GUIDELINES FOR EDUCATORS TO SUPPORT LEARNERS WITH EPILEPSY IN THE INCLUSIVE CLASSROOM

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DECLARATION

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I declare that "GUIDELINES FOR EDUCATORS TO SUPPORT LEARNERS WITH EPILEPSY IN THE INCLUSIVE CLASSROOM" is my own work and that all sources that I have used or quoted have been indicated and acknowledged by means of complete references.

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Masekete Mtshali   **Date**

**DEDICATED TO MY CHILDREN SIBONGILE
AND MBONGENI**

ACKNOWLEDGEMENTS

ABSTRACT

Inclusive education is one of the major changes in education, which has occurred since the implementation of Education White Paper 6 Special Needs Education; Building an inclusive education and training system. This inevitable change has resulted in many challenges for both educators and educational institutions.

According to this policy, educators are expected to cater for all diverse needs of learners in the classroom including learners with epilepsy. Research indicates that educators find it difficult to cope with the demands of these learners and often experience frustration and failure. Educators have received little or no training to provide meaningful support for these learners. Despite policy changes the needs of learners with epilepsy are not met in the classroom.

In this research the support programme is developed to provide practical and comprehensive guidelines to assist educators to support learners with epilepsy.

KEY TERMS

Inclusive education, learners with epilepsy, diversity, support guidelines, mainstream educators, demands of the primary school, qualitative research.

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CHAPTER ONE

INTRODUCTION, ORIENTATION AND STATEMENT OF THE PROBLEM

1.1   INTRODUCTION

In the past learners with special educational needs, including learners with epilepsy have been denied appropriate education services in the mainstream schools (Ashman & Elkins 1994:23). This population of learners would be placed in a special schools or special class, where an educator would follow a special curriculum with them (Babane 2002:1-2). Many times this population of learners would find themselves in special class for the rest of their school career.

A change in educational policies brought also changes with regard to this population of learners. The policy of inclusion has been adopted in South Africa and it has to be implemented (Kokot 1997:19). Inclusion policy supports the basic right to be educated in the mainstream classroom, irrespective of social class, disability or ability, ethnicity or gender. Michael (1995:31) states that inclusion policy implies that learners with special educational needs should be educated full time in mainstream classroom. Inclusion involves bringing the support services to the learner rather than moving the learner to the services. This means that the education system should be restructured in such a way that it accommodates all learners irrespective of their diverse needs (Department of Education White Paper 6 2001:6).

Therefore it is important for the educator to be encouraged to cater for the diverse needs of learners including learners with epilepsy in the mainstream classroom. However, the needs of learners with epilepsy cannot realistically be met by educators only, but require the understanding, commitment and cooperation of all people involved with the learner, including parents and medical practitioners (Babane 2002:73).

A system of open communication and collaboration among parents, educators and medical practitioners is a prerequisite for supporting the learner with epilepsy. Such a system would improve service delivery for learners who experience epilepsy and exchanges of information and observations about the learner`s progress will be beneficial. Parents could play more of an active role at the start, if they understand more about the process of diagnosis and develop a better understanding of the condition and the complexity of seizure control (Dreisbach, Ballard, Russo & Schain 1982:119).

Educators need more information for them to contribute effectively within the collaboration. They need to know more about the nature of epilepsy, diagnosis, causes and management. They also have to understand the educational implications of having a learner with epilepsy in the classroom and the role they have to take when seizures happen in the classroom (Babane 2002: 70; Spiegel, Cutler & Yetter 1996:34).

This study will address the role of the educator in understanding the causes, diagnosis and management of epilepsy in the inclusive classroom and support guidelines will be formulated to assist educators to support learners with epilepsy in the inclusive classroom.

1.2 ANALYSIS OF THE PROBLEM

The analysis of the problem deals with becoming aware of the problem. A short literature investigation will explore the problem and finally the problem statement will be formulated.

1.2.1 Awareness of the problem

Awareness of the problem has developed over a time of almost ten years by life changing experiences. Firstly, when the researcher was an educator at the mainstream primary school, it came to her attention that educators lack information on how to support learners with epilepsy in the mainstream classroom. Learners with epilepsy experienced difficulties at school because

no one gave them support to deal with their condition. Most often these learners displayed a variety of negative symptoms like low self-esteem, aggression and attention seeking behaviour.

Research indicates that learners with epilepsy who display negative symptoms such as loss of interest in learning and in life general can still recover through the support of educators, parents and peers. Their support can help them to reconstruct their self-esteem and eventually, they may show progress and improvement in their academic and social functioning (Babane 2002:53).

Secondly, employment as a learning support facilitator at the education district office in the support services directorate brought to me attention that learners with epilepsy are referred to the education support services for assessment and placement. These learners are labelled as difficult learners and often as stupid. This situation has brought the realisation that educators lack knowledge on how to accommodate the needs of learners with epilepsy in the mainstream classroom. However, it is clear that educators are in the best position to address the needs of these learners.

Research has indicated that the majority of learners with epilepsy in mainstream classroom cause no problems and their intellectual abilities fall within the normal distribution. However there is an exception for learners with epilepsy who have brain damage (Babane 2002: 47). Therefore, this research has brought an understanding that learners with epilepsy can be accommodated in the mainstream classroom. However, this is only possible if educators have enough and accurate information about the condition.

Lastly, the Department of Education National Education Policy Act (1996:34) requires ordinary mainstream schools to admit learners with special educational needs. The act also states that schools are encouraged to make necessary arrangements, as far as practically possible, to make their facilities accessible to such learners. This concept was also accentuated in the Department of Education White Paper 6 (2001:15). The White Paper points

out that learners who require low intensive support should receive this in ordinary school and learners who require high intensive support should continue to receive such support in special schools. The question is whether educators in the mainstream schools are prepared to include and support learners with epilepsy in the classroom.

This awareness gave rise to the following preliminary questions:

- What role can classroom educators adopt, if we accept that they are in the best position to support the learner with epilepsy?
- What kind of support do educators require if they are to support the learner with epilepsy?
- Will educators be willing and able to implement guidelines without further training?
- What available guidelines or strategies are there that teachers can use to support learners with epilepsy in the inclusive classroom?

The preliminary questions are investigated in the literature.

1.2.2 Investigating the problem

In the investigation of the problem, the discussion focuses on the current situation in schools, current challenges in education and the emerging role of the mainstream educator to cater for learners with diverse needs including learners with epilepsy. New trends, policies in education and the role of education support services are explored as well as the availability of guidelines that mainstream educators can use to support the learner with epilepsy in the classroom.

The problem centres on the development of support guidelines that educators can use to support the learner with epilepsy in the inclusive classroom. The available support guidelines for educators to support learners with epilepsy in the inclusive classroom are formulated from the literature study and are discussed in detail in chapter three.

Research indicates that epilepsy is one of the more common neurological conditions seen in today`s mainstream classroom. However, there still remains a general lack of knowledge among educators concerning the disorder. This may be attributed to misinformation and attitude toward the disorder (Michael 1995:vii). This is a very disturbing fact considering that educators are often the first people to recognise that a learner has a seizure in the classroom (Spiegel *et al.*1996:34).

A study conducted by Bannon, Wildig and Jones (1992:1468-1469) about how educators felt having learners with epilepsy in the classroom, revealed that only five per cent of educators felt confident when dealing with learners who experience epilepsy. The other thirty one per cent felt quite confident, but the vast majority (sixty four per cent) said that they did not feel confident. Some of educators when interviewed expressed anxiety, fear and a lack of confidence about teaching a learner with epilepsy. They said they did not know what to expect, and as a consequence they questioned their ability to deal with a seizure if the learner should have one. When they were asked to reflect on their experiences of learners with epilepsy, some felt that although things may have been difficult to begin with, because they did not have previous knowledge of the condition, they considered the whole experience to be a learning process. Consequently, if they were in that situation again they feel they would be better equipped to deal with it, due to the current experience.

Research indicates that educators, during their careers will have several learners with epilepsy in their classroom. They have to adopt the principle of normalization. Normalization refers to a way of living that is experienced by learners with special educational needs that is the same as other learners without special educational needs. Normalization implies that each learner has access to the normal conditions such as routines at schools and in the classroom irrespective of disability or impairment (Ashman & Elkins 1994:551).

For normalization to be effective educators have to move away from labelling of learners. Learners are sensitive to the effects of referring to them as mentally retarded, epileptic or learning disabled. The aim of normalization is to enhance the lives of learners with special educational needs and is an important consideration when dealing with learners with epilepsy (Michael 1995:28-29).

The disadvantages of labelling learners with special educational needs including learners with epilepsy are as follows (Ashman & Elkins 1994:7: Porter 2002:54):

⇒ Labels lead to stigma and inappropriate social responses. It may lead to rejection, shame, guilt, teasing, ridicule, and to poor self-esteem.

⇒ Labels foster myths and half-truths that are based upon assumptions, which explain status or behaviour.

⇒ Labels tend to promote the negative features of the learner with special educational needs. This leads educators to think only in terms of the inadequacies rather than the positive strengths of the learner.

⇒ Labels separate learners into mutually exclusive categories and produce misconceptions of homogeneity of those included in the group.

⇒ Once the learner has been labelled, this label becomes permanent. He carries the disability with him through his entire life. This can lead to a lowering of expectations that may result in a self–fulfilling prophecy.

Attitudes towards learners with special educational needs have often been the result of misinformation and/or lack of knowledge. Language has been regarded as a powerful device that influences attitudes towards learners with special educational needs (Babane 2002: 74; Michael 1995:32). Learners with epilepsy resent words that suggest they are sick, pitiful, childlike, dependent, or objects of admiration (Shapiro 1993:32-33). It is the responsibility of educators to gain more knowledge about learners with special educational needs including learners with epilepsy, in order for them to recognise any misinformation and correct it. The learner with epilepsy needs to be viewed as a person, not as a type of seizure disorder (Michael 1995:33).

Research indicates that learners with special educational needs including learners with epilepsy can benefit when educated in the regular classroom. This situation is considered as the most appropriate setting for the learners with special educational needs. The regular classroom setting provides typical age-appropriate role models, interactions with other learners, and also the setting for conducive learning (Ashman & Elkins 1994:16). This setting is least restrictive and it gives the learner with epilepsy the opportunity of not be alienated and the chance to learn, to deal and cope with other learners (Michael 1995:31).

When educators encounter learners with epilepsy they refer them to the education district support services (refer 1.2.1). Educators expect learners to be tested or assessed and appropriately placed. If placement is not possible, they expect help from outside professionals (Department of Education National Education Policy Investigation Report 1992:10). This way of thinking has its origins in the medical model or clinical perspective that education support services used prior to 1996, which placed emphasis on diagnosis of the problem (Engelbrecht, Kriegler & Booysen 1996:6).

Some mainstream educators feel inadequate and believe that they are unable to assist learners with special educational needs and that outside specialists have to take over if a learner is identified as a learner with special educational needs (Department of Education National Commission on Special Needs in Education 1997:35).

If mainstream educators are expected to deal with the diverse learner needs, they will need reorientation, support and training in the management of special needs in the inclusive classroom (Putnam 1993:9). Full inclusion implies that learners with special educational needs, are being taught in regular classrooms by ordinary teachers who haven't received training in special education (Riddick 1996:10). Ongoing education and in-service training of educators is a priority (Lerner 1993:155). What is needed is support guidelines or strategies that mainstream educators can use effectively to assist learners with epilepsy in the inclusive classroom (refer chapter 3).

A change in educational policies has created a new role for educators. Various research findings indicate that learners with epilepsy are in the mainstream classrooms with their non-epileptic peers. This implies that the ordinary educator must deal with these problems in the mainstream classroom (Babane 2002:64-65). Educators are now faced with enormous responsibility of providing assistance for the diverse needs of all learners in their classrooms. With such assistance, learners with diverse needs, including learners with epilepsy will not be alienated but this will be the opportunity for them to learn to deal and cope with other learners, and they will not feel alienated. If everyone has knowledge about epilepsy, stigma and discrimination are hopefully reduced (Michael 1995:31).

In a multicultural society like South Africa, schools have learners who have diverse needs and come from different backgrounds. All educational institutions should develop support mechanisms so that all learners can experience learning success (Department of Education Consultative Paper on Special Education 1999:11; Department of Education White Paper 6 2001:18-19). Learning success can be achieved if educators are prepared to undertake a mind shift, and understand and recognise that school failure lie as much with what schools do, as with what learners bring to the classroom door (Means, Chelener & Knapp 1991: xiii).

The new shift in education support services has seen a move from the curative approach to a consultative approach. Such an approach focuses on educator training and the need to work towards schools that include everybody, celebrate differences, support learning and respond to individual needs (Theron 1999:9). Educators need to respond to this challenge by learning how to meet with the diverse needs of learners.

Outcomes-based education (OBE) and inclusion are the two major challenges facing education systems (Kokot 1997:19). The provincial and national education departments have accepted the principle of inclusive education, which translates into education for all (Theron 1999:9).

Outcomes-based education (OBE) is based on the premise that all learners can learn and it is the school`s task to develop the talents of all learners, thus schools should find ways for learners to experience success (Kokot 1997:21). Outcomes-based education (OBE) is based on democratic principles established by the new education act and is a definite move away from educator based teaching and an inflexible content driven curriculum (Pretorius 1999:20-21; Theron 1999:6-7). A change in policy brings about a change in classroom teaching practice as well.

Educators are becoming aware of the many negative effects of not giving all learners the opportunity to experience the same curriculum in the same classroom. The learner`s self-esteem and motivation are affected, and they have fewer opportunities for observational learning from peer models. Learners are also very likely to fall further and further behind in academic work, which often prevents their ever returning to mainstream classroom. Being pulled out from the curriculum mainstream classroom often has a negative effect on self-esteem because learners feel singled out as being different or less intelligent (Putnam 1993:6).

Many learners with epilepsy are known to suffer a sense of frustration and/or low self-esteem because of the nature of epilepsy (Babane 2002:65). Educators can actively seek to improve the learner`s view of himself both as an individual and in relation to his peers. This can be done by implementing, a positive philosophy of inclusion across all areas of curriculum. This may be achieved by implementing the policy of promoting positive attitudes towards learners with special educational needs, including a learner with epilepsy by creating an atmosphere that nurtures high expectations of professional support on an individual basis and by encouraging reasonable risk taking within specified areas (Johnson & Parkinson 2002:59).

It is evident from the above discussion (refer 1.2-1.2.2) that there is a shift in the education system. Regular classroom educators are faced with new evolving roles and they need intervention strategies to promote academic success for all learners with special educational needs, including learners with epilepsy in the classroom.

1.2.3 Statement of the problem

A close examination of the problem as reported in the investigation of the problem has revealed the following observations:

- The challenges that mainstream educators are faced with.
- The changes in educational policies, which affect the service delivery of educators.
- Labelling of learners have a negative impact on learning.
- Learners with special educational needs including learners with epilepsy should be accommodated in the mainstream classroom and their needs should be met.
- The education system is transforming and educators are unsure about their evolving role.
- Educators need guidelines and support, in order for them to implement the policy of inclusion.

The following question underpins this investigation:

What information do educators in the inclusive primary school need about learners with epilepsy, in order to give them the necessary support?

1.3 PURPOSE OF THE STUDY

The purpose for which this study has been undertaken will now be discussed. The general and specific aims of the study are outlined in the next section.

1.3.1 General aims

The general aim of the research is to do a thorough and relevant literature study in an attempt to answer the following questions and to give a theoretical background to the empirical study:

- What assistance programmes or guidelines are available for primary mainstream educators to support the learner with epilepsy?
- What difficulties do learners with epilepsy need support with?

1.3.2 Specific aim

The specific aim of this study is the compilation of support guidelines or a programme containing support strategies to:

- Assist and empower educators to improve their understanding and knowledge about learners with epilepsy in their classroom.
- Provide guidelines and strategies for educators to assist learners with epilepsy in acquiring learning skills.

1.4 RESEARCH METHODS

The research approach was divided into two parts: namely a literature study and empirical investigation.

The literature study was undertaken to determine what information educators in the inclusive primary school need about learners with epilepsy, in order to give them necessary support. Resources such as books, articles in journals, periodicals documents and questionnaires were consulted. The support

guidelines were formulated from the information gathered from the literature study.

The empirical investigation was qualitative. The focus of the empirical research was, to ascertain if the compiled support guidelines contain information required by educators in the inclusive primary school about learners with epilepsy, in order to give them necessary support. The data were collected by means of focus group interviews.

1.5 DEMARCATION OF THE STUDY

The study was undertaken at inclusive primary schools, within Sasolburg area in the Northern Free State for practical and convenience reasons only. The study focused on primary school educators who have experience with epilepsy and who have learners with epilepsy in their classrooms. Eighteen such educators were chosen from four primary schools to participate in this study. The educators were chosen because they have similar background and common interest about epilepsy and are all at the primary school level.

This investigation focused specifically on epilepsy. It remains within the broad field of education and as such concerns itself with providing guidelines that can assist primary school educators to support the learners with epilepsy in the inclusive classroom.

1.6 CLARIFICATION OF CONCEPTS

This section of research will define a number of relevant concepts.

1.6.1 Epilepsy

Epilepsy is described as experiencing recurrent seizures. Seizures result from a temporary breakdown in the brain`s communication system, caused by abnormal disorderly brain cell activity. Most seizures are accompanied by altered level of consciousness, confused behaviour and change in sensory exposure (Baddeley & Ellis 2002:7; Frieman & Settel 1994:198).

1.6.2 Inclusive education

Inclusion is the equal and optimal education of all learners within one school system. It is a system where all learners are recognised as having different needs, but are respected for their shared humanity. It is a system where all learners can be educated together and where individual learner`s disabilities are respected (Leyden & Miller 1998: 192).

1.6.3 Educator

The term educator refers to one who educates, who takes the responsibility of leading the learner into adulthood and one who is concerned with the learner as a totality and not simply with the learning of a specific subject (Van Aardweg & Van Aardweg 1993:77). For the purpose of this study the term educator refers to educators at mainstream primary school.

1.6.4 Learner

The term learner refers to all learners and replaces the term pupils and students at schools (Department of Education National Committee on Special Needs Education and Training 1997: vii). For the purpose of this study the term learner refers to learners at inclusive primary schools.

1.7 RESEARCH PROGRAMME

The dissertation comprises of six chapters.

In chapter one an overview of the purpose of the study is given, as well as the as an outline of the specific nature of the problem under investigation and the intended method of research

Chapter two is concerned about background knowledge of epilepsy. The background knowledge will include the following, the functioning of the brain in relation to epilepsy, the nature of epilepsy, causes, diagnosis, treatment or management, associated problems and associated disabilities.

Chapter three discusses support guidelines that are available to the educator to support the learner with epilepsy in the mainstream classroom. The practical and effective guidelines are formulated on the basis of this.

Chapter four deals with the qualitative research design of the empirical study. Chapter five reflects on the findings of the study. Chapter six contains a summary, conclusions of the study as well as implications of the study and suggested recommendations.

1.8 CONCLUSION

This chapter focused attention on the orientation of the problem. The problem was analysed and the purpose of the study was explained. The research method, demarcation of the study and various relevant concepts were outlined and as well as the research programme. The next chapter will focus on the background knowledge of epilepsy.

CHAPTER 2

EPILEPSY: BACKGROUND KNOWLEDGE

2.1 INTRODUCTION

Epilepsy is a chronic brain disorder characterised by spontaneous, recurrent seizures. It is not a disease but a manifestation of many different conditions that results in chronic seizures. A simple seizure in itself does not indicate epilepsy, however when seizures recur frequently epilepsy may be diagnosed. The main characteristic of a seizure is a sudden event that affects behaviour, thinking or body movements that the learner cannot control (Spiegel *et al.* 1996:34-35).

In order for educators to offer effective support to learners with epilepsy in the inclusive classroom, they need background knowledge about the phenomenon of epilepsy. The purpose of this literature chapter is to give background information about epilepsy. The background knowledge includes the nature of epilepsy, classification, causes of epilepsy and diagnosis. Treatment of epilepsy, associated problems and other disabilities, which can affect learners with epilepsy are explored. The relationship between epilepsy and personality is also be discussed.

2.2 THE NATURE OF EPILEPSY

In the nature of epilepsy, the discussion focuses on the definition of epilepsy, the brain and epilepsy, prevalence and pseudoseizures.

2.2.1 Definition of epilepsy

It is not easy to define epilepsy in simple terms. This in itself indicates the complex nature of the condition.

Epilepsy can be defined as a disorder of the central nervous system, characterized by sudden recurrent seizures resulting from the temporary discharges of electrical energy in the brain cells activity. The seizure begins in the area of the brain that contains abnormal nerve cells, which releases more easily than do normal cells. Once these abnormal cells begin releasing, other normal cells around them begin to release as well, resulting in the entire area of the brain releasing at once. This results in altered level of consciousness, involuntary movements, change in sensory phenomenon. Once a seizure is over, the learner returns to normal functioning (Baddeley & Ellis 2002:7; Vaughn, Bos & Schumm 2000: 509).

2.2.2 Epilepsy and the brain

Although the brain is an extremely complex organ, it is crucial to understand what is happening in the brain during epileptic seizures.

The brain is consists of a vast network of nerve cells called neurons. These neurons are found all over in the body. Normally in our lives literally millions of electrical messages are passed between these neurons or nerve cells controlling every human behaviour such as feelings, thoughts and doing. The body has its own in built balancing mechanism, which ensures that messages are passed between neurons in an orderly way (Downs 1997:1).

The explanation above refers to the normal conduction of electrical activity in the brain. When conduction is abnormal, it may happen that somewhere electricity piles up, and this stimulates or irritates the neurons, giving rise to an epileptic seizure. This is why epilepsy is defined as a sudden recurrent seizure or disturbance in brain function resulting from the temporary discharges of electrical energy in the brain cells activity. This temporary discharge may also be described as a momentary electrical storm in the brain. It is important to take into cognisance that between epileptic seizures the brain activity is normal. The type of seizure depends on the parts of the brain that are affected. Sometimes there is just a small area where the neurons are piled up. Then only the specific functions controlled by that part of the brain are affected (Kruger, Burden, Bornam, Landsberg, Dednam & Burger 2001:57).

2.2.3 Prevalence

Prevalence of epilepsy is difficult to be ascertained, for a number of reasons. Prevalence studies have yielded variable results according to the methodology, sampling and definition of epilepsy used for individual studies. Some studies include nocturnal seizures and absence seizures and in other studies are excluded. Some studies include single, isolated seizures and it has also been noted that some learners are reluctant to divulge their epilepsy due to social stigma. It has been found that some learners with positive diagnosis deny their epilepsy publicly (O`Donohoe 1994:3-4; Shorvon, Hart, Sander & Van Andel 1991:1).

However, September in Epilepsy South Africa (2004:1) asserts that 1% of the world population suffers from epilepsy. He further maintains that there is no current statistical data on the prevalence of epilepsy in South African schools. Christianson and Kromberg (2000:262) concur with September. They emphasize that no information is currently available on the prevalence of epilepsy in South African schools.

