AN INVESTIGATION INTO THE LANGUAGE PROFICIENCY AND CRITICAL THINKING ABILITIES OF GRADE 11 LEARNERS IN THE ACCELERATED CHRISTIAN EDUCATION SYSTEM

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TO WHOM IT MAY CONCERN

I hereby confirm that I have proofread Ulricke Niekerk's Dissertation and have made suggestions regarding the improving of grammar and sentence constructs. I also translated the Summary into Afrikaans.

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SUMMARY

The purpose of this study was to investigate the language proficiency and critical thinking abilities of Grade 11 learners in the ACE system. This would aid to direct learners in the FET phase to enhance their critical thinking skills and language proficiency. ACE is referred to as the Accelerated Christian Education or School of Tomorrow. Accelerated Christian Education is the trade name of School of Tomorrow. The School of Tomorrow program is individualised and non-graded. It allows each learner to work on his performance and achievement level which can differ from learning area to learning area (School of Tomorrow, 1995:29).

Language proficiency is of utmost importance when it comes to cognitive development within the classroom, the curriculum or life in general, especially when a learner has to learn his subjects in another language of learning and teaching (Donald, Lazarus, & Lolwana, 2005:73). According to Cummins (in McKay, 2007:2) each learner should be taught in his mother-tongue to a threshold level of proficiency in order to transfer the knowledge to the other language and ensure positive cognitive growth. If a learner is not proficient in the Language of Learning and Teaching (LOLT) his academic achievement will be poor as well as his critical thinking skills.

South Africa has 11 official languages in terms of Act 108 of the Constitution (Department of Education, 1997). In the Further Education and Training phase, learners have to take two of the 11 official languages as their core majors and other languages can be taken as electives (Department of Education, 2005:11). Since parents have the right to choose their child's language of learning and teaching and are not bound by law to choose their mother-tongue, English is mainly chosen as it is seen as the language of educational and economic empowerment (De Klerk, 1995:28). However, it is emphasised by Schroeder (2004:383) and Woolfolk (2004:179) that mother-tongue education is by far preferable. Weideman and Van Rensburg (2006:157) are of the opinion that it is better to be taught and be academically successful in one's mother-tongue before choosing another language of learning and teaching. De Klerk (1995:50) asserts that a lack of language proficiency in the language of learning and teaching is a main reason for low academic performance.

One of the main aims of education is to gain as much information as possible. However, information is gained through communication and communication through a language (De Bono, 1969:9). If, however, the individual is not able to understand the language with all its nuances, certain information is missed. And as information is missed, it is thrown away. A person cannot think about something he does not understand (Strydom & Du Plessis, 2000:129).

Critical thinking is necessary for every day decision making. No matter what one's circumstances, a person with good thinking skills will be more successful in life. Poor thinking causes frustration, a waste of time, ineffective use of energy and pain (Paul & Elder, 2002: xiii). A critical thinker will be able to apply the knowledge he/she has learnt in real life situations. Vygotsky (McGregor, 2007:10) asked the question: "*Does language mirror thought or thought language or both?*"
In educational psychology it is generally accepted that language and thinking are interwoven (Donald, et al., 2005:219).

The descriptive research method was used. For the purpose of this study, 10 Grade 11 learners from the ACE system were conveniently sampled. These learners included six English Mother Tongue (EMT) learners and four English Second Language (ESL) learners. For the empirical research the ELSA test was used for language proficiency and the Watson Glaser Critical Thinking Appraisal Test for testing critical thinking skills. Descriptive statistics were employed to interpret the results since the sample was too small for correlations and inferences. Generally the language proficiency of the EMT learners was on a Grade level 10. The language proficiency of the ESL learners was generally also on a Grade level 10, which is acceptable for ESL learners. Critical thinking skills such as evaluation and interpretation were overall adequately developed. However, most of the learners performed poorly with inferences. Although statistical correlations could not be made, because of the small sample, with 8 of the learners it appears as if there was a link between language proficiency and critical thinking skills. These 8 learners' language proficiency and critical thinking results were either equally good or equally poor.

