of learners, with regard to age, gender and learners with special education needs, in the target group who should be accommodated in the educational system (Steyn, 1997:102).

Murray (1993:184) defines demography as the branch of anthropology that deals with the life conditions of communities of people as shown by statistics of birth, deaths and diseases.

Pressat (1972:1) defines demography as the discipline that seeks a statistical description of human populations with respect to the structure, the number of people at a given date and demographic events such as births, deaths and termination of service.

According to Northern Province Strategic Plan (1996:9) the demand for education services from youth of the province will grow, therefore they should start to plan for the future. The province has a relatively youthful population and a high population growth rate; consequently, the children outnumber the adults.

The following discussion will be focused on numbers, settlement and movement of the target group.

According to Steyn (1997:102) the numbers can for example have an effect on the following elements:

- Institutions: The number of learners influences the number of institutions that must be provided at the different educational levels (Steyn, 1997:102). The high number of population will influence the high number of institutions. If the number of

institutions is low, it will influence high pupil/educator ratio.

- Curricula and differentiation: Numbers requiring special education could for example determine the viability for specific programmes for these learners (Steyn, 1997:102). Steyn (1997:66) also states that the existing and familiar subjects of general- formative education can be used for the acquisition of the required competencies.

Curricula represent the different education courses or education programmes by means of which the educational needs of the target group are provided for (Steyn, 1997:54). According to Steyn (1997: 55) the following differentiation possibilities must be provided as follows:

-Individual differentiation: Every individual should be given opportunity to develop according to his or her own cognitive and physical abilities, as well as his or her own individual potential and interest in his or her chosen career (Steyn,1997:55).

-Cultural differentiation: Education should consider cultural differences. Education should also consider the differences of languages of the target group (Steyn, 1997:55).

Vash (as quoted by Guth and Murphy (1998:115)) states that words have the power to shape images of the referenced objects and their choice is important in building or breaking down stereotypes. Craig (as quoted by Guth *et al.* (1998:115)) supported what Vash said by saying that the language is the essence of culture and has the power to shape ideas and change perspectives. The language that the people use is thought by some to shape attitudes positively or negatively.

-Life-view differentiation: The structure of education should also consider the different philosophies of life as education is determined by one's view of life (Steyn, 1997:55).

Steyn (1997:55) further states that the differentiation possibilities should consider cognisance of the educational needs of the target group. The needs of the country should largely influence the choice possibilities of the learners. In the South African education system possibilities for differentiation are realised in four ways:

-Types of schools: Provision is made for technical schools, agricultural science schools, schools for special education, schools for the deaf and the blind (Steyn,1997:55).

-Course of study: Learners are given a chance to choose general courses, technical courses, natural science courses and commercial courses (Steyn, 1997:55).

-Subjects: With the prescribed courses learners can choose to do different subjects such as mathematics, history, geography etc. (Steyn, 1997:55).

-Levels: Learners are given opportunity to take subjects in standard or higher grade (Steyn, 1997:55).

Steyn (1997:67) states that the existing familiar subjects of general-formative education

can be used for the acquisition of the required competencies such as communicative competencies, numerical competencies, social competencies, economical-financial competencies, technological competencies, physical competencies, competencies in leisure time, nature conservation and philosophical competencies.

Learners: The number of learners can co-determine the learner-educator ratio and the class sizes (Steyn, 1997:102). Effective education takes place in a classroom where there is an adequate number of learners. Gursky (1998:16) states that small classes are so effective because the benefits boil down to better discipline and more individual attention for students.

According to the Northern Province Strategic Plan (1996:6), of all primary and secondary schools, pupil/educator ratio is more than 70:1.

Educators: The number of learners can co-determine the number of educators required to provide education (Steyn, 1997:102). In South Africa it is said that there is an oversupply of educators. Weideman (1999:5) states that there will be a major educator supply crisis in South Africa. He further states that an oversupply of educators is a myth as in 1998 there was a shortage of about 600 secondary educators, almost double the figure in the 1995 National Teacher Education Audit. By the year 2000 the shortage may be substantially higher than the 4 064 forecasted, and by 2003, the country will face a crisis (Weideman, 1999:5).