2.2.4 Pseudoseizures

There are other seizures, which are different from epileptic seizures called pseudoseizures, which are also known as hysterical seizures or non-epileptic seizures. They are probably the most difficult phenomena to distinguish from actual seizures because there is no clear understanding of the more precise nature of the events. Pseudoseizures are events resembling seizures but are not associated with any evidence of abnormal neuronal discharge in the brain. Differentiating pseudoseizures from epileptic events is complicated because a learner can experience both epileptic and non-epileptic seizures at the same time, but the medical personnel can differentiate between the two (Michael 1995:25-26; Neppe 1997:1).

2.3 CLASSIFICATION OF EPILEPTIC SEIZURES

There have been many attempts to classify epileptic seizures. The most commonly used and widely accepted classification system is the International Classification of Epileptic Seizures. Seizures in this classification system are divided into three categories namely partial seizures, generalised seizures and unclassified seizures. Partial seizures are subdivided into different simple partial seizures. Generalised seizures are also subdivided into different complex partial seizures (O`Donohoe 1994:8; Thiele, Gonzalez-Heydrich & Riviello 1999:672). The explanation of different epileptic seizures follows.

2.3.1 Partial seizures

According to (O`Donohoe 1994: 8-9; Thielle *et al*. 1999:672-674) partial seizures are subdivided into the following clinical types of simple partial seizures.

2.3.1.1 Partial seizure with motor symptoms

It is noted that this type of partial seizure may spread slowly through the motor area. For example, a jerking of all fingers, and then to the wrist and hand, at a later point it could move to the arm and face. Partial seizure with motor symptoms is been termed Jacsonian seizure.

2.3.1.2 Partial seizure with somatosensory or sensory symptoms

If the part of the brain that is affected is related to the visual sense, abnormal visual experiences occur such as hallucinations. Other senses may also be affected. These sensory seizures result in a distorted environment. A feeling of disorientation of body parts may occur.

2.3.1.3 Partial seizure with autonomic symptoms

Partial seizure with autonomic symptoms can begin in a part of the brain that is concerned with involuntary functions such as dilation of pupil. Other experience, include flushing, sweating, recurrent vomiting and abdominal cramps.

2.3.1.4. Partial seizure with psychic symptoms

Partial seizure with psychic symptoms originates in the part of the brain dealing with emotions and feelings. It is seldom that this type of seizure happens without impairment of consciousness.

2.3.2 Generalised seizures

According to Allwood and Gagiano (2000:2) as well as Baddeley and Ellis (2002: 63-65) generalised seizures are subdivided into the following clinical types of complex seizures.

2.3.2.1 Absence seizures

An absence seizure is also referred to as a petit mal attack. Absence seizures are characterised by short brief interruptions in consciousness. An absence seizure may be seen as a stare, small movements of the eye, or fluttering the eyelids and the attack is of short duration. The learner is not aware of the seizure activity during this time and there is no recall of events, which occurred.

2.3.2.2 Myoclonic seizures

Myoclonic seizures are characterised by quick, sudden muscular movements. These fast jerks can range from mild to severe and have different forms. These types of seizures are like being jerked by an electrical shock. Myoclonic seizures are very brief, shock-like muscular contractions that may occur alone or in clusters.

2.3.2.3 Atonic seizures

Atonic seizures are also called drop attacks. They are characterised by a quick loss of muscle tone. The muscles or body go limp. The learner suddenly drops and falls on the ground. This type of seizure can cause physical injury.

2.3.2.4 Tonic-clonic seizures

Tonic-clonic seizures are formerly referred as grand mal seizures. They are characterised by convulsions and loss of consciousness. What is usually seen is that a learner loses consciousness and falls to the ground. The tonic phase is when the body lies rigid. Other behaviour is tongue biting, uncontrolled movements and saliva flow from the mouth. After the tonic-clonic seizure the learner may experience sore muscles and a headache.

2.3.3 Unclassified seizure

An unclassified seizure is the seizure, which cannot be classified because there is a lack of enough information to indicate what type of seizure it is (O`Donohoe 1994:9).

2.4 CAUSES OF EPILEPSY

There is no conclusive ground as to why brain cells fire abnormally in certain situations. Epileptologists often refer to three general areas of causes namely, idiopathic, crytogenic and symptomatic. The idiopathic causes refer to when the causes cannot be specifically identified, although it is known that genetic factors may be important in some instances. Crytogenic causes refers to when causes cannot be found but abnormality may be a suspicion and symptomatic causes is where seizures are as the result from a definable abnormality in the brain such as central nervous systems infections, bacterial infections, head injury and metabolic abnormalities (Johnson & Parkinson 2002:4).

It is estimated that 70 per cent of learners with epilepsy have idiopathic epilepsy. For the remaining 30 per cent the known causes are hypothesised (Depaepe, Garrison-Kane & Doelling 2002:15).

There are many factors that cause epilepsy in learners namely, prenatal factors, perinatal factors and postnatal factors. Prenatal factors refer to aspects which affect infants while they are still in the uterus. Perinatal factors refer to aspects which affect the pregnant mothers when they are approaching birth and end 24 hours after birth. Postnatal factors refer to aspects which affect the infants after the perinatal period has passed (Burden 1997:105,115,121) .The brief explanation of the factors follows, and it is important to note that some of the aspects may overlap.

2.4.1 Prenatal factors

The following prenatal factors that may contribute to the cause of epilepsy are described in the literature:

⇒ Prenatal infection (Johnson & Parkinson 2002:3)

Infection refers to the temporary invasion by harmful micro-organisms in the body (Burden 1997:108). The most dangerous prenatal infection of all is German measles or Rubella. In the case whereby a mother contracts German measles during the first three months of her pregnancy, the foetus will be affected in about 10% of cases. The cases include brain damage, epilepsy, cerebral disability, auditive or visual disability and heart problems (Kruger 2001:21).

⇒ Prematurity (Michael 1995:6)

Prematurity refers to the condition of an infant born before full development, which is nine months. A premature infant has a risk of suffering neurological damage, which can lead to epilepsy, because of complications occurring during the birth process (Krajicek, Steinke, Hertzberg, Anastasiow & Sandall 1997:433; Niedermeyer 1990:112).

⇒ Excessive alcohol intake by the mother during pregnancy, drugs and smoking (Baddeley & Ellis 2002:8)

Excessive alcohol intake by the mother during pregnancy, drugs and smoking could lead to the infant having poor weight for gestational age. Maternal drug exposure can also lead to the problem of premature birth and an infant may develop seizures (Burden 1997:112-113; Porter 2002:228-229).

⇒ Early infantile brain damage

Early infantile brain damage could lead to cerebral palsy, which is conspicuous in motor disturbances. The following factors may be responsible for early infantile brain damage infectious, vascular problems, anoxia and some form of congenital central nervous system malformations. There are five major forms of cerebral palsy, which could lead to epileptic seizures (Niedermeyer 1990:89; Vaughn *et al.* 2000: 265).

2.4.2 Perinatal factors

The following perinatal factors that may contribute to the cause of epilepsy are described in the literature:

⇒ Congenital infection (Johhnson & Parkinson 2002:3)

Congenital infections refer to infection which the learner is born with or has a predisposition to develop later in life (Louis & Jones 2004:8). Congenital infection is contracted during pregnancy and causes damage even before birth. The infection may persist after birth doing further damage. The most common infection today is AIDS (Kruger 2001:24). AIDS is capable of attacking the brain directly or through other infections or by brain tumours. If the brain is attacked directly, this process may cause epileptic seizures and epileptic seizures are common in the neurological symptomatology of AIDS (Niedermeyer 1990:90).

⇒ Anoxia (Michael 1995: 6,3)

Anoxia refers to a lack of oxygen (Kruger 2001:22). Epilepsy can exist in an infant because of lack of oxygen reaching the infant`s brain before or during the birth process (Nemours Foundation Teenshealth 2003:1)

⇒ Perinatal metabolic disorder (Michael 1995:6)

Metabolic disorder refers to the dysfunction of the bio-chemical process of the body. Most metabolic disorders may be inherited (Burden 1997:88). Metabolic disorders can produce generalised seizures through disturbing the normal functioning of neurons. This may occur when there is severe lowering of blood glucose levels, and when there is severe malfunctioning of the liver or kidneys (Laidlaw, Richens & Chadwick 1993: 86; Niedermeyer 1990:94).

⇒ Head injuries (DePaepe 2002 *et al.* 2002:15)

The incidence of epilepsy after head injuries has increased. Neurones may be damaged as a consequence of physical trauma, which can lead to brain damage or epilepsy. Head injury from road accident or either at birth or later in life, may be the source of epilepsy (Vaughn *et al.* 2000: 264-265). Neurosurgical procedures an optional source of trauma associated with subsequent epilepsy (Baddeley & Ellis 2002:8; Louis & Jones 2002: 2).

⇒ Asphyxia

Asphyxia refers to birth hazard, particularly in cases of protracted labour. Protracted labour is a situation whereby for whatever reason, the baby remains in the birth canal for too long. Abnormal presentation and foetal lung defects or choking on the amniotic fluid are other causes of asphyxia after birth. Asphyxia causes an oxygen deficiency, which in turn could lead to brain damage and seizures (Kruger *et al.* 2001:24; Niedermeyer 1990:113).

⇒ Aphasia

Aphasia is a language disorder, which result from the damage of the dominant side of the brain. The injuries include tearing of the brain tissue, bleeding within the brain and blood clots during birth, which can lead to a seizure (Burden 1997:117; O`Donohoe 1994:207).

2.4.3 Postnatal factors

The following postnatal factors that may contribute to the cause of epilepsy are described in the literature:

⇒ Febrile seizures (Johnson & Parkinson 2002:3)

A febrile seizure is the convulsion that is caused by high fever in a child. This condition can happen to a child between six months and three years of age. Febrile seizure can be triggered by most of the viral infections such as encephalitis. The brief explanation of viral infections will follow in the next aspect. Febrile seizures do not cause brain damage, but febrile seizures lasting more than thirty minutes are likely to do so. If the child experiences febrile seizures for more than thirty minutes, immediate admission to hospital is necessary. Children who have first febrile seizures that are prolonged more than thirty minutes or have close relatives with epilepsy have a risk of developing epilepsy later. These children may also show significant delay in intellectual development, this is especially noticeable in the development of speech, reading and writing (Krajicek *et al.*1997; The Royal College of General Practitioners 2000:1).

⇒ Infections (DePaepe *et al.* 2002:15)

Meningitis is an inflammation of the membranes covering the brain and spinal cord. The three membranes that cover the brain and the spinal cord are the meninges. The most common cause of meningitis is infection of the central nervous system, by bacteria or virus. The blood vessels of the meninges contract because of the infection, thereby constructing the oxygen supply to the brain. The learner who has been infected will suffer from a very high temperature, a headache, vomiting, stiffness of the neck and sometimes convulsions and unconsciousness and medical attention is required immediately (Krajiceck *et al.* 1997: 435). Meningitis may cause serious damage to the central nervous system, which can lead to intellectual disability, deafness and epilepsy (Burden 1997:121; Meital 1992:298). It is important to note that if appropriate treatment of meningitis starts too late, this can lead to brain damage (Niedermeyer 1990:89).

Encephalitis is an inflammation of the brain, in which the brain becomes swollen and congested. Encephalitis may be caused by number of viruses, which directly attack human body and are localised primarily in the brain, where they provoke inflammation (Johnson & Parkinson 2002:x). The infectious encephalitis virus associated with seizures or followed by an epileptic disorder may occur in rubella, chicken pox or whooping cough, measles, and mumps. The symptoms of encephalitis are similar to those of meningitis, a high temperature, headache, nausea, stiffness of the neck and convulsions. Intellectual disability and personality changes are the most residual effects of the encephalitis infection (Burden 1997:121; Meital 1992:186).

$\Rightarrow$ Postnatal metabolic disorder (Johnson & Parkinson 2002:3)

The postnatal metabolic disorder, which affects adversely the growing of the infants is called pheylketonuria. This metabolic disorder is characterised by the absence of the enzyme needed to break down a specific amino acid in protein found in infant formulas and dairy products. This complication may lead to development of severe retardation, hyperactivity and seizures (Krajicek *et al*. 1997:438; Niedermeyer 1994:113).

$\Rightarrow$ Head injuries (Baddeley & Ellis 2002:8)

The incidence of epilepsy after head injuries has increased. Haemorrhage is one of the aspects that have been identified as the other factors that may cause seizure or trigger seizure. Haemorrhage is the bleeding inside the brain, and it can cause a pocket of blood to accumulate in an area, causing pressure against adjacent tissue. This pressure can cause additional damage to the initial injury, resulting in more damage (Louis & Jones 2002:8). Open head injury occurs when an object breaks through the cranium and penetrates the brain. Shearing stress lesions is whereby the nerve cells are torn apart. Contusion is a bruise to a specific part of the brain. Haemotana is a bruise on a much larger scale (Johnson 1999:2; Russell & Sharrat 1992:26-27).

$\Rightarrow$ Alcohol and drug abuse (Johnson & Parkinson 2002:3)

Alcohol and drug abuse may cause seizures during intoxication, or when the offending substance is being withdrawn. Withdrawal of certain medications, such as barbiturates and other sedatives, can cause epileptic seizures in those who have taken them for long periods (Downs 1997:6). Drugs like marijuana cocaine and other illicit drugs also provoke seizures (Porter 2002:229).

⇒ Poisoning (DePaepe *et al.* 2002:15)

Poisoning refers to deliberate or accidental ingestion of substances that are toxic. Certain chemicals, especially drugs, which are not harmful in small doses, may be poisonous if taken in large quantities, as in a drug overdose (Meital 1992:364). Poisons such as lead from paint can cause epilepsy and epilepsy may lead to intellectual disabilities (Gouws & Mfazwe 1998:56).

⇒ Stroke (Cerebrovascular events) (Baddeley & Ellis 2002: 8)

Stroke is an unexpected episode attack caused by an interruption in the flow of blood to the brain. This can originate from bleeding inside the skull and cerebral infarction (Johnson & Parkinson 2002:xii). This episode of attack in young learners is called subarachnoid haemorrhage and it happens from the result of ruptured aneurysm, which is the localised weak spot in the artery at the base of the brain (Meital 1992:432-433). Epileptic seizures have been reported in 12% of cases of subarachnoid haemorrhage (Niedermeyer 1990:93).

⇒ Neoplastic causes (Kumar, Cotran & Robbins 1992: 172)

Neoplastic causes are those that emanate from a tumour growing in the brain (Kumar *et al.* 1992: 172). Brain tumour is a deviant or uncontrolled growth inside the skull. Neoplastic epilepsy can be divided into two types namely benign and malignant. A tumour is said to be benign when its characteristics are considered not threatening, meaning that it will remain localized and will not spread to other sites. It can be removed surgically and the learners may survive. Malignant tumours are very dangerous and could be fatal (Johnson & Parkinson 2002:xii). Kumar *et al.* (1992:85,172) maintain that malignant tumours can invade and destroy normal structures and spread to distant sites to cause death and they are collectively referred to as cancers. They further assert that that the designation of malignant constitutes `red flag`. This implies that it is a sign of danger.

$\Rightarrow$ Degenerative diseases (Johnson & Parkinson 2002:3)

Degenerative diseases are the diseases affecting progressive mental deterioration, which involves both behaviour and intellect. Dementia and Alzheimer`s disease are the two types of degenerative diseases which can cause epilepsy. Both diseases show the same picture of degeneration and deteriorating of the brain (Baddeley & Ellis 2002:8,56; Meital 1992:158-159). However, Alzheimer`s disease is estimated for only 2% of the cases and 6% of the presumed cause and it has to be noted that the incidence of degenerative disorder increases with age (Wyllie 1993:163).

2.5 PRECIPITATING FACTORS

There are numerous factors or conditions, which may contribute to the precipitation of seizures in learners with epilepsy. The identification of these factors is important in the management of epilepsy. According to O`Donohe (1994:255-256) and Sue, Sue and Sue (1994: 488) factors which may precipitate seizures in learners with epilepsy are the following:

Hormonal changes like menstruation may precipitate seizures in some learners with epilepsy. In female learners this can happen immediately before or shortly after menstruation. This type of epilepsy is called catamenial epilepsy. During this condition it is better to increase the dosage of anti-epileptic drugs to provide higher blood levels.

Television–induced seizures are chiefly of the complex partial type. Flickering light and certain visual patterns might play a dominant role as precipitating factors. However, it has to be noted that technical improvements in television sets have rendered these attack very uncommon.

Emotional stress such as excitement, fear, frustration, tension and anxiety may precipitate seizures, particularly in high school learners. Stress is inevitable in life and has to be dealt with and if the stress is severe it may reach a dangerous degree, leading to emotional and mental problems. Epileptic learners experience a recrudescence of seizures during a highly stressful period of life.

Hyperventilation attacks can be triggered by mental stress, fear or pain. In some instances it is impossible to find any triggering factor. The learner feels light-headed, with trembling limbs and often trembling of the whole body followed by rapid shallow respiration.

Lack of sleep, chronic fatigue, drugs and alcohol abuse may act as precipitants, particularly in learners. However, if the learner with epilepsy can change life style, such as sleeping sufficient and regular hours, avoiding alcohol and drugs, this can improve the psychological conditions.

Sudden withdrawal of anticonvulsant drug is a common cause of increased seizure activity, which can lead to status epilepticus. Status epilepticus is a condition, in which a seizure last more than twenty minutes or the leaner has continuous seizures. If the educator realises that a learner is in this condition, emergency medical assistance is required. It is important to note that the learner with epilepsy may not withdraw anticonvulsant drugs without the permission of medical practitioner concerned.

2.6 DIAGNOSIS

Educators are often extremely beneficial in the role of identifying epilepsy and seizures. The medical practitioner will require information from various sources including educators (Spiegel *et al.* 1996:34). The role of educators in identifying epilepsy will be discussed in chapter three. After the medical practitioner has received information about the learner with epilepsy, he will then attempt to ascertain the specific nature of the seizure and whether the seizure may be epileptic or otherwise. In young learners the seizure may in fact be a breath-holding attack or syncope (Jeanette 2004:1). Breath-holding attack are involuntary episodes that

occur in children who are otherwise healthy. They usually begin when children become upset, or suffer a minor injury which is followed by crying. This stage is immediately followed by a dramatic change in colour. The skin then becomes blue or pallid. Syncope is a sudden fall of blood pressure resulting in loss of consciousness. It is commonly referred to as fainting (Hain 2004:1).

There are medical tests, which the medical practitioner administers to diagnose epilepsy. The tests include the electroencephalograph (EEG), videotelementary, brain scans, and laboratory tests. The explanation of the medical tests follows.

2.6.1 Electroencephalograph (EEG)

Electroencephalogram is a short recording of the electrical activity of the brain. It is an important diagnostic tool in epilepsy. It measures and records electrical impulses in the brain. The recording of the electrical or seizure activity of the brain can be done while the learner is asleep or awake in order to show the location and the nature of the abnormal brain activity and normal brain activity (Depaepe *et al.* 2002: 15-16).

2.6.2 Videotelementary

In videotelementary, the learner is videotaped and a continuous EEG is recorded at the same time. The aim behind this test is to apprehend an attack on video so the phenomenology of the attack can be correlated with the EEG findings. This type of test is beneficial for evaluation of a non-epileptic attack and also when the learner is being evaluated for epilepsy surgery (Baddeley & Ellis 2001: 68,73).

2.6.3 Brain scans

Three different types of brain scans are used, namely CT scanning, magnetic resonance imaging scan (MRI), and position emission tomography (PET).

CT scanning is a brain scan used to generate pictures of the brain parenchyma, including structural abnormalities within the soft tissue of the brain and the surface of the brain (Smith 1990:75). This type of brain scan is not able to detect the diagnosis of epilepsy and learners who may need surgical treatment. However, it is useful in showing underlying structural lesions like vascular problems and brain tumours, which may lead to seizures (Baddeley & Ellis 2002:74-75).

Magnetic resonance imaging scan (MRI) is a brain scan used to provide an image of the brain, which is of even higher resolution than that of the CT scanning. Magnetic resonance imaging scan (MRI) is efficient in revealing abnormal subtle structural abnormalities of the central nervous system. The advantage of MRI scan is that of being able to establish which learners are suitable for surgical treatment and that learners are not exposed to radiation (Baddeley & Ellis 2002:75; Niedermeyer 1990:231; O`Donohoe 1994 117).

Position emission tomography (PET) is a new tool used to detect disturbances in the brain function. It involves the injection of biologically active substances that have been labelled as position-emitting radioisotopes. PET has proven to be able to detect local disturbances in cerebral glucose metabolism and blood glucose flow in the focal epileptogenic lesion (Niedermeyer 1990:231; Smith 1990:76). `

2.6.4 Laboratory tests

The medical practitioner can administer laboratory tests. The test is carried out to establish a diagnosis and causes of epilepsy. This process will vary with individual cases but the specific diagnostic problems presented by individual learners will be the determining factor rather than a regime of routine investigations (O`Donohoe 1994:230).

2.7 TREATMENT OF EPILEPSY

The treatment of epilepsy relies more on control by anti-epileptic drug therapy, because there is no cure for epilepsy. The aim of anti-epileptic drug therapy is to gain the best quality of life by maximum control of seizures with minimal side effects (Allwood & Gagiano 2000:214: Thiele *et al.* 1999:676). However, it must be generally accepted that epilepsy is a long-term condition, which will affect learners for the rest of their schooling career (Wyllie 1993:793).

It has been estimated that approximately 70% of learners with epilepsy acquire total control of their seizures with treatment (Allwood & Gagiano 2000:214). While 30% learners with epilepsy do not benefit from treatment. This means that the drugs do not have any effect on the seizures (Thiele *et al.* 1999: 677).

Treatment of seizures in the vast majority of learners takes the form of medication called anticonvulsant or anti-epileptic drugs (Allwood & Gagiano 2000:214). In a very few cases surgery may be an option. If the attempt to control seizures has failed, a special diet may be described (Goodman & Borkowski 2003:2). The explanation of three different forms of treatment of epilepsy follows.

2.7.1 Anti-epileptic drugs

Anti-epileptic drugs are the drugs prescribed to control seizures (Krajicek *et al.* 1997:420). It is important to know that the type of anti-epileptic drugs prescribed will depend on the type of epilepsy and the individual`s responses to a particular drug. Correct diagnosis is an essential pre-requisite to prescription of drugs. It is equally important that a learner`s response to drugs is closely monitored (Allwood & Gagiano 2000: 214). Side effects may be experienced when taking anti-epileptic drugs, but if they are promptly recognised and treatment is modified accordingly, the side effects can be minimised (Michael 1995:105-106; Thiele *et al.* 1999:676).

Anti-epileptic drugs must be taken as prescribed to maintain a steady state of medication in the blood stream. If the blood level of medication is too low, seizures may not be controlled. However, if the blood level is unnecessarily high, medication may have a toxic effect producing significant side effects (O`Donohoe 1994:257).

The therapeutic range is the level of medication at which most learner`s seizures are controlled with minimal side effects. Drugs may have to be taken for some time before there is an appropriate effect on seizures. This will vary with different anti-epileptic drugs (Laidlaw *et al*. 1993:544; Smith 1990:111). Refer to appendix 7 for different anti-epileptic drugs and possible side effects.