The findings by Weideman are correct, as the population is growing everyday. The number of educators has been reduced through voluntary severance packages, the government's financially-driven trimming of the educator core, a decision to retrain an estimated 100 200 underqualified educators, rather than recruiting new entrants, a growing HIV/AIDS crisis in the educator population and "natural attrition" as educators die, retire or leave the profession (Weideman, 1999:5).

To reduce the number of educators in the Northern Province, Nenngwekhulu (1999:4) says that the department does not have instrument to dismiss educators but says educators will be encouraged to apply for voluntary severance package. According to Nenngwekhulu the Northern Province plans to reduce the salary bill from 95% to 80%.

In countries like England and Wales the government presented the Teacher Training Agency (TTA) with the daunting task of increasing the number of secondary school educators by 50% by 2001. Such an increase is needed to compensate for the rising number of pupils and an increasing retirement rate among an aging profession (Finlayson *et al.*, 1998:45).

Physical facilities: The number of learners co-determines the amount of facilities that should be provided (Steyn, 1997:102). It is necessary for any institution to have physical facilities that will cater for all the learners in that particular institution. There should be playing grounds for all sporting codes that will make it possible for all learners to participate in sporting codes offered at school.

Facilities such as libraries and laboratories are very important for the provision of effective and adequate education.

Demography also refers to settlement. The settlement of the target group refers to the places where the learners reside, for example, in an informal settlement, rural and/or urban areas (Steyn, 1997:103).

According to Steyn (1997:103) the type of settlement will co-determine the places where the institutions and physical facilities will be provided, where the number of educators will be concentrated and where the support services should be provided. The settlement plays a role in education administration, whether it should be centralised or decentralised.

Demography also refers to the movement of the target group. This refers to migration patterns in the target group such as urbanisation in most developing countries. The migration patterns co-determine the number of institutions, learners, educators and physical facilities, and the characteristics of support services and educational system administration (Steyn, 1997:104).

3.4.2 Geographical and climatic factors

According to Steyn (1997:103) and Steyn *et al.*(1997:12) geography refers to the manner in which the educational system is determined by the geographical characteristics of the country where the target group is situated. Climatic conditions can influence the educational system, regarding school calendar of holidays or school times.

Climatic factors influence the holidays. In the Northern Hemisphere long school holidays take place during June/July, whereas in the Southern Hemisphere long school holidays take place during November/December (Steyn, 1997:103).

3.4.3 The physical and psychological characteristics of the target group.

According to Steyn (1997:103) the physical and psychological characteristics refer to the presence of physical or psychological abnormalities in the target group. The example which Steyn (1997:103) gives is that of target group which includes blind or deaf persons or persons with serious learning deficiencies. Special educational programmes should be provided for these learners.

For the learners with physical or psychological problems, educators should be of good quality and sincere. The educators should behave like what Chernay and Kaplan (1994:63) state when they say that what binds educators together is the common belief that people are more important than things, and that next to being a parent, the educator is a most effective role model, standing for what is good about society. Learners who have physical or psychological abnormalities need educators who take learners as people.

Saleh (as quoted by Engelbrecht *et al.* (1997:81)) states that an increasing number of countries are embracing the principle of inclusive schooling for learners with special

educational needs and are acknowledging the fact that the ordinary school should be the first option for every child.

A major problem identified in the implementation of inclusive education is the role of support services (Engelbrecht *et al.*, 1997:82).

It is said that educators who successfully teach learners without disabilities have the skills to successfully teach learners with disabilities. Learners with disabilities are increasingly being placed in general education classrooms (Giangreco, 1996:56).

In terms of Section 9(3) of South African Constitution it is stated that no person or state shall discriminate against disability. That is why learners with physical disabilities are to be integrated into normal schooling to avoid a violation of the constitution.

In the USA, Giangreco (1996:56) states that for the past seven years he has been consulting with educators, administrators, support personnel, and families who are grappling with concerns of educating learners with disabilities and normal learners in the same schools.

Giangreco (1996:56) states that when learners with disabilities come to a classroom, the educator must talk with them, walk with them, encourage them and joke with them. By the educator's actions, it shows that all the children with disabilities are important in the class and extension of the society. Giangreco (1996:56) further states that the educator should function as a host rather than an educator.

Stainback and Stainback (as quoted by Giangreco (1996:57)) state that how, where, when and with whom learners spend their time is a major determinant of their affiliation and status in the classrooms. To ensure that learners with disabilities are part of what's happening in class, they should seat with their classmates, and at the same kind of desk, not on the fringe of class. It should be made sure that students participate in the same activities as the rest of the class, even though his or her goals may be different.

3.4.4 Science and technology.

According to Steyn (1997:103) science and technology refer to different sciences and to the level of technology used by the target group. Science and technology are important for the country's development. Involvement in science and technology in South Africa varies from good to very poor.

According to Oliveira (1990:231) technology is a difficult term or concept to define. In the industry it has a number of different meanings, including cost reduction, efficiency and innovation. In education the term is usually associated with education media, an area with a doubtful reputation and mixed research results. The idea of technology in education usually evokes emotional reactions from its defenders or its foes.

Oliveira (1990:230) further states that a broader definition of technology is any systematically designed materials or devices to support, supplement or substitute the

educator. It refers to the content or substance, rather than medium that carries the instruction.

Technology improves the quality of education through the following options:

- Technologies to improve the quality of classroom instruction.
- Technologies to improve access through distance learning.
- Technologies to improve the efficiency and flexibility of vocational technical education (Oliveira, 1990:232).

Weideman (1999:5) warns that the shortage of educators in schools will affect subjects such as mathematics, physical sciences and technology. This will affect the introduction of the Outcomes-Based Curriculum 2005, the further education and the future training of educators.

Weideman (1999:5) further states that a programme in the Northern Province to produce mathematics and science educators, hoped to attract 100 candidates. But in 1998 it had only 40 first year students and in 1999 only 10 students. It is further stated that a survey conducted in KwaZulu-Natal in 1997 found that 80% of maths and science educator graduates taught English and history.

South Africa with its diverse population has a problem of improving mathematics, science, and technology. Most of the schools in rural areas do not have infrastructure like laboratories. If there are laboratories, there is no equipment. Lack of the necessary facilities will affect the development and upgrading of the rural areas.

The Northern Province Strategic Plan (1996:15) indicates that the upgrading of mathematics, science and technology has also been introduced. The Northern Province Strategic Plan (1996:28) has the following strategies to improve mathematics, science and technology. Strategies to achieve the objectives are the following: ...

- Developing a clear policy on improving mathematics and science education in the province.
- Increasing the number and effectiveness of department personnel devoted to mathematics and science education.
- Establishing a coordinating structure that will bring together representatives from the various committees presently dealing with aspects of mathematics and science including stakeholders. This will foster a working relationship between universities, colleges of education and schools to all work toward a common objective and program.
- Continuing and expanding the mathematics and science educator development programmes, both inset and preset, to improve educator's effectiveness in teaching these subjects.

- Designing a mathematics and science curriculum plan for basic education that will include alternative methods of teaching mathematics and science aimed at improving the quality of education in these subjects, as well as developing a technology as design strand in the science curriculum.
- Designing Mathematics and Science Equipment Resource Center that will provide the sites for intensive professional development and relevant scientific research by educators using up-to-date equipment at present not available in schools, including appropriate computer technology.
- Designing a plan for strengthening school leadership, for modeling a mentoring structure that provides for on-going professional development, and using the schools to market the importance of mathematics and science education in the community and to educate and encourage parental and private sector involvement.

Science and technology will primarily be a co-determinant of the element curriculum and differentiation because the subjects and their content and opportunities for differentiation should provide learners with knowledge, skills and attitudes to use and improve these sciences and technology in the community (Steyn, 1997:104).