2.7.2 Surgery

Surgery for epilepsy refers to the removal of the part of the brain in which seizures originates (Johnson & Parkinson 2002:16). Several complications can arise from surgery and thus it is usually reserved for the most severe cases where drug therapy has been documented as ineffective (Baddeley & Ellis 2002:114-116; Depaepe *et al*. 2002:16). As surgery involves removing part of the brain in which a seizure originates, it has wide implications. Surgery may result in personality changes and intelligence alterations. Vision may also be affected and there may be impaired language skills and memory problems. Surgery for epilepsy can be quite effective and the success rate is high. Although this may sound encouraging, the surgery itself can result in the onset of depression. In cases in which seizures were successfully reduced by at least 90%, the most commonly reported postoperative emotion was depression (Spiegel *et al*.1996:36-37; Thiele *et al.* 1999:682) .

2.7.3 Ketogenic diet

Ketogenic diet is a high fat, adequate protein, low carbohydrate diet designed to minimise epilepsy (Johnson & Parkinson 2002: 17). It has been used for many years as the alternative treatment for learners with difficulty to control seizures. The diet has been reported to control seizures in more than 70% of learners who had seizures, which were difficult to control. However, it is stated that ketogenic diet may have unpleasant side effects which include weight loss, diarrhoea which can lead to

dehydration, abdominal pain, vitamin deficiencies and lethargy (Goodman & Borkowski 2003:2; Thiele *et al.* 1999:681). These factors should be taken into consideration before subjecting a learner to ketogenic diet.

2.8 ASSOCIATED PROBLEMS OF EPILEPSY

Some learners with epilepsy do very well in school and have few academic problems (refer 1.1). Other learners with epilepsy have difficulty in learning, adjusting and behaving within the classroom situation and have other disabilities that influence their learning (Babane 2002:65,67).

There are numerous associated problems, which could interfere with learning of a learner with epilepsy. The associated problems include low self-concept, learning disabilities, behaviour problems, memory difficulties and attention deficits. The discussion of the associated problems follows.

2.8.1 Low self-concept

Learners with epilepsy have a great deal of difficulty in trying to feel good about themselves because of the conditions accompanying their disorder. Epilepsy is usually accompanied by psychological problems such as low self-concept and lack of confidence (Babane 2002:64-65). A learner with a low self-concept may experience poor relations with other people and objects. Psychosocial problems in turn contribute to an increase in the frequency of seizures, which exacerbates school problems (Reagan, Fraser, Banks & Beran 1993:18).

Parents of learners with epilepsy have a tendency of overprotecting their children and spoiling them. Overprotection can undermine the learner`s autonomous problem-solving efforts. Learners at the later stage may experience, among others, academic performance below expected level, low self–concept and excessive dependency (Pianta & Lothman 1994:1415-1416).

2.8.2 Learning disabilities

Learning disabilities is a general term that refers to a heterogeneous group of disorders manifested by significant difficulties in the acquisition and use of listening, speaking, reading, writing, reasoning or mathematical abilities. These disorders are intrinsic to the individual learner, presumed to be due to central nervous system dysfunction and may occur across the life span. Problems in self-regulatory behaviours, social perception and social interactions may exist with learning disabilities but do not by themselves constitute a learning disability. Although learning disabilities may occur together with other handicapping conditions (For example, sensory impairment, mental retardation, serious emotional disturbances) or with extrinsic influences (such as cultural differences, insufficient or inappropriate instruction), they are not the result of those conditions or influences (Adelman & Taylor 1993:9; Vaughn *et al.* 2000:134).

Learning disabilities which have been identified, in learners with epilepsy may include reading problems, accuracy and reading comprehension, behaviour, verbal abilities, attention, spelling, arithmetic, language, and memory. While learners with epilepsy scored lower on achievement tests as compared to other learners, older learners with epilepsy did worse than younger learners on tests of spelling, reading comprehension and arithmetic (Hauser & Hesdorffer 1990:346).

The key factor that contributes to learning disabilities in learners with epilepsy is `uncontrolled epilepsy`. Uncontrolled epilepsy refers to an epilepsy with a high seizure frequency, which is not controlled by medication (Aldenkamp, Overweg-Plandsoen & Diepman 1999:131). However, it is important to note that although not all learners with epilepsy have learning disabilities, there are a great number of them who do have learning disabilities (Kruger *et al.* 2001:74).

2.8.3 Behaviour problems

Learners with epilepsy experience more behaviour problems than other learners with chronic conditions. As compared with other learners with disabilities, learners with epilepsy perceived events in their world as out of their control (Babane 2002:72; Pianta & Lothman 1994:1416). They are reported to be emotionally distressed, immature and rejected by others. Learners with epilepsy are also regarded to have more depression; their lives are characterised by fear; they withdraw in the classroom situation; they often experience anxiety; they are feared by other peers and they also experience some educators as unkind to them (Austin 1998: 248; Babane 2002:65).

Behaviour problems in learners with epilepsy are linked with three sets of variables as independent causes of behavioural problems. These sets of variables include perceived stigma of epilepsy, seizure coupled with medication and poor parenting (Carlton-Ford, Miller, Nealeigh & Sanchez 1997: 384).

2.8.4 Memory difficulties

Learners with epilepsy may experience memory problems, this can happen more often if a learner`s seizure activity is taking long duration or if it happens more often. If the learner experiences absence seizure in the classroom, this may also contribute to poor memory because the learner will be losing some important facts while the educator is teaching (Baddeley & Ellis 2002: 19).

Learners with complex partial seizures experience different memory problems than learners who experience generalised seizures. If the seizure has affected the left temporal lobe, the learner may have difficulties in verbal memory. If the seizure has affected the right lobe, the learner may have difficulties in nonverbal memory. However, other learners with epilepsy stated that it is difficult to remember what they were doing before the seizure activity starts (Michael 1995:70-71).

2.8.5 Attention deficits

Attention deficits are associated with epilepsy in a number of ways. It has been seen that anti-convulsant drugs may depress attention and generalised seizures characteristically disrupt attention and concentration so that the learner appears daydreaming (Babane 2002: 70: Baddeley & Ellis 2002:21). In one study, 36 of 85 learners with epilepsy were described by their educators as "markedly inattentive and listless, lethargic, evasiveness, irritability, dull, apathetic and just not with us'' (Holdsworth & Whitmore 1989: 750; Johnson & Parkinson 2002:101). Attention is a prerequisite for learning. The greater the attention paid by the learner, the greater is the possibility of success regarding understanding and retention of the subject matter. As educators expect all learners to pay attention during classroom teaching, learners with attention deficit will have problems in learning (Vaughn *et al.* 2000:135).

2.9 EPILEPSY AND OTHER DISABILITIES

Epilepsy is a disorder, which is associated with other disabilities. Other disabilities include autism, mental retardation, attention deficit hyperactivity disorder, cerebral palsy, emotional and behavioural disorder and traumatic brain injury. The discussion of associated disabilities follows.

2.9.1 Autism

Autism is a condition, which impairs the ability to have meaningful contact with the surrounding environment, including the people in it. A learner with autism resists change and he/she is uncomfortable even if small change has been made and his/her intellectual disability is commonly revealed as generally impaired (Vaughn *et al.* 2000:220-222).

According to Hauser and Hesdorffer (1990: 342-344) it is noted that seizures occur in 11 to 35% of learners designated as autistic, noting that in general the prevalence of epilepsy is more than 28 times than that expected in the general population.

2.9.2 Mental retardation

Mental retardation refers to substantial limitations in learner`s present functioning. It is characterised by significantly well below average intellectual functioning, existing concurrently with related limitations in two or more of adaptive skills area and mental retardation is conspicuous before age 18 (Krajiceck *et al.* 1997:435: Vaughn *et al.* 2000:219).

It has been noted that seizures occur in about 8.8 to 32% of learners with mental retardation (Hauser & Hesdorffer 1990:327). It is believed that when learners have mental retardation, cerebral palsy and seizures, it is difficult to control their seizure activity with treatment (Depaepe *et al.* 2002:15).

2.9.3 Attention deficit hyperactivity disorder

Attention deficit hyperactivity disorder is characterised by behaviours such as heightened motoric activity, such as fidgeting and squirming, short attention span, distractibility, impulsiveness and a lack of self-control whereas attention deficit disorder is characterised by problems such as distractibility, difficulty with sustained attention, inattention to detail and difficulty completing tasks (Gouws & Mfazwe 1998: 38; Sue *et al.* 2000:491).

Attention deficit hyperactivity disorder is common in learners with epilepsy. While medication may be used to help a learner attend tasks in school, educators should observe the after effects of medication such as deviation in attention and concentration problems (Babane 2002: 70).

2.9.4 Cerebral palsy

Cerebral palsy may be described as a group of conditions characterised by impairment in motor disorder, it is a disability created from damage to the brain before, during or after birth (Vaughn *et al*. 2000:265). According to Hallahan and Kauffman (1991:347) cerebral palsy can be regarded as a characteristic of a condition that comprises seizures, motor dysfunction or behaviour disorders which originate from brain damage. Seizures are frequently observed in learners with cerebral palsy.

According to the research of Hauser and Hesdorffer (1990:327) seizures occur in about 30% of learners with cerebral palsy. In reviewing the results of other studies the authors concluded that the highest prevalence of epilepsy is with the type of cerebral palsy termed hemiplegia and the lowest prevalence was with the learners with dyskinesia. Hemiplegia refers to paralysis involving one side of the body either the left side or right the side and dyskinesia is a form of cerebral palsy that is characterized by slow writing and involuntary movements that are usually aggravated by stress and absent during sleep (Krajicek *et al*. 1997:427,431; Kruger 2001:83; Porter 2002:100).

2.9.5 Emotional and behavioural disorders

Emotional and behavioural disorders refer to behaviour that is not just slightly different from the usual, a problem that is chronic, one that does not quickly disappear and behaviour that is unacceptable because of social or cultural expectations (Vaughn *et al.* 2000:195).

Learners with epilepsy do have more behavioural problems than learners without epilepsy. Depression is also common in learners with epilepsy (Babane 2002: 70,72; Baddeley & Ellis 2002:56). Depression may be more related to the stigma effects, medication or problems in general life. A depressed learner has no motivation to work. Sue *et al*. (1994:361) maintain that when a learner is depressed, work responsibilities become ''monumental tasks''. The ultimate result of all these is poor

academic performance. Suicide has also been found to be more common in selected populations of learners with epilepsy (Hauser & Hesdorffer 1990:248).

2.9.6 Traumatic brain injury

Traumatic brain injury refers to total or partial damage to the brain tissue. This term applies to open or closed head injuries resulting in impairments in one or more areas such as cognition, language, memory, attention abstract thinking, reasoning, motor abilities, problem solving sensory information processing and speech. The term does not apply to brain injuries that are congenital or degenerative or brain injury through birth trauma (Vaughn *et al.* 2000: 264). However it is important to note that damage to the brain tissue is permanent, because brain tissue does not regenerate (Mira, Tucker & Tyler 1992:15).

Injury to the brain during the time when the learner is still at school is significant in the sense that the learner`s brain is still in the process of development (Lehr 1990:16). According to Hughes (1990:18) the process of brain development is a lengthy one, continuing well during school time, with complexity of making connections between neurons occurring over a period of years. If a learner has an object penetrate his brain such as during an accidents, there is a possibility that the learner may develop epilepsy (Hauser & Hesdorffer 1990:72).

2.10 PERSONALITY AND EPILEPSY

In the past an `epileptic personality` was discussed. More recently, the notion that learners with epilepsy may have particular personality or character traits has been reviewed. The learner with epilepsy exhibits the same extent of personality and behavioural difficulty as is established in the prevailing population, specifically in those learners with chronic conditions (Dreisbach *et al.* 1982:114).

Particular forms of epilepsy such as temporal lobe epilepsy may lead a learner to develop a certain personality type or set of characteristics. However, changes in personality by learners with epilepsy could occur due to the behaviour of other learners directed at that individual learner (Dreisbach *et al.* 1982:114).

2.11 CONCLUSION

Epilepsy is a complicated neurological condition. The diagnosis and causes of epilepsy vary from one learner to another. Precipitating factors of this condition also differ from one learner to another. Medical treatment also contributes to the complication of the conditions, because in some learners it is difficult to find the right medication. The associated problems and disabilities also affect the learner with epilepsy negatively. Understanding and support is essential to enable the learner with epilepsy to function meaningfully. The next chapter will focus on the role of educators in supporting learners with epilepsy to function meaningfully and guidelines will be formulated on the basis of that information.

CHAPTER 3

THE ROLE OF EDUCATORS IN SUPPORTING LEARNERS WITH EPILEPSY IN THE INCLUSIVE CLASSROOM

3.1   INTRODUCTION

In chapter two the nature of epilepsy and the associated problems were discussed. It became apparent that epilepsy is a complicated neurological condition and the learners with epilepsy will need understanding and a positive attitude from the educators and other learners. If the educators have a negative attitude towards the learners with epilepsy, this will contribute to the learner`s negative attitude towards academic tasks.

In accordance of inclusive education the learners with special educational needs including learners with epilepsy are now kept in the mainstream classroom and the educators have to take the key role as facilitators in the learning process. In this chapter, various existing support guidelines that are helpful to support the learner with epilepsy in the classroom will be discussed.

3.2   SUPPORT REGARDING EPILEPTIC CONDITION

The educators have to take the following aspects into consideration when assisting the learner with epilepsy namely support during seizure, medication and their role in identifying epilepsy.

3.2.1 **Support during seizure by educator**

It is important for educators to provide a safe environment for learners with epilepsy in their classroom. They need to be given accurate and complete safety information if ever seizure activity happens in the classroom. The different type of seizures activity namely partial seizures, generalised seizures and unclassified seizures have been discussed (refer 2.3). When supporting a

learner who is experiencing a seizure in classroom, the educators have to do the following:

The educators have to remain calm and move the learner from a potentially dangerous environment.   They should not restrain or hold the learner or do anything to interfere with the movements. The learner`s head should be cradled if necessary or something soft must be put underneath it. It is necessary to move any hard or sharp objects away from the learner. Any tight clothing near the neck should be loosened and the spectacles should be removed if the learner is wearing them. The educator should not try to stop the seizure but, if possible the learner`s head should be turned to the side to allow accumulated saliva to flow out. Nothing should be done to force the learner`s mouth open or hold his/her tongue or place anything in his/her mouth. It is advisable to call medical assistance immediately if the learner`s seizure lasts longer than five minutes or if the second seizure activity occurs immediately after the first seizure. This process is called` status epilepticus`. Medical assistance will be necessary also if the learner has injured himself during seizure activity. It is important to stay with the learner until he gains consciousness because the learner will be confused and disoriented. The educator has to be supportive and comforting and she may allow the learner to rest if he still feels drowsy. If there has been a loss of bladder or bowel control during the seizure, this has to be handled with great sensitivity. If possible the learner should rejoin classmates in the regular scheduled activities. The educator has to observe the event, describe what happened before the seizure, during the seizure and after the seizure. This information will assist the medical doctor to diagnose epilepsy and to see whether they are any precipitating factors (Krajicek *et al.* 1997:109; Michael 1995:115-118; Vaughn *et al.* 2000: 266).

3.2.2 Medication

The typical treatment of epilepsy is the use of medication called anticonvulsant drugs or anti-epileptic drugs. Many learners with epilepsy require daily administration of the medication during the school day. The current medication controls seizures very effectively. This means that the seizures may be kept to the minimum. It is important to note that medication does not only control seizures. Research indicates that there is a dramatic improvement in the schoolwork, self-esteem and behaviour of learners with epilepsy because they are no longer at the mercy of the abnormal fluctuations in the activity of the brain (Kruger *et al.* 2001:70). It is important for educators to familiarise themselves with the different types of anticonvulsant drugs and their possible side effects (refer appendix 7).

3.2.3 The role of educators in identifying epilepsy

It is important for the educators to know about the manifestation of various types of epilepsy, because they could help in the identification of epilepsy. The educators play a prominent role in identifying epilepsy. The medical practitioner will require information from various sources including educators, before epilepsy is diagnosed (Spiegel *et al.* 1996:34). The educators will be expected to assist the medical practitioner with the following information:

⇒ How/what did the learner feel before the seizure, e.g. cold, hunger or tiredness.

⇒ Any aura, warning or possible trigger factors such as pain, emotional stress or other factors.

⇒ Was it the first seizure the learner experienced.

⇒ What called your attention to the seizure - a cry or shout.

⇒ What happened during the seizure and how long it lasted.

⇒ Whether the seizure progressed to involve other parts of the body, e.g. head turning to one side, slurred speech.

⇒ Whether the learner became stiff and fell.

⇒ Whether there was shaking of any part of the body.

⇒ What happened immediately after the seizure such as confusion, headache, drowsiness, sleep or other responses.

⇒ Anything the learner remembers about the seizure. Whether he/she injured himself/herself.

⇒ How many episodes the learner experienced.

⇒ Information relating to possible causes, family history, history of pregnancy, birth, perinatal period, developmental milestones, previous illness and injuries.

⇒ Information relating to current functioning in daily activities at home, school, recreational and other activities (Baddeley & Ellis 2002:57-58; Johnson & Parkinson 2002:16,18; Spiegel *et al.* 1996:34-35).

When a seizure occurs in class, parents or guardians are to be notified and the record has to be kept. There are some learners, however who have such frequent seizures that reporting each one to the parents becomes inappropriate. In these instances a weekly report or summary of seizure activity may be more appropriate (Bergen 1991:18).

Record keeping of all the information about the learner with epilepsy is important. The educator is responsible for the record keeping. The management of epilepsy should contain the date and time when seizures occurred, the type of seizure as well as its duration. The educator should indicate, whether the learner took the medication on that day or not, the name of mediation as well as side effects seen in the classroom (Johnson & Parkinson 2002:13-15; Michael 1995:111-113).

3.2.4 Support in the classroom/environment

In order to support the learner with epilepsy in the classroom the following aspects should be put into place: individual education plan, supportive environment, behaviour management and strategies that will reduce destructive behaviour.

3.2.4.1 Individual education plan

Educators should have individualised educational plans for each learner who has a chronic condition. The individualised education plan should be prepared in consultation with parents, educators, and other school personnel including school nurse, if available (Porter 2002: 59-60). The plan should consist of the learner`s name, photo and emergency contact information. It should also include the diagnosis and description of the condition, health history including specific symptoms and level of severity. The emergency procedures should be put on the first page of the plan. Ongoing daily treatments such as health care procedures, medication administration, dosage, and possible side effects should be included in the plan. The plan should also provide the information on the additional accommodation measures taken. This includes identification of physical access and changes in instruction and activities. Example: rest breaks and changes in activity types and lengths (DePaepe *et al.* 2002:4; Vaughn *et al.* 2000:10-11).

Furthermore Ashman and Elkins (1994:19) and Janney and Snell (2000:15-17) stated that the information about current educational achievement levels and annual educational goals, including short-term instructional objectives should be included in the plan. A statement detailing educational services to be provided and the extent to which each learner will participate in regular programmes and the appropriate objective criteria and evaluation procedures, should be included in the plan.

3.2.4.2 Supportive environment

The nature of the physical classroom environment has an effect on the behaviour and safety of both educators and learners. Educators have to maintain the physical classroom environment as safe as possible for learners with epilepsy. Educators are responsible for the learner`s health and safety while they are in their classroom. Educators have to make sure that dangerous chemicals or sharp scissors are kept away from all learners

including learners with epilepsy. Educators have to put in place clear and firm strategies about dealing with bags and other equipment at the start of the lesson, a time when safety issues should be discussed (Cowley 2003:131).

Educators need to have a blanket or other soft material to use for protection if needed. The sharp edges of classroom furniture should be covered and if possible the school management should purchase furniture with round edges. The classroom temperature should be as comfortable as possible to avoid hot or cold environments, which may hinder performance. The use of a flashlight in the classroom should be avoided as it may precipitate seizures in some learners. The use of shatterproof equipments is recommended for usage in the classroom to avoid accidents during seizure activity. The classroom environment should be barrier free and it should be arranged in such a way to allow easy movement between desks and tables. It is necessary to make sure all learners in the classroom know first aid procedures for seizures (Lewis & Doorlag 1995: 192; Michael 1995: 122-123).

3.2.4.3 Teaching other learners about epilepsy

Educators have the responsibility of helping other learners understand and accept the learner with epilepsy. The decision about when to teach the rest of the class about epilepsy should not be made by the educator alone, but it should involve both the parents and the learner. The parents have to give permission that other learners may be taught about epilepsy. The learner with epilepsy should take an active role in planning the lesson and preparations (Michael 1995:96-97; Vaughn *et al.* 2000:271).

When teaching learners about epilepsy the educators have to explain that epilepsy or seizure is not a disease and is not contagious, but is a neurological condition. They also have to explain that seizure happens, when the brain receives many different messages to which the body reacts and the learner became unconscious and after the seizure the learner`s consciousness returns to normal. When the seizure is over, however it causes some inconvenience. The educator also has to discuss the causes of epilepsy

such as head injury and stress the issue of safety precautions such as the use of helmets, speed reduction while driving and the use of seat belts. The educator has to help the learners to role play safety procedures to be used for the different types of seizures. Positive ways that the other learners can assist the learner with epilepsy, should be generated. The person with epilepsy can be invited to be the guest speaker in the classroom or in the school. To develop understanding and acceptance, the educator can ask learners to write reports on famous people who had epilepsy. If possible, videotapes of seizures and safety procedures could be shown in the classroom (Lewis & Doorlag 1995:178; Michael 1995:97-98).

3.2.4.4 Behaviour management

Learners with epilepsy exhibit more behaviour problems than other learners who have special educational needs. They also have more behaviour problems compared to other learners with chronic conditions (Michael 1995:71-72). Effective behaviour management is essential to the smooth running of a school and classroom (Rogers 1995:12). When behaviour management skills are applied in the school and in the classroom, they have to be applied in the same way for all learners, including learners with epilepsy.

The goals of positive behavioural management are not limited to decreasing or eliminating one or two behaviours concerned although such changes compose one desired outcome. The goals of positive behavioural management also include helping learners to develop self-control skills and form more positive relationships with peers, educators and other community members (Janney & Snell 2000:2).

3.2.4.5 Preventing behaviour problems

The first step in preventing behaviour problems is to have a clear school policy on behaviour management. A school policy document must contain a set of rules and the consequences. A good policy has to make clear to learners, educators, parents and administrators that schools should be safe,

friendly and supportive environments in which to work. The school policy on learners behaviour should be seen as dealing more with matters of welfare, safety and social harmony rather than procedures for punishment and enforcing discipline. The core of any behaviour management policy should include the stated aim of teaching all learners responsible and effective ways to manage their own behaviour and making appropriate decisions (Westwood 2003:66).

3.2.4.6 Classroom rules

Classroom rules are essential for the smooth running of any lesson and should be formulated jointly by the learners and the educator very early in the year (Westwood 2003:68). Research indicates that most learners with special educational needs, including learners with epilepsy, function best when they know what is expected of them (Polloway, Patton & Serna 2001:64).

It is important to keep rules short, clear and explicitly stated so that learners know what is expected of them. Rules should specifically summarise appropriate behaviour and be formulated in a positive manner. The rules should be reasonable expectations of behaviour, be as brief as possible and be relatively easy for the learners to understand, remember and obey. The rules must be functional and practical so that they are beneficial to a positive and safe class climate. The rules should be consistent with school and district office rules and policies and must be clearly displayed in the classroom. It is important that the educator should frequently refer to the rules if it is expected to successfully manage learners. The learners should receive a copy of the rules (Iverson 2003:55-60; Kyle & Rogien 2004:105-107).