3.4.5 Language

Vos *et al.* (1984:49) state that an education system functions in the lingual aspect of reality and is partly determined by it. Steyn (1997:104) states further that language as a factor refers to the language used in the target group, and the development, status and recognition of the mother tongue in the community.

The mother tongue is the language in which the child learned to speak, and which it the child identifies with, and accepts its contents unquestioningly. Therefore it is the means whereby the child can express his feelings, intentions, thoughts and aspirations, most spontaneously, and whereby he can interpret most accurately what others attempt to communicate to him (Kruger *et al.*, 1983:75).

For a favorable development of the personality and to attain a positive self-image, it is necessary to pay attention in education to the home language. This is necessary in order to give children a sense of security and well being. For many ethnic minority groups the home language forms one of the key values for their perception of identity. Insufficient attention to the self-image during childhood can give rise to psychological problems in later life (Driessen, 1996:320).

Driessen (1996:321) states further that command of the home language takes up a key position when it comes to following the developments in the country of origin and gaining access to the cultural heritage of the country of origin.

Ovando (1989:208) states that language as a system of communication links sound, written or visual symbols, and meaning in an indispensable bridge for accessing

knowledge, skills, values, and attitudes within and across cultures. He also states that language has tremendous power as the paramount instrument of the cognitive development, and it can open or close the door to academic achievement.

According to Ovando (1989:209) language is much more than a set of words and grammar rules. Through language, people share and exchange their values, attitudes, skills and aspirations as bearers of culture and as makers of future culture. Languages grow and develop as tools of communication within a given environment.

Language also refers to the official languages of a particular country. It is a known fact that it is very difficult to express thought in any real sense without an underlying value system that is understood by both the sender and the receiver in a communication whether both, one or neither speaks the language as mother tongue, regardless of how scientific the language may be (Steyn, 1997:104).

Vash as quoted by Guth *et al.* (1998:115) states that words have the power to shape images of referenced objects and their choice is important in building or breaking down stereotypes. Craig supported Vash in, Guth *et al.* (1998:115) by saying that the language is the essence of culture and has the power to shape ideas and change perspectives.

The language that people use is thought by some as to shape attitudes positively or negatively. In countries where they use single-language it is much easier to provide mother tongue education than in multi-lingual education (Steyn, 1997:104).

In South Africa many languages are spoken and represent the different cultural groups throughout the country (Steyn *et al.*, 1997:18). South Africa has got 11 official languages, viz: English, Afrikaans, isiZulu, Sepedi, Sesotho, siSwati, Xitsonga, Setswana, isiXhosa, Tshivenda and isiNdebele.

The Northern Province population consists of Vendas, Pedi-, Tsonga-, Afrikaans- and English-speaking people. The most common medium of instruction in the primary grades is Northern Sotho (about 36% of all pupils), English (about 36%), followed by Tsonga (about 15%), Venda (about 9%), other languages and Afrikaans. In general, schools switch to English as the medium of instruction for secondary pupils (Northern Province Strategic Plan, 1996:9). English is taken as a common language to accommodate people of different cultural backgrounds and their languages. That is why learners are taught in English at secondary level.

Mother-tongue instruction is didactically expedient and pedagogically accountable because cognisance is taken of the origin, national character, identity, and the life and world-view of a people (language is the symbolic expression of everything which exists within the nation) (Vos *et al.*, 1984:49). Vos *et al.* (1984:50) further state that the linguistic aspect of the education system is also manifested in language laboratories and speech therapy services. Even the symbols represented in schools, represented in the school bags and crests, the school songs, etc. are expressions of the linguistic aspect.

3.4.6 Socio-economic situation of the target group

The term socio-economic refers to the composition and social development of the target group. The composition refers to the presence of different interest groups such as the state, the parents, commerce and industry, churches, political parties, sports bodies and societies for leisure activities (Steyn, 1997:105).

Mashile and Mellet (1996:223) indicate that previous research has shown the importance of social factors in the development of a child. Family variables, friends, schools, media and gender are some of the factors to have an influence on children's attitude towards school.

According to Steyn (1997:105) all societal groupings have a definite interest in the educational provision because these groupings want their members present or future to be equipped with required knowledge, skills and attitudes.

The cost of education is determined by the costs associated with various inputs such as educators, pupils, instructional material equipment and infrastructure. The true cost of education is the sum of public expenditure plus private, that is non-governmental organisations and other contributions that come from parents as well as foreign aids. A useful method to examine costs is to divide them into institutional and households costs. Direct households are school fees and uniforms, and indirect households costs are opportunity costs of money and the earning potential of the child. Institutional costs are divided into capital and recurrent costs. Capital costs are school buildings, furniture, land and equipment. Recurrent costs can be salaries of educators, administrators, etc. that perform particular functions in the education process (Northern Province Strategic Plan, 1996:67).

Education finance can be grouped into functional areas, maintenance and construction. Maintenance refers to continued delivery of education, while construction refers to the delivery of physical resources as well as new programmes (Northern Province Strategic Plan, 1996:68).

Steyn (1997:105) states that the educational needs of the target group determine the interest groups present in the target group. If the community is modernised, there can be more interest groups that have interest in the provision of education. In the South African community the groups which have an interest in education are the state, churches, the family, commerce and industry, the various political parties, sports organizations etc.

The Northern Province Strategic Plan (1996:10) states that the per capita income of the Northern Province is the lowest of all provinces, and differences between the white and black incomes are great. More than $\frac{3}{4}$ of the population of the province are poor, and that consequently, unemployment levels and dependency ratios are very high. It is therefore difficult to provide education in such an impoverished environment, and stimulation of local economic activity is needed. The availability of expertise in the province is limited and further constrained by the so called "brain drain".

The level of modernised educational facilities and the availability of quality educators or

educators are often determined by the availability of the necessary funds (Steyn, 1997:106).

The economic impact has social and political implications for it is the growth of social divisions within and between societies, exacerbated by the arguments that educational reforms should be motivated by efficiency, response to market, choice that has led to growth of elite schools (Watson, 1998:18). Watson (1998:18) agrees with Bray who identified a growing tendency for the state to allow, or even encourage, private sector involvement in education.

3.4.7 Political and institutional situation

In this regard politics refer to the views of people or groups of people as to the way in which the society should be composed and arranged to ensure a sound and safe community. The dominant political view in a country influences education system. It is also expected that view of the dominant political party will introduce curriculum and differentiation, it will reflect the composition, behaviour and activities of the educators (Steyn, 1997:107). Political ideas and points of view influence the structure of the education system (Steyn *et al.*, 1997:12).

Thomas (as quoted by Mashile *et al.* (1996:224)) states that the governments use education as an instrument to prepare youths to support their system of political control. On the other hand, political parties or groups seeking to acquire power also use education as a tool for resistance. The resulting conflict manifests itself as political violence in and around schools. Such conflicts are sometimes caused by low socio-economic status of parents and social factors which impact negatively on students towards education (Mashile *et al.*, 1996:224)

In South Africa there is a willingness to change within both the material and provincial governments and electorate. The Northern Province is fortunate because the governing party at the national and the provincial level is the same (Northern Province Strategic Plan, 1996:9).

3.4.8 Philosophy of life or religion

According to Steyn (1997:108) and Steyn *et al.* (2000:18) the concept of “philosophy of life” refers to perceptions of God/god, mankind and the creation of different groups present in the target group of a particular education system.

Different philosophies of life exist in the South African community. The most important religions are Christianity, Islam, Hinduism, Judaism, and the African religions based on the Christian, liberalism, Neo-Marxist and ubuntu philosophies of life. The dominant views of life and philosophies present in the target group influence the education system. Philosophy is a very strong determinant of education system (Steyn *et al.* 1997:11 and 20).

The influence of the dominant philosophies, for example, has led to the difference between the educational aims of Britain and China (Steyn, 1997:108).

Almost 80% of the total population professes the Christian faith but millions of people still observe the traditional African or tribal religions. A minority professes not to be religious at all (Steyn, 2000:75).