3.2.4.7 Classroom rules for learners when seizures occurs

Informed learners will not be frightened during seizure activity in the classroom, nor will they be horrified by such an occurrence, but they will be prepared to respond in a helpful and supportive manner (Frieman & Settel 1994:200).

Learners will be expected to assist the educator when seizures happen in the classroom but the educator has to put the learners at ease first. The learners will be asked to move any desks, chairs or objects out of the way that may be a danger to the learner with seizures. They will be expected to help with first aid procedures for seizures and they will also be expected to stand far from the learner to allow for sufficient oxygen to reach the learner (Kruger *et al.*2001:71-72).

When implementing first aid procedures for seizures, the first thing the learners have to do is to prevent physical damage in the initial fall, if at all possible. They should loosen any tight clothing around the learner`s neck and turn the learner to the side to prevent fluids in the mouth entering the lungs. They should not put anything in the learner`s mouth and they should put something soft under the learner`s head. Then the learners have to wait until the seizures stops because there is really nothing they can do during a seizure (Krajicek *et al.* 1997:284; Niedermeyer 1990:339).

If there have been an accidental emptying of the bladder, the learners of the opposite sex should be asked to leave the classroom or be asked to occupy themselves elsewhere in the classroom. A friend of the learner had the seizure should accompany his/her friend to the washroom so that he can tidy himself/herself up and change clothing or go home to change clothes (Kruger *et al.* 2001:72).

Learners with epilepsy are expected to inform someone in the classroom if they believe that a seizure is about to occur because this procedure will prevent an injury. An injury can happen if the learner is conducting a scientific experiment with certain chemicals or when the learner is working with equipment requiring careful handling (Spiegel *et al.* 1996:35-36).

3.2.4.8 Classroom procedures

Classroom procedures may be effective for the learners with epilepsy because they will know what is expected. Classroom procedure is the key element in avoiding disruptions and increasing instructional time (Polloway *et al.* 2001:64).

The classroom procedures have to explain the working procedure. Learners need to know exactly how they are expected to approach their work. Educators might go through a set of work habits and even put a list of these up in the wall, for the learners to follow. Depending on the educator`s approach the work habits may include: write as neatly as you can; work in silencel; take time to check your work for spelling and punctuation and put your hand up if you have a question or if you need help (Cowley 2003:157)

The classroom procedures have to be explained to the learner when they arrive at the classroom in the morning, when the bell rings and what to do when the fire drill bell rings. The classroom procedures should also state what the learner should do when the transport does not arrive. The classroom procedures should explain what the learner should do if he/she needs to go to the bathroom and when he/she wants to go out of the classroom (Wong & Wong 1991:173).

3.3 STRATEGIES FOR REDUCING DESTRUCTIVE BEHAVIOR

Learners with epilepsy may exhibit disruptive behaviour. There are many strategies for reducing disruptive behaviour in learners with epilepsy. The following strategies can be implemented.

3.3.1 Deliberate ignoring

Research has indicated that learners with epilepsy display behavioural problems. They will try to get a reaction from the educator when they are bored and desire attention. Unfortunately, this population of learners often elicits negative attention from educators. These learners perceive negative attention as better than no attention at all (Maag 1999:279). Therefore, one important ingredient of positive reinforcement is deliberating ignoring the learner. The technical term for this elimination is extinction (Vaughn *et al*. 2000:78; Westwood 2003:73).

The educators have to identify the learner and the target behaviour. They must identify whose attention the learner is seeking. If the educator realises that the learner is seeking for her/his attention, she/he should implement deliberate ignoring intervention. The educator always has to ignore the target behaviour when it occurs. The educator has to praise the learner when the target behaviour does not occur and praise other learners who do not engage in the target behaviour. The educator has to turn away from the learner when the target behaviour occurs and evaluate the effectiveness of the intervention. For this strategy to be effective, educators require patience and the ability to control reinforcement (Vaughn *et al*. 2000:78).

3.3.2 Timeout

Many learners with epilepsy exhibit behavioural problems, including aggression (Sachs & Barret 1995:141). They prefer to disrupt the classroom and they fail to complete academic tasks because most of the time they are expelled from instructional settings at each outburst. As a result of aggression, these learners may develop a double disability requiring remediation in both academic and social skills. Remember it is best to apply timeout before the learner loses control or becomes assaultive. The behaviour pinpointed for timeout should be antecedents to aggression, for example, teasing, or lifting an arm to hit another learner (Kerr & Nelson 1998:276-278).

The leaner will be removed from the classroom activities and be placed in the space that would encourage self-reflection for a while. The learner will be expected to fulfil certain criteria before allowed to leave the space. The criteria should include that the learner agrees to adhere to classroom rules and the signing of a behavioural contract (Department of Education Alternatives to Corporal Punishment 2000:17-18).

If the learner is extremely disruptive within the school, the interventions for reducing extremely destructive behaviour may have to be supplemented with external penalties. An example of this behaviour is when the learner has damaged something, the parents have to pay for the damaged object. This could result in parents paying for the damaged object while withholding the learner`s allowance (Kerr & Nelson 1998:276-278).

3.3.3 Behavioural contracting and formulation

Behavioural contracting represents another specific application of positive reinforcement, which will improve the behaviour of learners who have problems in the classroom including learners with epilepsy (Kyle & Rogien 2004:208). Behavioural contracting has been used extensively in the past and its popularity continues to rise. In behavioural contracting each individual`s behaviour and accompanying reinforcement are specified precisely. It also contains the contingencies for an individual to receive reinforcement. Subsequently behavioural contracting represents a permanent product to which educators and learners can refer if problems or questions arise in regard to contingency (Maag 1999:311-312).

When formulating a behavioural contract, it is important that it should be negotiated and be freely agreed upon by all parties. The contract must be fair to all parties and its terms must be clear. The contract must be honest, positive and its reinforcer should be immediate. The contract should initially call for and reinforce approximations of target behaviour. The learner should not be eliminated early from obtaining reinforcement and it is important to reinforce behaviour immediately after it occurs. The contract should be

delivered in accordance with the terms of the contract and should be noted down. The contract must include the date of review and renegotiation (Maag 1999:313).

3.3.4 Cooling off

Explosive situations may crop up with some learners with special educational needs, including learners with epilepsy, and a cooling off period will be necessary. The learner may be taken to the corner in the classroom/library where worksheets may be available for use. The learner should be under supervision for time spent out of the classroom and should not return to the particular lesson until emotionally fit to go back to the classroom. The educator and the learner can enter into a behaviour contract. It is beneficial that after a period of time, the learner has to participate in a debriefing session. The educator has to encourage the learner to discuss the incident and reflect upon the behaviour. The educator has to assist the learner to identify behaviour that might have been more appropriate and the learner has to set a goal for improvement (Kyle & Rogien 2004:194; Westwood 2003:75).

3.3.5 Reinforcement and rewards

Reinforcement and reward systems are useful techniques that educators can implement to help the learner with special educational needs, including learners with epilepsy, to remain focused, motivated to learn and improve their behaviour (Iverson 2003:145).

Another method of reinforcing behaviour is the use of tokens, such as stars, counters or other little objects. In this case the learners receives something when they have acquired a certain number of tokens. Tokens are not efficient for some learners with special educational needs, including learners with epilepsy because they find it difficult to see the connection between the behaviour and what they eventually receive. If reinforcers like praise, smiles and overt approval are not effective, it will be necessary to apply more tangible rewards, selected according to the learner`s needs. The educator can

use stickers or coloured stars for rewarding good behaviour, and it is important to reinforce and reward only good behaviour. Educators should remember to give reinforcement immediately after the desired behaviour, and once the desired behaviours are established, reinforcement should be given only at carefully spaced intervals after several correct responses have been made. The educator must gradually shift to unpredictable reinforcement so that the newly acquired behaviour can be sustained for longer periods of time without reward (Burden 1997:324; Westwood 2003:74).

3.3.6 Punishment

Punishment should be applied in the same way to all the learners in the classroom including learners with epilepsy. Punishment is a way of eliminating undesirable behaviour. However, punishment tends to make the learner to feel resentment, alienation and fear. Punishment may also suppress a learner`s responsiveness in a classroom situation while eliminating the negative behaviour (Maag 1999: 74,376: Vaughn *et al.* 2000:79).

If it is really necessary to punish the learner, punishment should be administered as soon as the inappropriate behaviour is exhibited because delayed punishment may be useless. Punishment must always be combined with positive reinforcement and other tactics to rebuild the learner`s self-esteem. The goal of intervention should be to help a learner to gain control over emotions and behaviour. It is important to note that the goal of punishment will not be achieved if ongoing aversive behaviour is imposed (Porter 2002: 216; Westwood 2003:76).

3.4 SUPPORTING THE LEARNER

In order for educators to support learners with epilepsy, the following aspects are important. Dealing with feelings, improving social skills, enhancing self-esteem, self-management, improving memory and attention and assessment considerations.

3.4.1 Dealing with feelings

The educator can help significantly by acknowledging the learner`s feelings about epilepsy and seizures. This is important if educators wish to deal realistically with acceptance and understanding. When educators deal with the feelings of the learner with epilepsy, they have to show compassion, assurance, understanding and support. They have to listen to the learner attentively without interruptions and giving comments. They should not put the learner down when he/she express his/her feelings. Educators have to be aware of their own feelings towards seizures and epilepsy because this can influence the learners in the classroom (Michael 1995:96).

The educator can suggest counselling by the school psychologist or educational psychologist. This strategy may help the learner understand and gain a degree of self-control, through such techniques as progressive relaxation to reduce anxiety, self-instructions when a seizure is sensed to be coming on and aids in improving memory (Vaughn *et al.* 2000: 117).

3.4.2 **Improving social skills and group participation**

The educator can be very helpful with respect to structuring social interactions and improving social skills of the leaner with epilepsy. A learner with epilepsy may use his or her condition as a hindrance. Epilepsy can be put easily as an excuse for not participating in some activities in the classroom. The educator can be quite helpful in preventing these phenomena by encouraging participation in the group activities. Including learners with epilepsy in the group activities, is another way to push up their self-esteem and to improve their social skills (Spiegel *et al.* 1996:37).

Educators can employ strategies for facilitating social interactions on individual bases and in a group situation, which can increase the chances of positive social integrations for the learner with epilepsy in the classroom. The greater use of games and play activities of a non-academic type can place the learner with epilepsy in situations where he/she can more easily fit in and

work with others. The educator can make use of peer tutoring, buddy systems and other helping relationships to assist the learner with epilepsy to improve social interactions. The educator can select a particular topic such as friends or working together as the basis for classroom discussions and much of this information can be incorporated into a social educational programme. The educator can form peer groups and the members of the peer group can be encouraged to maintain and reinforce social interactions with less-able or less-popular learners. Often the members of the peer group are unaware of the ways in which they can help. Peer group members may need to be shown how to initiate contact, how to invite the learner with special educational needs, including learners with epilepsy, to join in an activity, or how to help the classmates with particular school work assignments (Kyle & Rogien 2004:238-239; Westwood 2003:91).

3.4.3 Enhancing self-esteem

One of the recurrent problems in learners with epilepsy is that they typically suffer from low self-esteem and impaired social skills (Spiegel *et al.* 1996:37). The importance of self-esteem for learners with epilepsy cannot be overemphasized. The educator is the key person to enhance the self-esteem of the learner in the classroom. How educators act and react to and with learners with special needs, including learners with epilepsy affect learners` view of themselves (Hayers & Foyers 1990:211).

When enhancing the learner`s self-esteem, the educator has to set high expectations for all learners and assist learners in achieving them. Learners will rise or fall to the level of expectation of the educator. When educators believe in learners, learners believe in themselves. The educator should always try to explain the reason or purpose of rules, assignments and learning activities. Only if the educator draws attention to the value of activities will the learners experience the personal satisfaction that comes with achieving them. The educator has to provide all learners with ample amounts of positive information feedback. The information feedback should describe the

learners`s achievements, skills or social behaviour. It should also avoid value judgments (Porter 2002: 197-199; Raffini 1996:181).

The educator should help the learners to set realistic goals. Realistic goals are goals that the learner will be able to attain. The learner has to divide large goals into small steps and they should be measurable. The date has to be set for completion of the goal. The educator can help the learner to visualise accomplishment of goals. This is important because the learner will be able to maintain positive attitudes towards given tasks (McGuire & Heuss 1995:152-153).

The educator has to accept learners as valuable, worthwhile human beings, irrespective of diverse needs. It is important for educators to distinguish between what a learner does and what a learner is. The educator has to learn something unique about each learner and occasionally mention, it to them. Each learner`s efforts and accomplishments should be valued. The educator must match tasks to the skill level of the learner, so that effort can lead to a success (Raffini 1996:181).

3.4.4 Self-management

Self-management refers to an individual`s ability to function independently in any given learning environment, without the need for constant supervision (Agran 1997:132). Evidence is accumulated to support the view that deliberate training in self-management can be effective in promoting learners` independence (Bartlett, Weisenstein & Etscheidt 2002:35). The self-management strategies that the educator can employ to help the learner with epilepsy is personal awareness and working knowledge.

3.4.4.1   Personal awareness

The educator has to make the learner aware that his/her approach to epilepsy can influence how he/she feels about himself/herself and how others perceive him/her. The educator has to explain to the learner that he/she is an unique individual with characteristics such as size, shape, colour, age, skills, talents and ambitions in life. The educator has to teach the learner with epilepsy not to think or saying "I am an epileptic" because this will be defining the person in terms of the condition. It is important for educators to explain to the learner that the way he/she thinks, feels and behaves can influence the epileptic condition. It is also necessary to explain to the learner that emotions and feelings about epilepsy may affect the frequency of seizures. Positive thinking and emotional management may actually help reducing the number and severity of seizures (British Epilepsy Association 2004:1)

3.4.4.2 Working knowledge

Working knowledge means that if the learner with epilepsy knows the facts about epilepsy and understands how they apply to him/her. This will prevent many problems. Providing the learner with knowledge can take away stress, reduce fears, feelings of incompetence and anxieties and will help the learner to be in control. The educator has to encourage a learner with epilepsy to find more information about the condition. The educator also has to teach the learner to try to keep an open mind about epilepsy and if he is uncertain about any aspect of it, a doctor should be consulted. The educators have to encourage learners with epilepsy to share their experiences with one another. This is one way of learning more about the condition and can also help the learners with epilepsy to feel less isolated (Gouws & Mfazwe 1998:40; Kruger *et al.* 2001:73).

3.4.5 Improving memory and attention

The most commonly reported cognitive deficits in learners with epilepsy, are memory difficulty and attention deficits. It is known that the longer the seizure activity lasts, an increased chance of injury to the brain exists, which can lead to memory difficulty and attention deficits. Memory difficulty drowsiness or attention problems can sometimes happen because of the side effects of anti-epileptic drugs. These side effects can have an effect on short-term memory and may make it difficult to learn and store new information (Burden 1997:292; Michael 1995:70-71). The following techniques can be used to improve the memory and attention of the learner with epilepsy: mnemonics, acronyms, rehearsal and attention improving skills.

3.4.5.1   *Mnemonics*

Mnemonics are memory-triggering devices that help learners to remember and retrieve information by forming associations that do not exist naturally in the context (Vaughn *et al.* 2000:501). Mnemonics devices mean that the learner will take the first letters of sentences or paragraphs or subsections and form a word with them (Kruger *et al.* 2001:127). Mnemonics help the learner to remember and recall information. Example: a mnemonics for remembering the colour of the rainbow is: **R**ichard **o**f **Y**ork **g**ave **b**attle **i**n **v**ain. The rainbow colours are red, **o**range, **y**ellow, **g**reen, **b**lue, **i**ndigo and **v**iolet (The National Society For Epilepsy 2003:1)

3.4.5.2 *Acronym*

Acronym is a word formed from the first sounds of the words that make up a phrase. Some acronyms reproduce the meaning of the word that they stand for. The LESSER acronym can be taught to learners to help them organise their thoughts and information when composing written work: **L=** List your ideas; **E**=Examine your list; **S**= Select your starting point; **S**= Sentence one tells us about the idea with another sentence; **E**= Expand on this first idea with another sentence and **R**= Read what you have written. After the above

process, the educator can ask learners to revise their work if necessary, or to repeat the steps for the next paragraph (Vaughn *et al.* 2000:144; Westwood 2003:157-158).

3.4.5.3 Rehearsal

The rehearsal approach can be efficient to help a learner with special educational needs, including a learner with epilepsy, to improve his/her memory. Learners` retention of facts and sequencing problems can be improved by getting them to play `the shopping list` by adding items. The list can contain as many items as are learners in a class. Some other suggestions that will facilitate retention and recall for learners will include encouraging learners to repeat compiled lists in their minds. The educator has to teach learners to classify items together, visualise them and repeat instructions in their minds so that information is stored effectively (Vahid, Harwood & Brown 1998:39,108,118).

3.4.5.4 Attention improving skills

The educators have to employ attention skills that can help learners with epilepsy to pay attention. The educators have to arrange the classroom environment in such a way that it facilitates attention. Educators have to consider where the learner with the attention problem sits in the classroom, because the educator has to maintain eye contact as well as physical contact all the time. When imparting knowledge educators have to help learners to pay attention to the right matters by being brief, clear and to the point. The educator has to help learners with epilepsy to ignore irrelevant stimuli by structuring the teaching situation in such a way that there are as few things as possible to distract their attention. Educators have to keep in mind that the attention span of learners with epilepsy is short, therefore teaching sessions should be brief and should alternate with different activities (Burden 1997:280; Cowley 2003:160-161; Vaughn *et al.* 2000:154).

3.4.6 Assessment considerations for the learners with epilepsy

Assessment refers to any process used to ascertain how much learning and what quality of learning, has taken place for each learner in the classroom. Assessment gives an indication of how effective a particular episode of teaching and learning has been. The process of assessment also points out anything that may need to be taught again, revised or practised further by some learners (Westwood 2003:212).

When implementing assessment for the learner with epilepsy, the educator has to consider the anxiety and stress level of the learner. All learners experience a degree of anxiety in the assessment situation. However, learners with epilepsy may experience particular difficulty when under severe stress (Iverson 2003:216-217).

Educators have to consider the health of the learner at the time of assessment. It is important for the learner to perform at the usual place and in the usual manner at the time of assessment. The educator has to bear in mind, if the learner has had a seizure recently or is not working at the usual place for whatever reason, the reliability of the results will be limited. The educator also has to bear in mind that some learners may need testing modifications in order to obtain an accurate picture of their strengths and weaknesses. Testing modifications may include using oral testing or different testing formats (Michael 1995:52,53,57).

An independent educator who is not involved with the subject/ learning area could write down the learner`s answers. Spelling mistakes may be ignored in the case where a learner has serious spelling problems. For learners who write slowly, extra time may be given so that they can complete their papers (Kruger *et al.* 2001:74).

3.5 OTHER ROLE-PLAYERS

If learners with epilepsy have to receive adequate support, other role players have to be involved. The role players include substitute educators and the family of the learner with epilepsy.

3.5.1 Substitute educator

The use of substitute educators is one of the most difficult jobs in the school. The substitute educator often comes into an unfamiliar classroom at a moment`s notice. The substitute educator has to work quickly to obtain the educator`s plan for the day and carry out the educational programme with the learners with whom he/she is unfamiliar. Therefore, it is extremely important that the substitute educator be made aware of health conditions of all learners in the classroom. The regular classroom educator should note in the plan any special procedures or considerations to be followed with particular learners with special educational needs in the classroom (Michael 1995:62). Research recommends that if possible, the same substitute educator should regularly substitute in the same class (Hourcade & Parrete 1986:284).

3.5.2 Collaboration with the family

It is vital for the educator and the parent to collaboratate in achieving the needs of the learner with epilepsy. In developing this collaboration the educator needs to understand that the learner with epilepsy is a cause of stress for the entire family (Frieman & Settel 1994:196).

There are several models of the processes that a family may go through when they realise that their child has epilepsy. Typically the processes that the family may experience include grief, pain, feelings of helplessness, shock, denial, guilt, anger, sadness, depression, isolation, confusion, worry and acceptance. However, it is important to note that parents do not go through these processes in a particular sequence, nor do they experience them in any set amount of time. Educators have to collaborate with the family by showing

acceptance and understanding (Babane 2002:67; Krajiceck *et al.* 1997:358-359).

3.5.2.1 Communication with the family

Communication with the family is important. The educator needs to establish an environment in which communication can remain open at all times (Spiegel *et al.* 1996:38). The educator has listen what the family identifies as the needs of the family and the child. The educators have to accept the family, not just the child, as the focus of services. The educators have to share information on the learner`s development and behaviour in a supportive way and provide feedback about the learner`s strengths and progress (Krajicek *et al.* 1997:363; Kyle & Rogien 2004:260).

Educators should avoid giving advice unless it is requested. However, this does not mean that educators can never give suggestions. Suggestions should be given with the expectation that the parent may or may not choose to implement. Educators also have to avoid jumping too quickly to a solution. Listening carefully and fully to the message will help educators to get at the root of the problem (Vaughn *et al.* 2000: 113).

Educators have to know that they are legally and ethically bound to keep information as confidential as possible. It has to be noted that the information will only be shared with other school personnel (Frieman & Settel 1994:196; Krajicek *et al.* 1997:363).

3.5.2.2 Working with the family

It is important for educators to recommend to the parents of learners with epilepsy to become involved with parent support groups. This will be a useful way for parents to learn coping skills, gain new information and ways to locate needed services. Emotional support may be accomplished from such groups (Krajicek 1997:363; Michael 1995:128). According to Seligman and Datliong (1989:44) other benefits of parent groups include the following:

⇒ Providing role models.

⇒ Providing a basis for comparison.

⇒ Providing information.

⇒ Alleviation of loneliness and isolation.

3.6 GUIDELINES FOR EDUCATORS TO SUPPORT LEARNERS WITH EPILEPSY IN THE INCLUSIVE CLASSROOM

The support guidelines were designed on the basis of the literature study. The guidelines were formulated to help educators to provide positive and practical support for the learners with epilepsy. A description and summary of the initial support guidelines follows.

3.6.1 Description of the support guidelines

The support guidelines are mainly based on the information gathered in the literature study. The researcher has also used her experience as a primary school educator and a learning support facilitator at the Education District Office. The participating educators were asked to evaluate and make recommendations on the support guidelines during focus group interviews sessions (Refer chapter five).

The support guidelines contain practical and theoretical aspects that are necessary to be used in the inclusive classroom to support the learner with epilepsy. They are focussed on regular primary school educators in the inclusive setting. Most of the aspects in the support guidelines are for the use in the classroom with the whole class, not only for the learners with epilepsy. Learners with other special educational needs will also benefit from the support guidelines and compensatory teaching.

Educators can implement the support guidelines without training because most aspects of the support guidelines are practical and understandable. The educators have freedom to choose the aspects of the support guidelines that will be appropriate for their classroom. However, when implementing the aspects of the support guidelines, the educators have to take into cognisance the diversity needs of individual learners. The support guidelines also contain modification ideas in an attempt to cater for the diverse needs and teaching styles of educators.