In South Africa, and the Northern Province included the dominant religion is Christianity.

3.4.9 Culture

In the context of an education system, culture should be defined in the broad sense. Difference can be made between individual, group, and universal cultures. Group culture can be defined as the distinctive ideals, aims, activities, interests, and behaviour patterns of a particular group under the guidance of a particular view of life of that particular group (Steyn *et al.*, 1997:20 and Steyn, 1997:109).

Grant (1997:16) states that anthropologically, a culture embraces anything characteristic of the way of life of a particular group. Culture is how people do things, what things people do and how people think about themselves. Culture can also include language, religion, folklore and myths, beliefs, values, rituals and observances, family and kinship structures, history, political structures and conventions, etiquette and patterns of interpersonal behaviour, sexual norms and practices and attitudes to them, diet and food preparation, dress, economic activity and leisure.

Steyn (1997:109) defines culture as the work and the product of work of man or the community. He further explains that culture can be distinguished between:

- Individual culture: the culture of individual.
- Group culture: the typifying culture of a particular group.
- Universal culture: the collective culture of all individuals and groups across the centuries.

Banks and Banks (1989:39) define culture as the core of social group's cultural program consists of knowledge and conceptions that are public, in the sense of being shared by most members of the social group.

According to Steyn (1997:110) the culture of a target group determines the educational needs of the target group. The education system aims are determined by the educational needs, which indicates that the content of the education system policy is determined by the culture of the target group.

It is clear from the previous discussion that educational needs and education system are determined by different aspects of the culture of that particular target group (Steyn, 1997:111).

Van der Walt and De Klerk (as quoted by Steyn (1997:111)) state that there are nine cultural modalities of Dooyewerdt that can be applied to distinguish different aspects of culture. The modalities are as follows:

- The logical-analytical modality: includes science and technology. This modality influences the structure for teaching.
- The culturo-historical modality: refers to the national spirit, community ethos, history, tradition etc. This modality influences the structure for learning.
- The lingual modality: refers to the language of the culture and influences the structure for teaching.
- The social modality: refers to the social structures and specific customs of culture, and influence education system administration.
- The economic modality: refers to the economy and economic systems, the commercial trade and the industry. This modality influences the structure for teaching.
- The aesthetic modality: refers to all forms and types of art and sport, and influences support services.
- The juridical modality: includes the law, the juridical structures, legislative bodies, forms and precautions and all political bodies and systems. This influences education system administration.
- The ethical modality: refers to the different support organizations for education and the ethical customs as part of culture. This modality influences the education system policy.
- The religious modality: refers to the religion and religious customs of a specific culture that influence structure for teaching.

These nine cultural modalities can be used to identify or classify different aspects of the culture of the target group that influence the educational needs to which the education system must answer. The culture of the target group can not function in isolation, but is also influenced by other cultures (Steyn, 1997:112).

3.5 SYNTHESIS

From the discussion above it can be concluded that the provision of education to the target group is determined by external factors.

External factors that can influence the provision of education are the following:

- Demography: deals with the numbers, settlement and movement of the target group;
- Geographical and climatic factors: geography refers to the manner in which the educational system is determined by the geographical characteristics of the country where the target group is situated. Climatic factors influence the holiday;
- The physical and psychological characteristics of the target group: refer to the presence of physical or psychological abnormalities in the target group;
- Science and technology: refer to different sciences and to the level of technology used by the target group;
- Language: refers to the language used in the target group, and the development, status and recognition of the mother tongue in the community;
- Socio-economic situation of the target group: refers to the composition and social development of the target group;
- Political and institutional situation: refers to views of people or groups of people as to the way in which the society should be composed and arranged to ensure a sound and safe community;
- Philosophy of life and religion: refers to perceptions of God/god, mankind and the creation of different groups present in the target group of a particular education system; and
- Culture: refers to how people do things, what they do and how people think about themselves.

3.6 CONCLUSION

This chapter discussed the different determinants which determine the provision of education. The territory can provide education to its target group after due consideration of the internal and external determinants.