The support guidelines can be implemented from time to time as the learning needs of learners change. The important aspect about the support guidelines are that they contain facts for educators which might change their attitudes and stimulate thinking into ways of looking at their given situations and what they are trying to achieve in the inclusive education. The support guidelines are presented in a workbook format

3.6.2 Summary of support guidelines for learners with epilepsy in the inclusive classroom

The summary of the support guidelines are presented as follows. Refer to **Table 3.1.**

Table 3.1 : Summary of the initial support guidelines for learners with epilepsy in the inclusive classroom			
Support regarding epileptic condition	Strategies for reducing destructive behaviour	Supporting the learner	Other role-players
- Support during seizure by educator - Medication - The role of the educator in identifying epilepsy - Support in the classroom /environment - Individualised education plan - Supportive environment - Teaching other learners about epilepsy - Behaviour management - Preventing behaviour problems - Classroom rules	- Deliberate ignoring - Timeout - Behavioural contracting and formulation - Cooling off - Reinforcement and rewards - Punishment	- Dealing with feelings - Improving social skills and group participation - Enhancing self-esteem - Self management - Personal awareness - Working knowledge - Improving memory and attention - Mnemonics - Acronym - Rehearsal - Attention improving skills	- Substitute educator - Collaboration with the family - Communication with the family - Working with the family

o Classroom rules for learners when seizures occurs o Classroom procedures		• Assessment considerations for the learner with epilepsy	

Source: compiled using information in the support guidelines (refer appendix 6).

3.7 CONCLUSION

It is apparent from the above discussion that the education of learners with special educational needs including learners with epilepsy in mainstream classrooms is commendable and pragmatic. The greatest challenge for educators is to improve the quality of instruction at classroom level and to implement adequate educational support guidelines/programmes for learners with epilepsy. The next chapter will focus on the qualitative research design.

CHAPTER FOUR RESEARCH DESIGN

4.1 INTRODUCTION

The first chapter set the context of the study by outlining the aims of the study. In chapter two the nature of epilepsy and associated problems were explored. The various support strategies in use for learners with epilepsy were discussed in the previous chapter. The research was undertaken with a view to develop a support programme for learners with epilepsy to be used in the inclusive primary schools.

This chapter intends to present a description of the research design and method used in this study.

4.2 RESEARCH QUESTION AND AIMS

The need for transformation in South Africa was inevitable. However, education authorities cannot ignore the evidence that educators are not coping effectively with changes brought about by the introduction of the inclusive education system. Therefore, the research question is as follows: **What information do educators in the inclusive primary school need about the learners with epilepsy in order to give them the necessary support?**

The research problem concerns the development of support guidelines. Learners with epilepsy in the primary school need support at the classroom level. Educators do not have sufficient knowledge to support these learners. There is thus a need for a support programme containing guidelines and strategies to assist regular educators to improve academic tasks of learners with epilepsy in the mainstream primary schools. The research challenge is to uncover strategies and guidelines that educators can use to support learners with epilepsy in the inclusive classroom.

The general aim of the study is to do research on epilepsy and design **comprehensive support guidelines for mainstream primary school educators.** The specific aim of this study is to compile support guidelines and strategies that educators can use without too much effort and training for supporting a leaner with epilepsy in the inclusive classroom.

4.3 RESEARCH SETTING, RESEARCH DESIGN AND THE RESEARCH METHOD

The research setting, research design and research methodology have been developed to enable the researcher to obtain the data from the sample studied. Thus, its purpose is to provide the most valid answer to the research question.

4.3.1 Research setting

The study has been restricted to the Sasolburg area in the Northern Free State area for practical reasons only. Four primary schools were selected which are representative of a wide spectrum of learner needs and socio-economic conditions. Learners in this area attend public schools where the learner-educator ratio is 1:45 and the possibilities for providing individual support, is almost impossible.

The researcher secured permission from the authorities (Free State Education Department) to conduct the research. Refer to appendix 1, 2 and 3 for the brief proposals to the Free State Education Department, to the principals and the participating educators.

Once approval to proceed with the research had been secured from the authorities (refer appendix 8), the researcher began the process of negotiating and maintaining relationships with individual or groups of primary interest (Devers, Kelly & Frankel 2000:3).

4.3.2 Research design

One of the most important choices made in the construction of any study is the research design. Research design refers to the plan and structure of the investigation used to obtain evidence to answer the research question (Kerlinger 1986:279; Mcmillan & Schumacher 1997:33).

Various qualitative data collection processes and techniques as outlined in the research design plan below in **Table 4.1** were used in this study.

TABLE: 4.1 RESEARCH DESIGN PLAN	
Research process	Specifics of how it was conducted
Phase one: Exploratory ▪ Draw up the initial support guidelines containing strategies (Refer Appendix 4) ▪ The initial support guidelines given to eighteen participating educators ▪ Verifying usefulness and relevance of items included in the initial support guidelines	▪ Information gathered from preliminary literature study ▪ Educators were expected to evaluate, make recommendations on the initial support guidelines within three weeks period. ▪ Hold two focus group interviews (9 participants per group) with eighteen educators who were evaluating the initial support guidelines. (Refer Appendix 5 for focus group interview questions

Phase two: Adapting the guidelines	
• Collect and verify additional data • Prioritise and limit items to be included in the successive support programme • Prepare the final draft of the support guidelines	• Use all data from phase one to adapt the support guidelines

4.3.3 The research method

Qualitative research methods were developed in social sciences to enable researchers to study social and cultural phenomena and are characterised as an attempt to obtain an in-depth understanding of the meanings and descriptions of the situation as presented by the informants (Boje 2001:4)."Qualitative research is the inquiry process of understanding a social phenomenon, based on building a holistic picture, formed with words, reporting detailed reviews of informants and conducted in a natural setting" (Creswell 1998:1). Qualitative research derives meaning from the perspective and experience of the participants (Fouche & Delport 2002:79).

Hancock (2002:2) states that qualitative research is concerned with developing explanations of social phenomenon. In other words, it aims to help us to understand the world in which we live and why things are the way they are. Hancock (2002:4) identifies four major types of qualitative design, namely phenomenology, ethnography, grounded theory and case study. In this study, the phenomenological approach was applied to collect and analyse information. The phenomenological approach attempts to understand and interpret meaning attribution of participants in everyday life (Fouche 2002:273).

Phenomenology is a way of describing something that exists as part of the world in which we live. A phenomenon is not an object that is extrinsic to the world, but it is the appearing of the world itself (Sandowsky 2002:5). Hancock (2002:4) states that phenomena may be events, situations, experiences or concepts. He further goes on to state that phenomenological research begins with the acknowledgement that there is a gap in our standing and that clarification or enlightenment will be of benefit. It does not necessarily provide definite explanations but it does raise awareness and increases insight.

In qualitative research, there is usually little information about specific phenomena available, therefore an inductive reasoning strategy, which is exploratory, descriptive and contextual is followed (Poggenpoel, Myburgh & Van der Linde 1999:411-412). This inductive strategy uses the researcher as instrument.

4.3.3.1 The researcher as instrument

The researcher acts as an instrument in the process of describing the interpretation and phenomenon of the interactions with the participants in which the researcher personally was involved (Denzin & Lincoln 1994:108). In this study, this interaction took place in the natural environment of the participants and the researcher is actively involved in the process by means of facilitating a focus group. The researcher as an instrument has to play the following roles as the research process unfold:

⇒ Consumer role: the researcher as a consumer needs to know how to find relevant information, have knowledge of the situation in the field, and should be able to translate research findings into specific and appropriate interventions.

⇒ Knowledge creator: the researcher should produce a written form of the research findings and inform others about it.

⇒ Disseminator of knowledge: research findings may be published or distributed to the general public, colleagues, or participants in the

research if relevant. The researcher plans to disseminate this knowledge through the educators` union, conference presentations, workshops with educators, newsletters and copies of the dissertation which will be made available to all schools within the district.

⇒ Contributing partners: during the research, the researcher collaborates with others and perform different functions like identifying practice problem areas, prioritising problems, creating practice methods from various sources and promoting new practice ideas.

⇒ Integrator: the researcher-practitioner needs to engage the entire spectrum of available knowledge and skills in the continual improvement of their practice to find and use best practice intervention (De Vos, Schurink & Strydom 2001:13-14)

Educational research as applied in this study is regarded as a type of social service. It has a strong service motive and is geared towards the interest and needs of the educators (Kamper 2000:44). Educational research can thus be viewed as intervention research. Intervention research has been described as research directed towards developing innovative interventions (De Vos *et al.* 2001:11). This type of research has a specific intervention purpose and is focused on clarifying a given situation or finding alternative solutions to a practical problem as stated in the research problem. Researchers and policy makers have to take the needs and ideas of communities into account. The researcher supports the view held by De Vos *et al.* (2001:18) that no development could take place without involving communities in planning the type of service they require, especially if one is involved in educational research. Educators largely determined what categories of interventions were to be included in the support guidelines (De Vos *et al.* 2001:11,18).

4.4 DATA COLLECTION METHODS

Preparation for data collecting that involves the setting, deciding who will be interviewed and the research process was discussed in the preceding section of this chapter. To collect data on the support guidelines the researcher used sampling methods and focus group interviews.

4.4.1 Sampling method

Two methods of non-random and non-probability sampling, namely accidental and purposive sampling, were used in this study. Accidental sampling, also called convenience or available sampling, is done when you survey people who are ready and available. For the reasons stated (refer 4.3.1), it was decided only to involve educators at the schools that the researcher serves as Learning Support Facilitator. No specific criteria were used to select schools other than convenience sampling.

Educators who showed a keen interest in the topic and have experience of teaching learners with epilepsy were asked to evaluate and make recommendations on the initial support guidelines. Eighteen educators were identified who participated in the research. Purposeful sampling, thus occur when researchers choose participants that they consider as representatives. Focus group interviews were used as a method of collecting data.

4.4.2 Focus group interviews

Greeff (2002:305-306, 311) describes the focus group interview as a purposeful discussion of a specific topic or related topics taking place with six to ten individuals with a similar background and common interest. The group is focussed in that it involves some kind of collective activity.

As recommended by Fouche and Delport (2002:79) the use of focus group interviews in this study is intended to elicit information regarding participants` experiences and their perception about epilepsy. The advantage of focus

group interviews is that they create a social environment in which group members are stimulated by each other`s perceptions and ideas, thereby increasing the quality and richness of data beyond what can be achieved with one to one interviewing (McMillan & Schumacher 1997:453).

The focus group interview was conducted after the initial support guidelines had been evaluated by the eighteen educators involved in the study. The eighteen educators were given three weeks to evaluate and make recommendations on the initial support guidelines. The advantages of giving the educators the initial support guidelines three weeks before the focus group interviews were as follows:

$\Rightarrow$ Educators would have the opportunity to digest information and as well as have enough time to consult with other educators and specialists before they commented on the initial support guidelines and also before they attended the focus group interview.

$\Rightarrow$ Educators would have common understanding about the research and they would know what to expect when they attended the focus group interviews.

$\Rightarrow$ Educators would have the opportunity to motivate and justify their comments concerning the initial support guidelines because most of the focus group interview questions were based on the initial support guidelines (refer appendix 4).

In order for the researcher and the participants to work harmoniously in the focus group interviews, the ground rules were first discussed. The participants were also be asked to initiate some ground rules. The ground rules as explained by Rees and Bath (2002:238-239) were discussed with the participants. They included the following:

⇒ Only one person should speak at a time.

⇒ There is no order in which they should speak

⇒ Viewpoint should be stated without negatively commenting on the opinions and experiences of other group members.

⇒ Interruptions are not allowed, however, the researcher might interrupt and re-direct the conversation.

For the purpose of this study the data collected from the focus group interview sessions were supplemented with observation and field notes taken during focus group interviews and as well as the transcription of the sessions on audiotape. The explanation of observation, field notes and transcribing of the sessions follows.

4.4.2.1 Observation and field notes

Talbot (1995:478) states that field notes include observational notes. Field notes are just what they imply, notes that the researcher takes while in the field. In other words, written accounts of what the researcher, heard, saw, experienced and thought during the process of data collecting. Talbot distinguishes between the four categories of field notes namely observational notes, methodological notes, personal notes and theoretical notes. For the purpose of this study observational notes were applicable.

According to Strydom (2002:285-286), observational notes attempted to describe the setting, the people and what they do from the perspective of the researcher. Observation sometimes gives information, which cannot be picked up with direct interaction (Hancock 2002:12). There are four different techniques for data collection as mentioned by Hancock (2002:13) namely written descriptions, video recording, photographs and documents. In this study mainly written descriptions were used.

4.4.2.2 Transcribing qualitative data

The recordings, made during the research process, ensure that the whole discussion is captured and provide complete data for analysis. This means that cues that were missed the first time can be recognised when listening to the recording (Hancock 2002:14). Good quality transcribing must include tone and inflection, because only a small portion of the message is communicated in actual words.

4.5 THE ANALYSIS OF DATA

Analysis of data in a research project involves summarising the mass of data collected and presenting the results in a way that communicates the most important features. In qualitative research the researcher is also interested in the big picture (Hancock 2002:16). For the purpose of this study the following techniques of analysing data namely coding, content analysis and presenting the results were adhered to.

4.5.1 Coding

The first basic step in the analysis of data is coding (De Vos 2002:346). Data are broken down into segments and then investigated for similarities and differences. In order to be able to go on with coding, content analysis should be done (Hancock 2002: 16-170).

4.5.2 Content analysis

Content analysis can be done on data from interviews, focus group and observation notes, because content analysis is concerned with analysing the text. According to Hancock (2002:17), the steps in content analysis are as follows:

1. Taking a copy of the transcript and reading through it making notes of important things in the margin.
2. Looking through the notes in the margin and making a list of different types of information found.
3. Reading through this list and categorising each item in a way that describes what it is about.
4. Trying to link some of the categories and prioritise them from major to minor categories.
5. Comparing and contrasting the categories and starting to develop the `big   picture`.
6. Moving on to the next text and repeating steps 1-5.
7. Collecting all the extracts together and putting them in categories.
8. Reviewing all the categories.
9. Trying to group categories together in themes.
10. Going back to the original texts and looking at the text that was not highlighted to make sure that the data previously omitted can be included or   not.

It is apparent that the process of content analysis is a continuous process.

4.5.3 Presenting the results

According to Hancock (2002:22), qualitative data have several features, which need to be taken into consideration when planning the presentation of findings. The data are subjective, interpretative, descriptive, holistic and copious, making it difficult to know where to start. A good starting point may be to structure the results using the themes and categories, which emerged. This structure can then be presented in a diagrammatic form or a list, which explains new insights.

The purpose with qualitative research projects is to generate findings that are true to reality. This implies that certain specifications must be met. For the purpose of this study the specifications applicable include trustworthiness and ethical considerations.

4.6 TRUSTWORTHINESS

Trustworthiness is defined as the extent to which findings provide truth-value of data collected (Lincoln & Guba 1985:290). In qualitative research, generalisability is not the aim, what is important is to enhance the trustworthiness of the study (Mashele 2003:4). The researcher will enhance trustworthiness by following Guba`s model of trustworthiness, which includes truth-value, applicability or transferability, consistency and neutrality (Poggenpoel 1998:348-350).

Truth-value examines the researcher`s certainty about the truth of the findings for the subjects or informants and the frame of reference of the study. In qualitative research, truth-value is generally achieved from the unfolding of peoples experiences as they are lived and understood by informants.

Applicability or transferability forms part of trustworthiness and is the capacity to generalise from the findings to larger populations. An advantage of the qualitative research method is that it takes place in natural environments with few controlling variables. Each case is described as individual and is thus less open to generalisation.

Consistency also forms part of trustworthiness and contemplates the consistency of the data. It considers whether the data would be constant if the research was duplicated with the same subjects in the same frame of reference.

Neutrality is a criterion of trustworthiness. This is the lack of bias in the research procedures and results. Objectivity concerns the appropriate distance between the researcher and the subjects. Qualitative researchers however, attempt to enhance the significance of the findings by lessening the distance between the researcher and the subjects.

4.7 ETHICAL CONSIDERATIONS

Ethics are the basis upon which the researcher ought to evaluate his/her conduct. He/she is obliged to present herself in a professional and responsible way. Ethics are usually determined to deal with beliefs concerning what is right or wrong, appropriate, or inappropriate moral or immoral (Mcmillan & Schumacher 1993:183).

According to Leedy (1993:129) a summary of a professional code of ethics indicates the following ethical considerations that should govern any qualitative research. It is important to note that only ethical considerations pertinent to this study are mentioned.

⇒ The researcher must maintain scientific objectivity

⇒ The researcher should recognise the limitations of his/her competence and not attempt to engage in research beyond competence.

⇒ Every person is entitled to the right of privacy and dignity of treatment.

⇒ Research findings should be presented honestly, without distortion.

⇒ The researcher must not use the prerogative of a researcher to obtain information for other professional purposes.

⇒ The researcher must acknowledge all assistance, collaboration of others, or sources from which information was borrowed from others.

⇒ The researcher must not accept any favours, grants or other means of assistance that would violate any of the ethical principles set above.

Besides the above code of research ethics, confidentiality and anonymity also play an important role in qualitative research (Strydom 2002:67). The participants in this study were assured of confidentiality and anonymity at all stages of the interview process. This is an important ethical consideration because the researcher is of the view that participants who feel uneasy about the confidentiality of information will not respond honestly to the interview questions.

Although physical harm to the participants seldom occurs in qualitative research, some participants can experience humiliation and loss of interpersonal trust. A sense of caring and fairness has to enter the researchers` thinking and actions (McMillan & Schumacher 1997:409).

4.8 CONCLUSION

Chapter four contained the research setting and a table setting out the research design for this study. It outlined the research methods, types of sampling to be undertaken, considered the ethical aspects of research and briefly discussed educational research as a type of qualitative research. The next chapter will focus on the data collected and presents a discussion thereof.

CHAPTER 5

DATA ANALYSIS AND DISCUSSION OF RESULTS

5.1 INTRODUCTION

Chapter four discussed the research design in detail. In this chapter, the empirical investigation is discussed. The initial support guidelines were evaluated and focus group discussions were held. The data, gathered from the focus group interviews, the observational and field notes were processed with the aim to answer the research question: **What information do educators in the inclusive primary school need about the learners with epilepsy in order to give them the necessary support?** This chapter systematically reflects on the steps in the research process which includes the analysis of data as well as coding of data. Finally the results are discussed.

5.2 THE STEPS IN THE RESEARCH PROCESS

In the following section, attention is given to the sampling of subjects for the research and the role of the researcher as facilitator. The analysis of data and coding which includes the reducing and organisation of data, are also discussed.

5.2.1 Sampling: Selection of participants

The subjects were eighteen educators from the same background. Seven educators have learners with epilepsy in their classroom and the other eleven educators previously had learners with epilepsy in their classroom. Subjects are all primary school educators (refer 4.4.1). The educators took part voluntarily. They were all very enthusiastic to take part in the research process.

Table 5.1 shows a summary of participants:

Table 5.1 : Biographical details of the participants				
Participants	Gender	Number of learners in the classroom	Years of teaching Experience	Number of learners who have epilepsy in the class
Educator A	Female	43	14	None
Educator B	Female	42	9	Three
Educator C	Female	45	20	None
Educator D	Female	30	24	None
Educator E	Female	40	8	Four
Educator F	Male	48	11	None
Educator G	Female	46	10	None
Educator H	Female	40	25	None
Educator I	Female	42	20	Two
Educator J	Male	50	5	None
Educator K	Female	42	12	Two
Educator L	Male	35	3	None

Educator M	Female	43	28	One
Educator N	Female	44	13	None
Educator O	Female	53	14	None
Educator P	Female	37	10	Two
Educator Q	Male	44	27	Three
Educator R	Female	30	12	None

5.2.2 Data collection

Raw data were gathered during the whole research process. The support guidelines were used as a method of gathering data. The support guidelines were given to the educators who evaluated and made recommendations about the guidelines. Focus group interviews, which were transcribed formed the secondary part of the data collection phase. Furthermore, the observational and field notes served as continuous raw data. In the next section the analysis of collected data and coding is discussed.

5.2.3 Findings from the initial support guidelines

The **initial support guidelines** were compiled after the literature study and it was then distributed to the educators who evaluated them. The main purpose of compiling initial support guidelines was to elicit responses from educators during focus group interviews.

Educators suggested that the information about the definition of epilepsy (refer 2.2.1) should be included in the guidelines and they also suggested that it should be placed after the introduction. The suggestion was included in the final support guidelines (refer appendix 6)

Educators suggested that the role of educators in identifying epilepsy (refer 3.2.3) should be placed after the definition of epilepsy because most educators are still unsure or uncertain about their new role in supporting learners with special needs including learners with epilepsy in the inclusive education. The suggestion was included in the final support guidelines (refer appendix 6)

Educators suggested that the support guidelines should include information, which states that when learners with epilepsy are promoted to another grade or class the new educator who is going to teach them had to be informed about their conditions and how to support them. They further suggested that this procedure should be included in the school policy. The suggestion was included in the final support guidelines (refer appendix 6).

The educators felt that it is important for parents of learners with epilepsy to be educated about the medication of epilepsy. Many parents still believe in traditional medicine alone, and they do not allow their children to see medical doctors. Educators felt that it is necessary to support parents of learners with epilepsy (refer 3.5.2).

In conclusion, most of educators who evaluated the **initial support guidelines** felt that they are informative as they contain all necessary information that educators can use to support learners with epilepsy in the inclusive classroom effectively.

5.2.4 Analysis of data and coding

The pool of information that was gathered through focus group interviews warranted the reduction of data into a whole that can be easily managed and communicated. This necessitated the need for the researcher to use coding. The researcher coded the transcribed interview data by going through it and giving each separate unit of meaning a label. After labelling units and assigning a code to each, they were grouped into categories. Those that were alike in meaning were grouped under one category with a name that represents the properties that fell under it. The next section entails the discussion of the results, which are based on the analysed data.

5.3 FOCUS GROUP INTERVIEWS

Two focus group discussions were held with eighteen educators who were evaluating the initial support guidelines. The eighteen educators were divided into two groups of nine educators per group. The focus group sessions were held on two consecutive days and the researcher took notes of the discussions through the whole empirical process. The sessions were recorded and transcribed as accurately as possible. Due to the number of participants and power failure in the neighbourhood, the recordings were not of best quality. An interview schedule was designed to guide the process of the interview sessions (refer appendix 5). The questions were designed with the aim to answer the research question: **What information do educators in the inclusive primary school need about the learners with epilepsy in order to give them the necessary support?**

5.3.1 Results of focus group interviews

The following themes were identified during focus group interviews, positive aspects about the content of the guidelines, educator`s needs not included in the guidelines and recommendations from educators. Discussion of the identified themes follows.

5.3.1.1 Positive aspects about the content of the guidelines

The educators experienced the guidelines as informative because they provide excellent information about epilepsy and they also explain clearly about the classroom/environment (refer 3.2.4). Educators also felt that the guidelines are educational and they give a insight into how to respond in the classroom when a learner with epilepsy experiences seizures (refer 3.2).

The educators also highlighted that they felt that it is important for every school in the northern free state to have a copy of the guidelines as they thought that guidelines contains valuable, relevant and informative knowledge. One educator felt that it important that the guidelines also contained the important facts about the substitute educator and formation of support groups (refer 3.5).

Educators were satisfied about the content of the guidelines and felt most of aspects that they needed are included in the guidelines

5.3.1.2 Educator`s needs not included in the guidelines

The educators felt that they need more information on the adjusting assessment to accommodate learners with epilepsy in the inclusive classroom (refer 3.4.6). Educators also felt that demonstration (practical) is essential on how to support a learner with epilepsy in the classroom should seizure occurs.

Educators revealed that they still believe that they are not confident to deal with learners with epilepsy in the classroom should a seizure occurs. Literature (refer 1.2.2) concurs with the findings of the above statement that educators are still not confident when dealing with a learner with epilepsy in the classroom. In-service training can be beneficial to help educators to be more confident when supporting learners with epilepsy.

5.3.1.3 Recommendations for improving the guidelines

One educator felt that more information about medication side effects should be included (refer appendix 7). Another educator felt that they need some information on how to motivate learners with epilepsy to remain focused. However in general educators felt that important aspects needed are included in the guidelines.

5.3.2 Further conceptual categorising of coded data

The following themes were identified problems experienced by educators to support learners with epilepsy, educator`s attitude towards learners with epilepsy, cultural beliefs about epilepsy, lack of information from educators about epilepsy, positive comments from educators about supporting learners with epilepsy and recommendations from the educators. Discussion of the identified themes follows.

5.3.2.1 Problems experienced by educators when supporting learners with epilepsy

Educators revealed that even though the guidelines contain valuable information about supporting learners with epilepsy, they still experience problems, which may hamper their success to support learners with epilepsy in the classroom. Educators mentioned that the parents of learners with epilepsy neglect to tell the educators that their children have epilepsy. When they enrol them at school, they hide the information. Educators believe that parents of these learners are ashamed about the condition of their children and are in denial because they sometimes keep them at home without valid reasons for not coming to school.

Educators also revealed that learners with epilepsy display learning and other problems. Sometimes they are aggressive, stubborn, have low self esteem and are slow in everything they do (refer 2.8 and 2.9). Educators are also faced with the problem of learners with epilepsy who take advantage of their

condition by faking seizures and beating other children in the classroom. One male educator explained that he was able to detect when one learner was faking seizures because that learner was able to remember everything that was said while he had seizures.

From the above findings educators are faced with the challenge of educating parents of learners with epilepsy about the condition of their learners and also to support learners with epilepsy who display other problems (refer 2.8). Educators are also faced with the challenge of enhancing self-esteem of the learners with epilepsy (refer 3.4.3).

5.3.2.2 Educators` attitudes towards learners with epilepsy

One educator revealed that one day when a learner with epilepsy experienced seizures in their school, educators called other learners to assist that learner, even though they had attended a workshop on epilepsy. The educator mentioned that the learner excreted during the attack. That educator felt that educators do not take the responsibility of assisting the learners with epilepsy. She mentioned that it is necessary for educators to change their attitude towards learners with epilepsy as to give them necessary support (refer 1.2.2).

Another female educator mentioned that she does not like to punish the learner with epilepsy. She said she feels as if she is doing something wrong. This statement indicates that educators have to change their attitude towards learners with epilepsy because learners with epilepsy have to be viewed the same as other learners in the classroom. It is the responsibility of every educator to gain more knowledge about learners with epilepsy to recognise misinformation and correct it. The learner with epilepsy should be viewed as a person, not as a type of seizure disorder (refer 1.2.2).

5.3.2.3 Cultural beliefs about epilepsy

Educators revealed that,according to the black culture, parents of learners with epilepsy took their children with epilepsy to the priest for prayers thinking that they could be cured. However, educators also mentioned that although they agree that some things have to do with culture but it is also equally important to take the child with epilepsy to the medical doctor. Educators felt that it is their responsibility to tell the parents of learners with epilepsy that medical doctors provide accurate knowledge about epilepsy and that they will get adequate information about the condition of their children.

One educator revealed that most of the parents who have learners with epilepsy believe that their children have been bewitched that is why they suffer from epilepsy. Another educator revealed that one learner who has epilepsy mentioned that she had *tokoloshi*, which possesses her body.

From the above statement the researcher felt that educators are in the best position to assist and support parents of learners with epilepsy about the causes of epilepsy and help them to change their beliefs about epilepsy. However the researcher also felt that it will be a challenge for educators to change the beliefs of parent`s of learners with epilepsy. As it takes time to change beliefs because a person grows with a belief.

5.3.2.4 Lack of information among educators about epilepsy

Some educators revealed that they thought that epilepsy is a disease and is infectious (refer 3.2.4.3). They also believed that if you put something in the mouth when the learner has seizures, this will help the learner not to choke or swallow his tongue (refer 3.2.1). However, one educator who has much experience with epilepsy mentioned that she has sisters who are nurses and they told her that she should never put anything in the learner`s mouth when she/he is experiencing seizures. They have also told her that she has to turn the learner`s head on the side and take something like a jersey and put it under the learners` head (refer 3.2.1).

One educator was ignorant of the causes of epilepsy (refer 2.4). She mentioned that she thought that a leaner might have epilepsy as a result of heredity only. During the interviews the researcher observed that educators called learners with epilepsy ''epileptic learners or epileptic people",. The researcher explained to educators that learners are sensitive to being referred to as epileptic (refer 1.2.2). It is the duty of educators to teach learners with epilepsy not to think or say "I am epileptic'' because this will be defining the person in term of the condition (refer 3.4.4.1).

5.3.2.5 Positive comments from educators about supporting the learner with epilepsy

Educators also made positive comments on supporting learners with epilepsy. One female educator mentioned that for thirteen years teaching foundation phase, she had a learner with epilepsy every year. She mentioned she was accustomed to support learners with epilepsy. She had never problem supporting a learner with epilepsy and she mentioned that experience has helped her to support those learners (refer 1.2.2).

Educators believe that support groups for epilepsy will help the parents of learners with epilepsy to understand their children`s condition (refer 3.5.2.2). Educators also felt that if other learners are taught about epilepsy and how to handle the learner with epilepsy (refer 3.2.4.3 and 3.2.4.6), this will minimise the problems whereby other learners scream, go outside or run after the educator when the learner with epilepsy experiences seizures. These comments from educators shows that educators are becoming more positive about supporting learners with epilepsy.

5.3.2.6 Recommendations from the educators

Educators recommended that parents of learners with epilepsy have to be encouraged to take their children to a medical doctor, as educators mentioned that, parents of learners with epilepsy hide the condition of their children and they feel ashamed about the condition (5.3.2.1). They have also recommended that assessment of learners with epilepsy should be included in the school policy. This will make sure that needs of learners with epilepsy are met.

Educators also recommended that the Northern Free State education district must intensify efforts and design a programme dedicated to the support of learners with epilepsy. They recommended that parents of learners with epilepsy should also be invited to the meetings such as this one so that educators and parents can acquire a common understanding about epilepsy. Educators recommended that they need research on how learners with epilepsy affect their teaching.

Educators recommended that it is the responsibility of every educator who has learners with epilepsy in their class to make sure that the learner has taken anti-epileptic drugs every morning. Educators should ensure that learners do not skip medication because it must be taken daily (refer 2.7).

The above recommendations show commitment from educators on supporting learners with epilepsy.

5.3.3 Comments on the support guidelines as a whole

From the preceding comments it is clear that most of the comments of the educators concerned the format of certain sections. No comments were made on the actual aspects included in the guidelines. It could be that the educators regarded the content of the support guidelines as suitable for **meeting their needs to support the learner with epilepsy in the inclusive classroom.**

Some comments on the support guidelines as a whole were:

'' I think it is a good document and it is addressing the problems, especially that we experience in dealing with children with this condition. I think it contains excellent information. "

" I have found this document very educational and it give a lot of insight on what to do as educator and what to expect from learners who have epilepsy and the way to handle them. I think it is very educational indeed, gives a lot of insight on how to handle the learner with epilepsy. "

"I am happy about the guidelines, they are helpful and they have relevant content that we can refer when we assist learners with epilepsy."

"I think the content is also important in the sense that if one has a child with epilepsy in the class, she will be able to use the guidelines fruitfully."

"I think most of the aspects, which are important are included in the guidelines."

" All educators should have this information in the booklet.''

5.4 OBSERVATIONAL AND FIELD NOTES

The researcher took notes throughout the research process of what she saw, heard and experienced. The researcher observed that:

$\Rightarrow$ Some of the educators were uneasy at the beginning of the group interview session. This could be seen by their silence when the interview started with the first question. But later they settled down and participated actively.

⇒ Two educators did not participate at all in the discussions even though they had received initial support guidelines three weeks before the discussion day.

⇒ Some of the educators frowned, when another educator mentioned that one learner had excreted during a seizure attack.

⇒ Both focus group interviews lasted for one hour as planned.

The researcher`s observations suggested that educators enjoyed the whole process of focus group interviews as they continued discussing certain issues after the interviews have ended.

5.5 ROLE OF THE RESEARCHER IN THE FOCUS GROUP WORK SESSIONS

The researcher acts as an instrument in the process of describing the interpretation and phenomenon of the interactions with the participants in which the researcher herself was involved (Denzin & Lincoln 1994:108). The researcher was also the facilitator of group work sessions. Moreover, the researcher`s own position and experience of being educator and learning support facilitator enabled her to fulfil the role of not being facilitator only, but someone who was personally involved and as such also shared in the experience.

5.6 CONCLUSION

This chapter discussed the results of the qualitative study. Focus group interviews revealed that educators need more information about epilepsy. Educators have to change their attitude towards learners with epilepsy, as to give them necessary support. Parents of learners with epilepsy also need more information about epilepsy. It is evident to the researcher that it is more than just a mere matter of educators acquiring skills to support learners with epilepsy in the classroom, but educators have to redefine their role in the

classroom. The next chapter will focus on the summary of the study, recommendations and as well as conclusions.

CHAPTER 6

SUMMARY, RECOMMENDATIONS AND CONCLUSIONS

6.1 INTRODUCTION

The study was undertaken in attempt an to provide guidelines for educators to support learners with epilepsy in the inclusive classroom. Chapter five describes the empirical study. Chapter six contains a summary of the literature study and the conclusions drawn from the empirical study. Limitations of the study will be discussed and recommendations will be made.

6.2 SUMMARY OF THE LITERATURE STUDY

Chapter one provides the introduction, analysis and statement of the problem of this research study while chapters two and three comprise the literature study. In the analysis of the problem, the awareness of the problem is clearly outlined (refer 1.2.1), as learners with epilepsy experience many difficulties in mainstream classrooms and educators do not feel equipped to support such learners. The challenges that educators are faced with in the mainstream are investigated (refer 1.2.2) and the current situation in primary schools is also highlighted. The problem is stated as *What information do educators in the inclusive primary school need about the learners with epilepsy in order to give them the necessary support*? (refer 1.2.3) and support guidelines were compiled on the basis of these statement. The general and specific aims of the research are mentioned (refer 1.3). All the terms in the title of the dissertation are defined (refer 1.6). The research method is briefly outlined (refer 1.9) and the demarcation of the study is put forward (refer 1.5).

Besides briefly describing the nature of epilepsy (refer 2.2) chapter two explores classification of epileptic seizures, causes of epilepsy, precipitating factors and treatment of epilepsy (refer 2.3-2.7). Research indicates that there are associated problems of epilepsy such as low self-concept, behaviour problems, memory difficulties and attention deficits (refer 2.8). It is evident

from the literature study that a learner with epilepsy may have other disabilities such as autism, mental retardation, attention deficit hyperactivity disorder, cerebral palsy, emotional and behavioural disorders and traumatic injury (refer 2.9).

Chapter three focuses on supporting the learner with epilepsy in the inclusive classroom. The support strategies are mainly based on the following aspects: knowledge about support regarding epileptic condition (refer 3.2), strategies for reducing destructive behaviour (refer 3.3), supporting the learner (refer 3.4) and other role players (refer 3.5). The general support regarding epileptic conditions in the classroom is important to look at and possibly change when supporting the learner with epilepsy. Medication is the most widely used form of treatment for learners with epilepsy and the side effects should be noted. The learner with epilepsy must have a clear idea of rules and expectations at school and in the classroom. Behaviourally based techniques and rewards help to improve the behaviour of the learner with epilepsy. Deliberate ignoring, time-out, behavioural contracting, cooling off and as well as punishment can be used to reduce the destructive behaviour (refer 3.3).

Epilepsy is a condition, which deals with feelings and educators can help the learners with epilepsy by acknowledging their feelings about epilepsy. The educator`s method of teaching and facilitating knowledge are important areas to change to suit educating the learner with epilepsy. Educators can support learners with epilepsy by improving their social skills and make sure that they participate in groups. This will enhance their self-esteem. Self-esteem is the most important aspect that has to be kept in mind when supporting the learner with epilepsy. Self-management helps the learner with epilepsy to be in control. The manner in which the educator approaches assignments and tasks and keeps the learner`s attention are vital in dealing with the learner with epilepsy. Memory and attention play a dominant role in supporting the learner with epilepsy to focus on tasks and assignments. When assessing the learner with epilepsy, some aspects need to be considered. Continuous communication between the school and the family increases the success of

support intervention. The support guidelines are formulated based on this information (refer appendix 6 final support guidelines).

6.3 SUMMARY OF THE EMPIRICAL STUDY

The research question: *What information do educators in the inclusive primary school need about learners with epilepsy in order to give them the necessary support*? Is clearly stated. The general aim of the study was to do research through a literature study on epilepsy and design *comprehensive support guidelines for inclusive primary school educators* (refer 4.2). The research design that guided this study was supplied (refer 4.3.2 Table 2), and the data collection method was explained (refer 4.4). Notes on the qualitative research method as it applies to this study can also be found in chapter four (refer 4.3.3). Details on how the focus group interviews were used as a tool was also explained (refer 4.4). Ethical considerations pertaining to this study like maintaining scientific objectivity and the right of privacy and dignity of treatment were discussed (refer 4.7). Confidentiality and anonymity plays an important role in qualitative research. The other important ethical considerations explain that researchers need to be responsible by recognising their limitations of their competence and not attempt to engage in research beyond their competence. Violation of privacy and the notion of confidentiality were also mentioned (refer 4.7). The analysis of data (refer 4.5) and the issue of trustworthiness (refer 4.6) were also discussed.

Chapter five presents the findings of the empirical research. This discussion starts with the evaluation of the initial support guidelines. Educators who evaluated the initial guidelines suggested three changes in the initial support guidelines (refer 5.2.3) and they also felt that it is important for parents of learners with epilepsy to be educated about the medication of epilepsy. The initial support guidelines were amended to include suggestions from educators (refer appendix 7 for final support guidelines). Focus group discussions were held after the initial support guidelines were evaluated.

The majority of educators in the study are certain that the guidelines have met their needs to support learners with epilepsy in the inclusive classroom (refer 5.3.1.1). However, they revealed that they are uncertain about adjusting assessment to accommodate these learners and they also felt that they need more information about motivation and medication side effects. They also felt they would be more competent to support the learner with epilepsy if practical demonstration was implemented together with the guidelines (refer 5.3.1.2-5.3.1.3).

There is evidence from the empirical study that there are problems that can hamper educators supporting learners with epilepsy effectively (refer 5.3.2.1). Educators are prepared to support learners with epilepsy, however, the parents of learners with epilepsy often hide information about their children condition from educators.

Educators have to change their attitude to support learners with epilepsy to reach their full potential (refer 5.3.2.2.). The researcher feels that it will still take time for educators to change their attitude towards learners with epilepsy as they still believe that they are not competent or confident to deal with these learners.

Research findings showed that educators who had experience of a learner with epilepsy in their classroom are more confident and competent to support them (refer 5.3.2.5).

Educators came to conclusion that support groups for parents of learners with epilepsy can assist the parents of learners with epilepsy to understand the condition better (5.3.1.1).

Finally, the study revealed that educators regarded the content of the support guidelines as suitable for meeting their needs to support the learner with epilepsy in the inclusive classroom. The researcher realised that the support guidelines developed for this study would prove valuable for educators.

Chapter six presents the summary of the literature study, summary of the empirical study, limitations of the study and as well as implications and recommendations.

6.4 LIMITATIONS OF THE STUDY

$\Rightarrow$ South Africa is a multi-cultural country and the support guidelines have not been modified to cope with all the cultural differences in our country. The study was conducted in English, which means that the information will not be useful to other language groups who are not proficient in English.

$\Rightarrow$ It is evident from the empirical research and literature study that learners with epilepsy need support from their educators in order for them to progress in their studies. The educators also require more support and special skills to deal effectively with these learners.

$\Rightarrow$ We are living in a changing world. Changes produce new challenges for educators and learners. Knowledge of change management is an important ingredient if we are to be successful in our attempts at educational transformation.

$\Rightarrow$ Schools lack the capacity to implement major changes and there are all kinds of implementation difficulties. It is not easy to change the way educators work. Teaching is essentially a personalised activity and educators need to reflect on their practice. Despite the straightforward nature of the guidelines, the problem remains how to get educators to change their attitudes, the way of teaching and adapt to new practices.

$\Rightarrow$ Personal transformation of the educator is what is required: educators will need to develop a new vision, perspective, skills and purpose. Educators need to become lifelong learners as envisaged in OBE.

⇒ The success of the support guidelines depends largely on educators for implementation. Many educators have not yet accepted this expanded role.

⇒ The findings of this study cannot not be generalised across all primary school institutions and across similar educator populations. Although the recommendations makes generalizations across educators, this was done in the hope that it will encourage further discussion around the issues raised by the educators in this study. It should be emphasised that, although the findings of this study are confined to four schools in the Free State, they suggest important ways in which schools can be made responsive to inclusion.

6.5 IMPLICATIONS AND RECOMMENDATIONS

⇒ The guidelines could form part of the curriculum at educators` training institutions to empower educators to deal more effectively with learners with epilepsy and address general classroom organisation.

⇒ The guidelines could be adapted to suit the needs of a particular educator who has a learner with epilepsy in his/her class and should serve as flexible document.

⇒ Further studies could focus on the following: educator`s attitude towards supporting learners with epilepsy, how learners with epilepsy affect educators teaching, cultural beliefs about epilepsy and guidelines for supporting the parent of learners with epilepsy.

⇒ In service training on a large scale could result in a better understanding of the learner with epilepsy. In service training needs to focus on how educators can develop awareness and understanding about the learner with epilepsy, knowledge about the nature of epilepsy, identifying epilepsy,

the implication of having a learner with epilepsy in the class and how to offer meaningful support to these learners.

$\Rightarrow$ The development of workshops to facilitate personal and professional growth of mainstream educators could be researched. In service training needs to bring about a mind shift and the acquisition of new skills.

$\Rightarrow$ A support group could be established for educators having difficulty in supporting the learner with epilepsy.

$\Rightarrow$ It might be worthwhile to conduct similar studies among other ethnic groupings in South Africa. Translating the guidelines into other South African languages is also recommended so that all educators can benefit and use the guidelines effectively.

6.6 CONCLUDING REMARKS

The empirical research undertaken shows that not all educators have information about supporting the learner with epilepsy. The new policy of inclusive education advocates the support of all learners in the classroom irrespective of the diverse needs. It is hoped that educators will use the support guidelines as a start when they prepare themselves for their new role.

Educators can be regarded as the key role players in bringing about the successful implementation of the new curriculum. The support guidelines cannot take the place of in-service training, but they could be used as a resource when training educators. It is difficult to bring about changes at classroom level, because educators have to deal with their attitudes first before they can support the learners with epilepsy in the classrooms.

Educator`s attitudes and beliefs impact on how they view and implement new educational policies. Perhaps parts of this study will motivate educators to take the plunge and implement teaching strategies without fear of lowering the standards of acceptable teaching practice. Learners will enjoy learning and educators will find great professional satisfaction when the diverse needs of all learners are met.

Finally, the researcher encourages all members of educational institutions to take up the personal and educational challenges and convert all South African schools into educationally sound and effective inclusive settings.

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APPENDIX 1

7 Giraffe Crescent

Alberton

1447

29 September 2004

The Head

Free State Department of Education

Bloemfontein

9300

Dear Sir/Madam

Re: **APPLICATION FOR PERMISSION TO CONDUCT ACADEMIC RESEARCH**

I hereby wish to apply for permission to conduct academic research in four primary schools in Sasolburg area. I am a Masters of Education (Guidance and Counselling) student at the University of South Africa (UNISA). I am also a Learning Support Facilitator in inclusive Education Directorate in Northern Free State Education District at Sasolburg. I am undertaking a study titled: Guidelines for educators to support learners with epilepsy in the inclusive classroom.

The specific aim of this study is the compilation of support guidelines containing strategies to assist and empower educators to improve their understanding and knowledge about epilepsy, and to support learners with epilepsy in the classroom.

I will try to arrange all the interviews in such a way that the normal school programme is not interfered with. Please respond to this letter in writing and let me know whether or not the permission is granted.

I trust that this will be given your kind consideration and time.

Kinds regards.

_____

Masekete Mtshali

APPENDIX 2

7 Giraffe Crescent

Alberton

1447

11 November 2004

The Principal

_____

Dear Sir/Madam

Re: **PERMISSION TO CONDUCT ACADEMIC RESEARCH**

I am a Masters of Education (Guidance and Counselling) student at the University of South Africa (UNISA). I am also the Learning Support Facilitator in inclusive Education Directorate in the Northern Free State Education District at Sasolburg**.** I am undertaking a study titled: Guidelines for educators to support learners with epilepsy in the inclusive classroom.

This study will examine:

⇒ Views, of primary school educators regarding their experience in teaching learners with epilepsy.

⇒ What information do primary school educators need about the learners with epilepsy, in order to give them necessary support?

Its aim is the compilation of support guidelines containing strategies to assist and empower educators to improve their understanding and knowledge about epilepsy and to support learners with epilepsy in the classroom.

The Free State Department of Education has granted permission for the research and the letter to this effect is attached.

Your school has been purposefully selected as part of the sample schools to be polled. It would be greatly appreciated if the four selected educators participate in the research. The research involves focus group interviews and evaluation of the initial support guidelines.

I undertake to ensure strict confidentiality with the information collected and all respondents will remain anonymous. A copy of the report would be made available to the Department of education, or made available to individual schools on request.

I trust that this will be given your kind consideration and time.

Kinds regards.

_____

Masekete Mtshali

APPENDIX 3

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7 Giraffe Crescent

Alberton

1447

11 November 2004

</div>

Dear Educator

Re: **PERMISSION TO CONDUCT ACADEMIC RESEARCH**

I am a Masters of Education (Guidance and Counselling) student at the University of South Africa (UNISA). I am also the Learning Support Facilitator in the inclusive Education Directorate in Northern Free State Education District at Sasolburg**.** I am undertaking a study titled: Guidelines for educators to support learners with epilepsy in the inclusive classroom.

This study will examine:

⇒ Views, of Primary School Educators regarding their experience in teaching learners with epilepsy.

⇒ What information do primary school educators need about the learners with epilepsy, in order to give them necessary support?

Its aim is the compilation of support guidelines containing strategies to assist and empower educators to improve their understanding and knowledge about epilepsy, and to support learners with epilepsy in the classroom.

The Free State Department of Education has granted permission for the research and the letter to this effect is attached.

Your participation in research is voluntary. You will remain anonymous and the research will be treated with strict confidentiality. The findings of the research will be shared with all interested role-players.

The information you shared during focus group interviews will assist in identifying the information that is needed to be included in the support guidelines.

I trust that this appeal will be given your kind consideration and time.

I thank you in anticipation of your kind co-operation.

Kinds regards.

_____

Masekete Mtshali

APPENDIX 4 AN EXPLANATION OF THE INITIAL SUPPORT GUIDELINES THAT EDCATORS WERE ASKED TO EVALUATE AND MAKE RECOMMENDATIONS ON

1.1 AN EXPLANATION OF THE INITIAL SUPPORT GUIDELINES

The initial support guidelines that educators received was, explained here. The initial support guidelines have been formulated through a literature study. Educators were expected to evaluate and make recommendations on the initial support guidelines. The educators were given a three weeks period to evaluate and make recommendations on the initial support guidelines whereupon the focus group interviews were held.

They were no specific numbering in the initial support guidelines that the educators received. The support guidelines are numbered here for the convenience of the reader. The content of the initial support guidelines received by educators will be the same as the guidelines presented here. The support guidelines are aimed at the educators and the terminology used will reflect this. The initial support guidelines are presented in a workbook format to get educators involved and committed. The title on the cover of the initial support guidelines of the programme will be ' Guidelines for educators to support learners with epilepsy in the inclusive classroom' by Masekete Mtshali.

1.2 AN IMPORTANT NOTE

This appears in the beginning of the initial support guidelines as an introduction to the guidelines and states the following:

Education in South Africa is rapidly changing. The mainstream educators not only have more learners in their classroom, they also have more learners with special educational needs, including learners with epilepsy. This widens the educator`s role to cater and deal with these learners who were once part of the specialised education system. The educators are left to fend for

themselves and are expected to cope. Due to the inclusion system, more and more pressure will be placed on the educators to deal with all learners with special educational needs.

1.3 EDUCATOR QUESTIONNAIRE

This questionnaire is for the researcher to identify eighteen educators evaluating the support guidelines. The programme presents as a booklet where the educator makes comments. It is presented as follows:

All information submitted in the support guidelines will be treated with confidentiality.

   i.   Educator`s name:…………………………………………………………

   ii.   Years of teaching experience:………………………………………..

  iii.   School`s name:…………………………………………………………

  iv.   Number of learners in the classroom:……………………………….

   v.   Number of boys:……………… Number of girls:……………………..

  vi.   Number of learners who have epilepsy:……………………………….

 vii.   Have you ever attended a workshop or training on epilepsy:…………..

If yes, briefly explain:…………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

……………………………………………………………………………………

1.4 INITIAL SUPPORT GUIDELINES

The following section summarises the initial support guidelines that were given to educators for evaluation and recommendations. The eighteen educators were expected to evaluate and make recommendations on the support guidelines explained in this section. At the end of each topic of the support guidelines there were number of lines available for the educator`s comments.

As the educators who evaluated and make recommendations on the initial support guidelines suggested some changes, this section below will only summarise the content of the initial support guidelines. However for the final support guidelines refer to appendix 6.

1.5 SUMMARY OF THE INITIAL SUPPORT GUIDELINES GIVEN TO EDUCATORS FOR EVALUATION AND RECOMMENDATIONS

1.5.1 Support regarding epileptic condition

- ➢ Support during seizure by educator
- ➢ Medication
- ➢ The role of educator in identifying epilepsy
- ➢ Support in the classroom/environment
    - o Individualised education plan
    - o Supportive environment
    - o Teaching other learners about epilepsy
    - o Behaviour management
    - o Classroom rules
    - o Classroom rules for learners when seizures occurs
    - o Classroom procedures

1.5.2 Strategies for reducing destructive behaviour

- ➢ Deliberate ignoring
- ➢ Behavioural contracting and formulation
- ➢ Cooling off
- ➢ Reinforcement and reward
- ➢ Punishment

1.5.3 Supporting the learner

- ➢ Dealing with feelings
- ➢ Improving social skills and group participation
- ➢ Enhancing self-esteem
- ➢ Self management
    - o Personal awareness
    - o Working knowledge
- ➢ Improving memory and attention
    - o Mnemonics
    - o Acronym
    - o Rehearsal
    - o Attention improving skills
- ➢ Assessment considerations for the learner with epilepsy

1.5.4 Other role players

- ➢ Substitute educator
- ➢ Collaboration with the family
    - o Communication with the family
    - o Working with the family

Source: Compiled using information in the support guidelines (refer appendix 6)

APPENDIX 5 QUESTIONS USED DURING FOCUS GROUP INTERVIEWS

1. As you have already gone through the initial guidelines, how did you experience it and what is your feeling about the whole document?

2. What can you say about the content of the initial guidelines?

3. Is there any aspect that you think is important and which is not included in the initial guidelines?

4. How do you think the initial support guidelines could be improved?

5. Do you think the initial support guidelines have met all your needs to support the learners with epilepsy in the inclusive classroom. If not explain?

APPENDIX 6 FINAL SUPPORT GUIDELINES

Guidelines for educators to support learners with epilepsy in the inclusive classroom

1. INTRODUCTION

Education in South Africa is rapidly changing. The mainstream educators not only have more learners in their classroom, they also have more learners with special educational needs, including learners with epilepsy. This widens the educator`s role to cater and deal with these learners who were once part of the specialised education system. The educators are left to fend for themselves and are expected to cope. Due to the inclusion system, more and more pressure will be placed on the educators to deal with all learners with special educational needs, including learners with epilepsy.

2. DEFINITION OF EPILEPSY

Epilepsy is defined as a disorder of the central nervous system, characterized by sudden recurrent seizures resulting from the temporary discharges of electrical energy in the brain cell activity. The seizures begin in the area of the brain that contains abnormal nerve cells, which releases more easily than do normal cells. Once these abnormal cells begin releasing other normal cells around them begin to release as well, resulting in the entire area of the brain releasing at once. This resulting in altered level of consciousness, involuntary movements, and change and in sensory phenomenon. Once a seizure is gone, the learner returns to normal functioning (Baddeley & Ellis 2002:7; Vaughn et al. 2000:509).

3. THE ROLE OF EDUCATORS IN IDENTIFYING EPILEPSY

It is important for the educators to know about the various types of epilepsy, because they could help in the identification of epilepsy. The educators play a prominent role in identifying epilepsy. The medical practitioner will require information from various sources, including educators, before epilepsy is diagnosed (Spiegel *et al.* 1996:34).

> ➢ **Example of a form that educators can use for identifying epilepsy (Baddeley &Ellis 2002:57-58; Johnson & Parkinson 2002:16,18; Spiegel *et al*. 1996:34-35).**

Learner name:………………………………..	Date of birth:…………………..
Grade:………………………………………	Date of incident:………………
School name:……………………………..	Time:…………………………..
Educator/ Witness/es:………………………..	

1. How/what did the learner feel before the seizure, e.g. cold, hunger or tiredness:
2. Any aura, warning or possible trigger factors such as pain, emotional stress or other factors.
3. Was it the first seizure the learner experienced.
4. What called your attention to the seizure – a cry or shout.
5.What happened during the seizure and how long it lasted.
6. Whether the seizure progressed to involve other parts of the body, e.g. head turning to one side, slurred speech.
7. Whether the learner became stiff and fell.
8. Whether there was shaking of any part of the body.
9. What happened immediately after the seizure (eg, confusion, headache, drowsiness, sleepiness or other response.
10. Anything the learner remembers about the seizure. Whether he/she injured himself/herself.
11. How many episodes the learner experienced.

3.1 Reporting and record keeping

Reporting and record keeping is important for supporting the learner with epilepsy in the classroom.

> ➢ **Guidelines for reporting and record keeping (Bergen 1991:18; Johnson & Parkinson 2002:13-15; Michael 1995:111-113).**

- ❑ When a seizure occurs in class, parents or guardians are to be notified and a record has to be kept.
- ❑ There are some learners, however, who have such frequent seizures that reporting each one to the parents becomes inappropriate.
- ❑ In these instances a weekly report or summary of seizure activity may be more appropriate.
- ❑ Record keeping of **all the** information about the learner with epilepsy is important.
- ❑ The educator is responsible for the record keeping.
- ❑ The record keeping of epilepsy should contain the date and time when seizures occurred, the type of seizure and as well as its duration.
- ❑ The educator should indicate, whether the learner took the medication on that day or not and the name of mediation as well as side effects seen in the classroom.

➢ **Example of a form that educators can use for reporting and record keeping (Bergen 1991:18; Johnson & Parkinson 2002:13-15; Michael 1995:111-113).**

Name of learner:…………………………..   Date of birth:…………………………………

School name:……………………………...   Grade:…………………………………………

Date	Time	Duration of seizure	Description of seizure	Seizure type	Medication name	Medication taken Yes/No	Side effects observed in class	Educator`s name and comment

4. SUPPORT DURING SEIZURE BY EDUCATOR

It is important for educators to provide a safe environment for learners with epilepsy in their classroom. They need to be given accurate and complete safety information if ever seizure activity happens in the classroom.

> ➢ Guidelines for supporting a learner with epilepsy during seizure activity (Krajicek *et al.* 1997:109; Michael 1995:115-118; Vaughn *et al.* 2000:266).

❑ Remain calm and move the learner from a potentially dangerous environments.

❑ Don't restrain or hold the learner, or do anything to interfere with the movements.

❑ Cradled the learner`s head if necessary or put something underneath it.

❑ Move any hard or sharp objects away from the learner.

❑ Loosened any tight clothing near the neck and spectacles should be removed if the learner is wearing them.

❑ Try not to stop the seizure but, if possible, the learner`s head should be turned to the side to allow accumulated saliva to flow out.

❑ Don't force the learner`s mouth open or hold his/her tongue or place anything in his/hermouth.

❑ Call medical assistance immediately if the learner`s seizure lasts longer than five minutes or if the second seizure activity occurs immediately after the first seizure. This process is called "status epilepticus".

❑ Medical assistance will be necessary also if the learner has injured himself during seizure activity.

❑ Stay with the learner until consciousness is gained because the learner will be confused and disoriented.

❑ Be supportive and comforting and allow the learner to rest in case of drowsiness.

❑ If there has been a loss of bladder or bowel control during the seizure, this has to be handled with great sensitivity.

❏ If possible, the learner should rejoin classmates in the regular scheduled activities.

4.1 Medication and side effects

The typical treatment of epilepsy is the use of medication called anticonvulsant drugs or anti-epileptic drugs (Michael 1995:105).

> ➢ **Guidelines for medication of epilepsy side effects (DePaepe *et al.* 2002:16; Kruger *et al.* 2001:70; Michael 1995:106).**

❏ The current medications prescribed to control seizures work very effectively.

❏ This means that the seizures may be kept to the minimum.

❏ It is important to note that medication does not only control seizures.

❏ Research indicates that there is a dramatic improvement in the schoolwork, self-esteem and behaviour of learners with epilepsy because they are no longer at the mercy of the abnormal fluctuations in the activity of the brain.

❏ Medication can have side effects, even when the learner is receiving the correct dosage.

❏ Learners react differently to medication, some experience side effects while others do not.

❏ Depending on the drug used, side effects from anticonvulsive medication typically include loss of appetite, memory problems, fatigue, attention problems, distractibility, drowsiness, fine motor function problems, aggressiveness, hyperactivity, clumsiness (refer appendix 7).

5. SUPPORT IN THE CLASSROOM/ENVIRONMENT

In order to support the learner with epilepsy in the classroom the following aspects should be put into place: individual education plan, supportive environment, behaviour management and strategies that will reduce destructive behaviour.

5.1 Individual education plan

Educators should have individualised educational plans for each learner who has chronic condition (Porter :2002: 59-60).

> ➢ **Guidelines for formulating individual education plan (DePaepe *et al.* 2002:4; Porter 2002:59-60; Vaughn *et al.* 2000:10-11).**

❑ The individualised education plan should be prepared in consultation with parents, educators, and other school personnel including the school nurse, if available.

❑ It consists of the learner`s name, photo and emergency contact information.

❑ It should also include of the diagnosis and description of the condition, health history, specific symptoms and level of severity.

❑ The emergency procedures should be put on the first page of the plan.

❑ Ongoing daily treatments such as health care procedures, medication administration, dosage, and possible side effects should be included in the plan.

❑ The plan should also provide information on the additional accommodation measures taken. This include, identification of physical access and changes in instruction and activities (Examples: rest breaks, changes in activity types and lengths).

❑ Information about current educational achievement levels and the annual educational goals, including short-term instructional objectives should be included in the plan. A statement detailing educational

services to be provided and the extent to which each learner will participate in regular programmes and the appropriate objective criteria and evaluation procedures, should be included in the plan as well (Ashman and Elkins (1994:19).

❑ **When learners with epilepsy are promoted to another grade or class the new educator who is going to teach them had to be informed about their conditions and how to support them, and this should be included in the school policy.**

5.2 Supportive Environment

The nature of the physical classroom environment has an effect on the behaviour and safety of both educators and learners.

> ➢ **Guidelines for providing supportive environment for learners with epilepsy (Cowley 2003: 131; Michael 1995: 122-123; Lewis & Doorlag 1995: 192).**

❑ Educators have to maintain the physical classroom environment as safe as possible for learners with epilepsy.

❑ Educators are responsible for the learner`s safety while they are in the classroom .

❑ Educators have to make sure that dangerous chemicals and sharp scissors are kept away from learners with epilepsy. Educators have to put in place clear and firm strategies about dealing with bags and other equipment at the start of the lesson, a time when safety issues should be discussed.

❑ Educators need to have a blanket or other soft material in the classroom to use for protection if needed.

❑ The sharp edges of classroom furniture should be covered and if possible the school management should purchase furniture with round edges.

❑ The classroom temperature should be as comfortable as possible to avoid hot or cold environments, which may hinder performance.

❑ The use of flashlights in the classroom should be avoided as it may precipitate seizures in some learners.

❑ The use of shatterproof equipments is recommended for usage in the classroom to avoid accidents during seizure activity. If it is possible the exposed heating should be covered.

❑ The classroom environment should be barrier free and it should be arranged in such a way to allow easy movement between desks and tables.

❑ The educator has to make sure that all learners in the classroom know first aid procedures for seizures.

5.3 Teaching other learners about epilepsy

Educators have the responsibility of helping other learners understand and accept the learner with epilepsy. The decision about when to teach the rest of the class about epilepsy should not be made by the educator alone, but it should involve both the parents and the learner. The parents have to give permission that other learners may be taught about epilepsy. The learner with epilepsy should take an active role in planning the lesson and preparations (Michael 1995:96-97; Vaughn *et al.* 2000:271).

➢ **Guidelines for teaching other learners about epilepsy (Michael 1995:97-98; Lewis & Doorlag 1995:178).**

❑ Explain that epilepsy or seizure is not a disease nor is it contagious, but is a neurological condition.

❑ Explain to the learners that seizure happens when the brain receives many different messages to which the body reacts, but everything returns back to normal, when the seizure is over. However, it causes some inconvenience.

❑ Discuss the causes of epilepsy such as head injury and stress the issue of safety, precautions such as the use of helmets, speed reduction while driving and the use of seat belts.

❑ Help the learners to role play safety procedures to be used for the different types of seizures.

❑ Positive ways that the other learners can assist the learner with epilepsy, should be generated.

❑ The person with epilepsy can be invited to be the guest speaker in the classroom or in the school.

❑ To develop understanding and acceptance, the educator can ask learners to write reports on famous people who had epilepsy. If possible, videotapes of seizures and safety procedures could be shown in the classroom.

5.4 Behaviour management

Learners with epilepsy exhibit more behaviour problems than other learners who have special educational needs. They also have more behaviour problems compared to other learners with chronic conditions (Michael 1995:71-72). Effective behaviour management is essential to the smooth running of a school and classroom (Rogers 1995:12). When behaviour management skills are applied in the school and in the classroom, they have to be applied in the same way for all learners, including learners with epilepsy.

The goals of positive behavioural management are not limited to decreasing or eliminating one or two behaviours concerned although such changes compose one desired outcome. The goals of positive behavioural management also include helping learners to develop self-control skills and form more positive relationships with peers, educators and other community members (Janney & Snell 2000:2).

5.4.1 Preventing behaviour problems

The first step in prevention behaviour problems is to have a clear school policy on behaviour management.

> **Guidelines for formulating school policy (Westwood 2003:66)**

❑ A school policy document must contain a set of rules and the consequences.

❑ A good policy has to make clear to learners, educators, parents and administrators that schools should be safe, friendly and supportive environments in which to work.

❑ The school policy on learner`s behaviour should be seen as dealing more with matters of welfare, safety and social harmony rather than procedures for punishment and enforcing discipline.

❑ The core of any behaviour management policy should include the stated aim of teaching all learners responsible and effective ways to manage their own behaviour and making appropriate decisions.

5.4.2 Classroom rules

Classroom rules are essential for the smooth running of any lesson and should be formulated jointly by the learners and the educator very early in the year (Westwood 2003:68). Research indicates that most learners with special educational needs including learners with epilepsy function best when they know what is expected of them (Polloway, Patton & Serna 2001:64).

> **Guidelines for formulating classroom rules (Iverson 2003:55-60: Kyle & Rogien 2004L: 105-107)**

❑ Keep rules short, clear and explicitly stated so that learners know what is expected of them.

❑ Rules should specifically summarise appropriate behaviour and be formulated in a positive manner.

❑ The rules should be reasonable expectations of behaviour, be as brief as possible and be relatively easy for the learners to understand remember and obey.

❑ The rules must be functional and practical so that they are beneficial to a positive and safe class climate.

- ❏ The rules should be consistent with school and district office rules and policies and must be clearly displayed in the classroom.
- ❏ It is important that the educator should frequently refer to the rules if it is expected to successfully manage learners.
- ❏ The learners should receive a copy of the rules.

5.4.3 Classroom rules for learners when seizure occurs

Informed learners will not be frightened during seizure activity in the classroom, nor will they be horrified by such an occurrence, but they will be prepared to respond in a helpful and supportive manner (Frieman & Settel 1994:200).

> ➢ **Guidelines for learners when seizure occurs (Kruger *et al*. 2001:71-72; Krajicek *et al*. 1997:284; Niedermeyer 1990:339).**

- ❏ Learners will be expected to assist the educator when seizures happen in the classroom but the educator has to put the learners at ease first.
- ❏ The learners will be asked to move any desks, chairs or objects out of the way that may be a danger to the learner with seizures.
- ❏ Learners will be expected to help with first aid procedures for seizures and they will also be expected to stand far from the learner to allow for sufficient oxygen to reach the learner.
- ❏ The first thing that the learners have to do is to prevent physical damage in the initial fall, if at all possible.
- ❏ They should loosen any tight clothing around the learner`s neck and turn the learner to the side to prevent fluids in the mouth entering the lungs.
- ❏ They should not put anything in the learner`s mouth and they should put something soft under the learner`s head.
- ❏ The learners have to wait until the seizure stop because there is really nothing they can do during a seizure. If there have been an accidental emptying of the bladder, the learners of the opposite sex should be

asked to leave the classroom or be asked to occupy themselves elsewhere in the classroom.

❑ A friend of the learner who had the seizure should accompany his/her friend to the washroom so that he can tidy him/herself up and change clothing or go home to change clothes.

❑ Learners with epilepsy are expected to inform someone in the classroom if they believe that a seizure is about to occur because this procedure will prevent an injury.

❑ An injury can happen if the learner is conducting scientific experiments with certain chemicals or when the learner is working with equipment requiring careful handling (Spiegel *et al.* 1996:35-36).

5.4.4 Classroom procedures

Classroom procedures may be effective for learners with epilepsy because they will know what is expected. Classroom procedure is the key element in avoiding disruptions and increasing instructional time (Polloway *et al.* 2001:64).

> **Guidelines for formulating classroom procedures (Cowley 2003:157; Wong & Wong 1991:173)**

❑ The classroom procedures have to explain the working procedure.

❑ Learners need to know exactly how they are expected to approach their work.

❑ Educators have to go through a set of work habits and even put a list of these up in the wall, for learners to follow.

❑ Depending on the educator approach the work habits such as write as neatly as you can; work in silence; take time to check your work for spelling and punctuation and put your hand up if you have a question or if you need help.

❑ The classroom procedures also have to explain to the learner what to do when they arrive at school in the morning, when the bell rings and what to do when the fire drill rings.

❑ The classroom procedures should also state what the learner should do when the transport does not arrive.

❑ The classroom procedure should also explain what the learner should do if he/she needs to go to the bathroom and when he/she wants to go out of the classroom.

6. STRATERGIES FOR REDUCING DESTRUCTIVE BEHAVIOUR

Learners with epilepsy may exhibit disruptive behaviour. There are many strategies for reducing disruptive behaviour in learners with epilepsy. The following strategies can be implemented.

6.1 Deliberate ignoring

Research has indicated that learners with epilepsy display behavioural problems. They will try to get a reaction from the educator when they are bored and desire attention. Unfortunately learners often elicits negative attention from educators. They perceive negative attention as better than no attention at all (Maag 1999:279). Therefore, one important ingredient of positive reinforcement is deliberating ignoring the learner. The technical term for this elimination is extinction (Vaughn *et al.* 2000; 78; Westwood 2003:73).

> **Guidelines for implementing deliberate ignoring (Vaughn *et al.* :2000:78).**

❑ Identify the learner and the target behaviour.

❑ Identify whose attention the learner is seeking.

❑ If the educator realises that the learner is seeking for her/his attention, she/he should implement deliberate ignoring intervention.

❑ The educator always has to ignore the target behaviour when it occurs.

❑ Praise the learner when the target behaviour does not occur praise other learners who do not engage in the target behaviour.

❑ Turn away from the learner when the target behaviour occurs and evaluate the effectiveness of the intervention.

❑ For this strategy to be effective educators require patience and the ability to control reinforcement.

6.2 Timeout

Many learners with epilepsy exhibit behavioural problems including aggression (Sachs & Barret 1995:141). They prefer to disrupt the classroom and they fail to complete academic tasks because most of the time they are expelled from instructional settings at each outburst. As a result of aggression, these learners may develop a double disability requiring remediation in both academic and social skills. Remember it is best to apply timeout before the learner loses control or becomes assaultive. The behaviour pinpointed for timeout should be antecedents to aggression, for example, teasing, lifting an arm to hit another learner (Kerr & Nelson 1998:276-278).

> ➢ **Guidelines for implementing time out (Kerr & Nelson 1998:276-278).**

❑ The leaner will be removed from the classroom activities and be placed in the space that would encourage self-reflection for a while.
❑ The learner will be expected to fulfil certain criteria before allowed to leave the space.
❑ The criteria should include that the learner agrees to adhere to classroom rules and the signing of a behavioural contract (Department of Education Alternatives to Corporal Punishment: 200:17-18).
❑ If the learner is extremely disruptive within the school, the interventions for reducing extremely destructive behaviour may have to be supplemented with external penalties.
❑ An example of this behaviour is when the learner has damaged something. This could results in the parents paying for the damaged object, while holding the learner`s allowance.

6.3 Behavioural contracting and formulation

Behavioural contracting represents another specific application of positive reinforcement, which will improve the behaviour of learners who have problems in the classroom, including learners with epilepsy (Kyle & Rogien 2004:208). Behavioural contracting has been used extensively in the past and its popularity continues to rise. In behavioural contracting, each individual`s behaviour and accompanying reinforcement are specified precisely. It also contains the contingencies for an individual to receive reinforcement. Subsequently, behavioural contracting represents a permanent product to which educators and learners can refer if problems or questions arise in regard to contingency (Maag 1999:311-312).

> ➢ **Guidelines for formulating successful behavioural contracting (Maag 1999:313)**

- ❑ When formulating a behavioural contract, it is important that it should be negotiated and be freely agreed upon by all parties.
- ❑ The contract must be fair to all parties and its terms must be clear. The contract must be honest, positive and its reinforcer should be immediate.
- ❑ The contract should initially call for and reinforce approximations of target behaviour.
- ❑ It should provide for frequent reinforcement in small amounts and it must consistently be delivered in accordance with the terms of the contract.
- ❑ The reinforcer should be noted down.
- ❑ The learner should not be eliminated after obtaining reinforcement and it is important to reinforce behaviour immediately after it occurs.
- ❑ The contract must include the date of review and renegotiation.

6.4 Cooling off

Explosive situations may crop up with some learners with special educational needs, including learners with epilepsy, and a cooling off period will be necessary.

> ➤ **Guidelines for implementing cooling off (Kyle & Rogien 2003:75; Westwood 2003:75)**

❑ The learner may be taken to the corner in the classroom/library where worksheets may be available for use.

❑ The learner should be under supervision for time spent out of the classroom and should not return to the particular lesson until emotionally fit to go back to the classroom.

❑ The educator and the learner can enter into a behaviour contract. It is beneficial that after a period of time, the learner has to participate in a debriefing session.

❑ The educator has to encourage the learner to discuss the incident and reflect upon the behaviour.

❑ The educator has to assist the learner to identify behaviour that might have been more appropriate and the learner has to set a goal for improvement.

6.5 Reinforcement and rewards

Reinforcement and reward are useful techniques that educators can implement to help the learner with special educational needs, including learners with epilepsy, to remain focused, motivated to learn and improve their behaviour (Iverson 2003:145).

> ➤ **Guidelines for implementing reinforcement and rewards systems (Burden 1997:324; Westwood 2003:74).**

❏ Another method of reinforcing behaviour is the use of tokens, such as stars, counters or other little objects.

❏ In this case the learners receives something when they have acquired a certain number of tokens.

❏ Tokens are not efficient for some learners with special educational needs, including learners with epilepsy because they find it difficult to see the connection between the behaviour and what they eventually receive.

❏ If reinforcers like praise, smiles and overt approval are not effective, it will be necessary to apply more tangible rewards, selected according to the learner`s needs.

❏ The educator can use stickers or coloured stars for rewarding good behaviour, and it is important to reinforce and reward only good behaviour.

❏ Educators should remember to give reinforcement immediately after the desired behaviour, and once the desired behaviours are established, reinforcement should be given only at carefully spaced intervals after several correct responses have been made.

❏ The educator must gradually shift to unpredictable reinforcement so that the newly acquired behaviour can be sustained for longer periods of time without reward.

6.6 Punishment

Punishment should be applied in the same way to all the learners in the classroom, including learners with epilepsy. Punishment is a way of eliminating undesirable behaviour. However, punishment tends to make the learner to feel resentment, feeling of alienation and fear. Punishment may also suppress a learner`s responsiveness in a classroom situation while eliminating the negative behaviour (Maag 1999: 74,376: Vaughn *et al.* 2000:79).

> ➢ **Guidelines for implementing punishment (Porter 2002:216; Westwood 2003:76)**

- ❑ If it is really necessary to punish the learner, punishment should be administered as soon as the inappropriate behaviour is exhibited, because delayed punishment may be useless.
- ❑ Punishment must always be combined with positive reinforcement and other tactics to rebuild the learner`s self-esteem.
- ❑ The goal of intervention should be to help a learner to gain control over emotions and behaviour.

It is important to note that the goal of punishment will not be achieved if ongoing aversive behaviour is imposed.

7. SUPPORTING THE LEARNER

In order for educators to support learners with epilepsy, the following aspects are important. Dealing with feelings, improving social skills, enhancing self-esteem, self-management, improving memory and attention and assessment considerations.

7.1 Dealing with feelings

The educator can help significantly by acknowledging the learner`s feelings about epilepsy and seizures. This is important if educators wish to deal realistically with acceptance and understanding.

> ➢ **Guidelines for dealing with feelings (Michael 1995:96;Vaughn *et al*: 117).**

- ❑ Show compassion, assurance, understanding and support.
- ❑ Listen to the learner attentively without interruptions and giving comments.
- ❑ Don't put the learner down when he/she express his/her feelings.

❑ Be aware of your own feelings towards seizures and epilepsy because this can influence the learners in the classroom

❑ Suggest counselling by the school psychologist or educational psychologist if necessary. This strategy may help the learner understand and gain a degree of self-control, through such techniques as progressive relaxation to reduce anxiety, self-instructions when a seizure is sensed to be coming on and aids in improving memory.

7.2 Improving social skills and group participation

The educator can be very helpful with respect to structuring social interactions and improving social skills of the leaner with epilepsy. A learner with epilepsy may use his or her condition as a hindrance. Epilepsy can be put easily as an excuse for not participating in some activities in the classroom. The educator can be quite helpful in preventing these phenomena by encouraging participation in the group activities. Including learners with epilepsy in the group activities, is another way to push up their self-esteem and to improve their social skills (Spiegel *et al.* 1996:37).

> **Guidelines for improving social skills and group participation (co-operative learning) (Kyle & Rogien 2004:238-239; Westwood 2003:91)**

❑ The greater use of games and play activities of non-academic type can place the learner with epilepsy in situations where he/she can more easily fit in and work with others.

❑ The educator can make use of peer tutoring, buddy systems and other helping relationships to assist the learner with epilepsy to improve social interactions.

❑ The educator can select a particular topic such as friends or working together, as the basis for classroom discussions and much of this information can be incorporated into a social educational programme.

❑ The educator can form peer groups and the peer group members can be encouraged to maintain and reinforce social interactions with less-able or less-popular learners.

❑ Often the members of the peer group are unaware of the ways in which they can help.

❑ Peer group may need to be shown how to initiate contact, how to invite the learner with special educational needs, including learners with epilepsy to join in an activity, or how to help the classmates with particular schoolwork assignments.

7.3 Enhancing self-esteem

One of the recurrent problems in learners with epilepsy is that they typically suffer from low self-esteem and impaired social skills (Spiegel *et al*. 1996:37). The importance of self-esteem for learners with epilepsy cannot be overemphasized. The educator is the key person to enhance the self-esteem of the learner in the classroom. How educators act and react to and with learners with special educational needs, affect learner`s view of themselves (Hayers & Foyers 1990:211).

> ➤ **Guidelines for enhancing self-esteem; (McGuire & Heuss 1995:152-153; Porter 2002197-199; Raffini 1996:181)**

❑ Set high expectations for all learners and assist learners in achieving them.

❑ Learners will rise or fall to the level of expectation of the educator.

❑ When educators believe in learners, learners believe in themselves.

❑ The educator should always try to explain the reason or purpose of rules, assignments and learning activities.

❑ Only if the educator draws attention to the value of activities will the learners experience the personal satisfaction that comes with achieving them.

❑ The educator has to provide all learners with ample amounts of positive information feedback.

- ❑ The information feedback should describe the learner`s achievements, skills or social behaviour. It should also avoid value judgements.
- ❑ The educator should help the learners to set realistic goals.
- ❑ Realistic goals are goals that the learner will be able to attain.
- ❑ The learner has to divide large goals into small steps and they should be measurable.
- ❑ The date has to be set for completion of the goal.
- ❑ The educator can help the learner to visualise accomplishment of goals. This is important because the learner will be able to maintain positive attitudes towards given tasks.
- ❑ The educator has to accept learners as valuable, worthwhile human beings, irrespective of disability.
- ❑ It is important for educators to distinguish between what a learner does and what a learner is.
- ❑ The educator has to learn something unique about each learner and occasionally mention it to them.
- ❑ Each learner`s efforts and accomplishments should be valued. The educator must match tasks to the skill level of the learner, so that effort can lead to a success.

7.4 Self-management

Self-management refers to an individual ability to function independently in any given learning environment, without the need for constant supervision (Agran 1997:132). Evidence is accumulated to support the view that, deliberate training in self-management can be effective in promoting learner`s independence (Bartlett, Weisenstein & Etscheidt 2002:35). The self-management strategies that the educator can employ to help the learner with epilepsy are personal awareness and working knowledge.

7.4.1 Personal awareness

The educator has to make the learner aware that his/her approach to epilepsy can influence how he/she feels about him/herself and how others perceive him/her.

> ➤ **Guidelines for implementing personal awareness (British Epilepsy Association 2004:1)**

❑ Explain to the learner that he/she is an unique individual with characteristics such as shape, colour, age, skills talents and ambitions in life.

❑ Teach the learner with epilepsy not to think or saying "I am an epileptic" because this will be defining the person in terms of the condition.

❑ Explain to the learner that the way he/she thinks, feels and behaves can influence the epileptic condition.

❑ Explain to the learner that emotions and feelings about epilepsy may affect the frequency of seizures.

❑ Positive thinking and emotional management may actually help reducing the number of severity of seizures.

7.4.2 Working knowledge

Working knowledge means that the learner with epilepsy knows the facts about epilepsy and understands how they apply to him/her. This will prevent many problems.

> ➤ **Guidelines for implementing working knowledge (Gouws & Mfazwe 1998:40; Krugerm *et al.* 2001:73).**

❑ Providing the learner with knowledge about epileptic conditions can take away stress, reduce fears, feelings of incompetence and anxieties and will help the learner to be in control.

❑ The educator has to encourage a learner with epilepsy to find more information about the condition.

❑ The educator also has to teach the learner to try to keep an open mind about epilepsy and if the learner is uncertain about any aspect of it, a doctor should be consulted.

❑ The educator has to encourage learners with epilepsy to share their experiences with one another. This is one way of learning more about the condition and can also help the learners with epilepsy to feel less isolated.

7.5 **Improving memory and attention**

The most commonly reported cognitive deficits in learners with epilepsy, are memory difficulty and attention deficits. It is known that the longer the seizure activity lasts, an increase chance of injury to the brain exists, which can lead to memory difficulty and attention deficits. Memory difficulty, drowsiness and attention problems can sometimes happen because of the side effects of anti-epileptic drugs. These side effects can have an effect on short-term memory and may make it difficult to learn and store new information (Burden 1997:292; Michael 1995:70-71). The following techniques can be used to improve the memory and attention of the learner with epilepsy: mnemonics, acronyms, rehearsal and attention improving skills.

7.5.1 Mnemonics

Mnemonics are memory triggering device that help learners to remember and retrieve information by forming associations that do not exist naturally in the context (Vaughn *et al.* 2000:501). Mnemonics devices mean that the learner take the first letters of sentences or paragraphs or subsections and form a word with them (Kruger 2001:127).

> ➤ **Guidelines for implementing mnemonics technique (The National Society For Epilepsy 2003:1)**

❑ Mnemonics help the learner the learner to remember and recall information.

❑ Example: mnemonics for remembering the colour of the rainbow is: **R**ichard **o**f **Y**ork **g**ave **b**attle **i**n **v**ain. The rainbow colours are **r**ed, **o**range, **y**ellow, **g**reen, **b**lue, **i**ndigo and **v**iolet.

7.5.2 Acronym

An acronym is a word formed from the first sounds of the words that make up a phrase. Some acronyms reproduce the meaning of the word that they stand for.

> ➤ **Guidelines for implementing acronyms technique** (**Vaughn *et al.* 2000:501; Westwood 2003:157-158)**

❑ The LESSER acronym can be taught to learners to help them organise their thoughts and information when composing written work.
L= List your ideas,
E=Examine your list,
S= Select your starting point,
S= Sentence one tells us about the idea with another sentence,
E= Expand on this first idea with another sentence
R= Read what you have written.

❑ After the above process the educator can ask learners to revise their work if necessary or to repeat the next steps for the next paragraph.

7.5.3 Rehearsal

The rehearsal approach can be efficient to help a learner with special educational needs, including a learner with epilepsy, to improve his/her memory.

> ➢ **Guidelines for implementing rehearsal approach (Vahid, Harwood & Brown 1998:39,108,118)**

❑ Learner`s retention of facts and sequencing problems can be improved by getting them to play `the shopping list ` by adding items.

❑ The list can contain as many items as are learners in a class. Some other suggestions that will facilitate retention and recall for learners will include encouraging learners to repeat compiled lists in their minds.

❑ The educator has to teach learners to classify items together, visualise them and to repeat instructions in their minds so that information is stored effectively.

7.5.4 Attention improving skills

The educators have to employ attention skills that can help the learner with epilepsy to pay attention.

> ➢ **Guidelines for attention improving skills (Burden 1997:280; Cowley 2003:160-161; Vaughn *et al*. 2000:154).**

❑ The educators have to arrange the classroom environment in such a way that it facilitates attention.

❑ The educators have to consider where the leaner with the attention problem sits in the classroom, because the educator has to maintain eye contact and as well as physical contact all the time.

❑ When imparting knowledge educators have to help learners to pay attention to the right matters by being brief, clear and to the point.

❑ The educators have to help learners with epilepsy to ignore irrelevant stimuli by structuring the teaching situation in such a way that there are as few things as possible to distract their attention.

❑ Educators have to keep in mind that the attention span of learners with epilepsy is short, therefore teaching sessions should be brief and alternate with different activities.

7.6 Assessment considerations for the learner with epilepsy

Assessment refers to any process used to ascertain how much learning and what quality of learning, has taken place for each learner in the classroom. Assessment gives an indication of how effective a particular episode of teaching and learning has been. The process of assessment also points out anything that may need to be taught again, revised or practised further by some learners (Westwood 2003:212).

> ➢ **Guidelines that educators should consider when implementing assessment for learners with epilepsy (Michael 1995:52,53,57).**

- ❑ Anxiety and stress level of the learner. All learners experience a degree of anxiety in the assessment situation. However learners with epilepsy may experience particular difficulty when under severe stress (Iverson 2003:216:217).
- ❑ Consider the health of the learner at the time of assessment.
- ❑ It is important for the learner to perform at the usual place and in the usual manner at the time of assessment.
- ❑ The educator has to bear in mind, that if the learner has had a seizure recently or is not working at the usual place for whatever reason, the reliability of the results will be limited.
- ❑ The educator also has to bear in mind that some learners may need testing modifications in order to obtain an accurate picture of their strengths and weaknesses.
- ❑ Testing modifications may include using oral testing or different testing formats.
- ❑ An independent educator who is not involved with the subject could write down the learner`s answers. Spelling mistakes may be ignored in the case where a learner has serious spelling problems. For learners who write slowly, extra time may be given so that they can complete their exam papers (Kruger *et al.* 2001:74).

8. OTHER ROLE-PLAYERS

If learners with epilepsy have to receive adequate support other role players have to be involved. The role players include substitute educator and the family of the learner with epilepsy.

8.1 Substitute educators

The use of substitute educators is one of the most difficult jobs in the school. The substitute educator often comes into an unfamiliar classroom at a moment`s notice.

> ➤ **Guidelines for the use of substitute educators (Michael 1995:62).**

❑ The substitute educator has to work quickly to obtain the educator`s plan for the day and carry out the educational programme with the learners with whom he/she is unfamiliar.

❑ It is extremely important that the substitute educator be made aware of health conditions of all learners in the classroom.

❑ The regular classroom educator should note in the plan any special procedures or considerations to be followed with particular learners with special educational needs in the classroom

❑ Research recommends that if possible the same substitute educator should regularly substitute in the same class (Hourcade & Parrete 1986:284).

8.2 Collaboration with the family

It is vital for the educator and the parent to collaborate in achieving the needs of the learner with epilepsy. In developing this collaboration the educator needs to understand that the learner with epilepsy is a cause of stress for the entire family (Frieman & Settel 1994:196).

> ➢ **Guidelines for implementing family collaboration (Babane 2002:67; Krajicek *et al.* 1997:358-358).**

❑ The educator has to understand that there are several models of the processes that a family may go through when they realise that their child has epilepsy.

❑ Typically the processes that the family may experience, include grief, pain, feelings of helplessness, shock, denial, guilt, anger, sadness, depression, isolation, confusion, worry and acceptance.

❑ However, it is important to note that parents do not go through these processes in a particular sequence, nor do they experience them in any set amount of time.

❑ Educators have to collaborate with the family by showing acceptance and understanding.

8.2.1 Communication with the family

Communication with the family is important. The educator needs to establish an environment in which communication can remain open at all times (Spiegel *et al.* 1996:38).

> ➢ **Guidelines for communicating with the family (Krajicek et al. 1997:363; Kyle & Rogien 2004:260)**

❑ The educator has to listen what the family identifies as the needs of the family and the child.

❑ The educators have to accept the family, not just the child, as the focus of services.

❑ The educators have to share information on the learner`s development and behaviour in a supportive way and provide feedback about the learner`s strengths and progress.

❑ Educators should avoid giving advise unless it is requested, this does not mean that educators can never give suggestions. However suggestions should be given with the expectation that the parent may or may not choose to implement. Educators have to avoid jumping too quickly to a solution. Listening carefully and fully to the message will help educators to get at the root of the problem (Vaughn *et al.* 2000:113).

❑ Educators have to know that they are legally and ethically bound to keep information as confidential as possible. It has to be noted that the information will only be shared with other school personnel (Frieman & Settel 1994:196).

8.2.2 Working with the family

It is important for educators to recommend to the parents of learners with epilepsy to become involved with parent support groups.

> **Guidelines for recommending parent group (Krajicek 1997:363; Michael 1995:128).**

❏ Explain to the parents that this will be a useful way for them to learn coping skills, gaining new information and ways to locate needed services.

❏ Emotional support may be accomplished from such groups.

❏ According to Seligman and Datliong (1989:44) other benefits of parent groups include the following:

⟹ Providing role models.

⟹ Providing a basis for comparison.

⟹ Providing information.

⟹ Alleviation of loneliness and isolation.

APPENDIX 7

Anticonvulsant drugs used for learners with epilepsy

(N.B. names in brackets are trade names: Side effects are possible side effects).

Drug name	Treatment indication	Side effects
1. Phenytoin (Epanutim)	Tonic clonic seizures, partial seizures, Status epilepticus	Gum swelling, increase in body hair, acne, unsteady walk, mood changes, fever, depression, overactive, headache, defective formation of red blood cells, thyroid dysfunction, drowsiness, slow speech, altered facial structure, unstableness. sedation and rashes.
2. Ethosuxide (Zarontin)	Absence seizures	Headaches, vomit provoking, drowsiness, rashes and may create tonic clonic. Hiccups, depression, abnormal manner of walking, behavioural disturbances and weight loss.
3. Clonazepam (Rivotril)	Status epilepticus, abscences , myclonic seizures, tonic clonic and partial seizures	Changes in behaviour such as aggression and overactive, swelling of blood vessels, drowsiness, sedation, unsteadyness, lethargic and the release of respiratory portion.

4.Carbamazepine (Tegretol)	Partial and simple seizures and tonic clonic seizures. Not recommended for myoclonic seizure and it is also used as pain control for neuropathy pain.	This drug has less effects on intellectual ability and it doesn't affect behaviour. Development of rash indicates sensitivity to the medication, which can lead to the decrease of white blood cell counts. Double vision, nausea, dizziness, drowsiness, restlessness, loss of memory, mood swings, headaches, gastro-intestinal disturbance and unsteadiness in movement may be noticed.
5. Sodium valproate (Epillium)	Absences, generalised tonic clonic and partial seizures and myclonic seizures.	Serious side effects: weight increase, temporary hair loss. Rare side effects relates to lever functioning, gastric complications, behaviour problems, hyperactivity, random menstruations, uneven movements, short temperedness, nervousness, nausea, acute abdominal pains, irregular period, hearing loss, increase in appetite and irregular confusion.
6. Primidone (Mysoline	Tonic clonic seizures, partial and generalised seizures	Acute dizziness, drowsiness, overactive, restlessness, rashes, depression, insane, impassive, apathetic, mood swings, nausea, overactive, aggression, cognitive dysfunction, loss of memory and exhaustion.

7. Phernobarbitone (Gadenal, Luminal, Prominal)	Generalised tonic clonic and partial Seizures, status epilepticus	Has a sedating effect causing hyperactivity, irritability, aggression, mood swings and depression. It may badly agitate memory, behaviour, learning ability and cognitive functioning. Rashes, impassiveness, lethargic, sleepy, vitamin k and d deficiency and overactive movements.
8. Acetazolamide (Diamox)	This medication is used for seizures caused by hormonal changes such as menstruation and also for boosting other drugs like carbamazepine	Weight loss, suppressed appetite, dishearten, lethargy, pains in feet joint and hands, headaches, listlessness, restlessness. Dehydrated and often urine pass.
9. Closazam (Frisium)	Tonic clonic and generalised partial seizures. Tolerance may develop to clobazam	Has a sedating effect but is less than Clonazepam or Diazepam. Lethargy, drowsiness, depression and mood swings.
10. Diazepam (Valium) Benzodiazepines)	For emergency treatment, status epilepticus and prolonged seizures.	Listlessness, double vision, loss of memory, sedative, drowsiness, abnormal bodily movements, aggression, behavioural disturbance and dizziness. Respiratory depression may take place if it is given in too high dose into a vein

11. Lamotrigine (Lamictal)	Partial seizures or generalised tonic clonic seizures	Double vision, headache, flu like symptoms, loss of memory, mild sedation, rashes, vomit provoking and lethargy, dizziness, fatigue, double vision, loss of control of bodily movements and severe mental derangement.
12 Vigabatrin (Sabril)	For resistant partial seizures, if other drugs has failed.	Problems with visual area. Changes in behaviour, memory and mood swings. Insane effect has been ascertained, nervousness, lethargy, turmoil, headache, unsteady manner of movement, aggression, confusion, diarrhoea, drowsiness, weight gain, irritability, abnormal thinking, problem with concentration, memory disturbances, increased seizure frequency and temperate gastrointestinal disorder.
13. Levetiracetam (Kerpa)	Partial seizure with or without secondary generalisation and primary generalised seizures	Dizziness, headache, infection, loss of strength and sleepyness.
14. Oxcarbazepine (Trilepton)	Partial seizure with or without secondary generalisation. Similar mode of action to carbamizipine, but it is evident that is better tolerated that carbamizipine.	Same side effects as Carbamazepine

15. Tiagabine (Gabitril)	Partial seizures with or without secondary generalization	Diarrhoea, fatigue, dizziness, nervousness, concentration problems, depression, drowsiness, rarely confusion, shaking or quivering, speech problems and emotional liability.
16. Topiramate (Topamax)	Partial seizures with or without secondary generalisation and primary generalised seizures.	Weight loss, nausea, abdominal pain, anorexia, memory and concentration problems, mood swings, speech, double vision, altered behaviour, emotional liability, abnormal manner of walking, rapid involuntary movements of the eyes and severe mental deterioration.

Sources from: (Allwoood & Gagiano 2000: 214-216; Baddeley & Ellis 2002:92-110)

APPENDIX 8

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