OPSOMMING

Die doel van hierdie studie was om die taalvaardigheid en kritiese denkvermoë van Graad 11 leerlinge in die ACE sisteem te ondersoek. Die uitkoms van die navorsing sal leerlinge in die VOO fase help met die verbetering van hul kritiese denkvermoë en taalvaardigheid. ACE is die verkorting vir Accelerated Christian Education en dit is die handelsnaam van die School of Tomorrow. Die School of Tomorrow program is geindividualiseer en nie- gegradeer nie. Dit laat elke leerder toe om op sy eie prestasievlak te presteer wat moontlik van leergebied tot leergebied mag verskil (School of Tomorrow, 1995: 29).

Taalvaardigheid is van uiterste belang t.o.u. kognitiewe ontwikkeling in die klaskamer, die kurrikulum en die lewe in die algemeen, veral wanneer 'n leerling sy vakke in 'n ander taal van onderrig moet leer. (Donald, Lazarus & Lolwana, 2005:73). Volgens Cummins (in McKay, 2007:2) moet elke leerder in sy moedertaal onderrig word tot op die drempel van taalkundigheid ten einde die oordrag van kennis na die ander taal en dié van positiewe kognitiewe ontwikkeling te verseker. As 'n leerder nie vaardig is in die taal van leer en onderrig nie, sal sy akademiese prestasie en kritiese denkvermoë daaronder ly.

Suid Afrika het 11 amptelike tale kragtens Wet 108 van die Grondwet (SA 1996) (Departement van Opvoedkunde, 1997). In die VOO fase moet leerders twee van elf amptelike tale as hul kern hoofvakke neem en ander tale kan as addisionele vakke bygevoeg word (Departement van Opvoedkunde, 2005:11). Aangesien die ouers die reg het om hul kind se taal van leer en onderrig te kies en nie wettiglik verplig is om hul moedertaal as onderrigtaal te gebruik nie, word Engels meestal gekies aangesien dit as die taal van onderwys en ekonomiese bemagtiging beskou word (de Klerk, 1995:28). Dit is egter deur Schroeder (2004:383) en Woolfolk (2004:179) beklemtoon dat moedertaalonderrig verreweg verkieslik is. Weideman en Van Rensburg (2006:157) is van die opinie dat dit verkieslik is dat 'n leerling eers suksesvol in sy moedertaal onderrig word voordat 'n ander taal van leer en onderrig gekies word. De Klerk (1995:50) beweer dat 'n gebrek aan kundigheid in die taal van onderrig hoofsaaklik verantwoordelik is vir swak akademiese prestasie.

Een van die hoof doeleindes van onderwys is om soveel inligting as moontlik te versamel. Inligting word egter deur middel van kommunikasie verkry en kommunikasie deur middel van 'n taal (De Bono, 1969:9). As die individu egter nie die taal met al sy nuanse verstaan nie, gaan die inligting verlore. 'n Persoon kan nie oor iets redeneer as hy dit nie verstaan nie (Strydom & Du Plessis, 2000:129).

Kritiese denke is noodsaaklik vir alledaagse besluitneming. Ongeag 'n persoon se omstandighede, lei goeie denkvermoë tot sukses. Swak denke veroorsaak frustrasie, is 'n verspilling van tyd, 'n ondoeltreffende gebruik van energie en veroorsaak pyn (Paul & Elder, 2002: xiii). 'n Kritiese denker sal in staat wees om die kennis wat verwerf is in die werklikheid toe te pas. In opvoedkundige sielkunde word dit algemeen aanvaar dat taal en denke ten nouste met mekaar saamhang (Donald et al., 2005:219).

Die beskrywende navorsingsmetode is gebruik. Vir die doel van die studie, is 10 graad 11- leerders van die ACE sisteem deur gereflikheids selektering gekies. Die leerders sluit in ses Engelse Moedertaal (EMT) leerders en vier Engelse Tweedetaal (ETT) leerders. Vir die empiriese navorsing was die ELSA toets vir taalvaardigheid en die Watson Glaser Critical Thinking Appraisal Toets vir kritiese denkvermoë gebruik. Beskrywende statistieke is aangewend om die uitslae te interpreteer aangesien die steekproef te klein was vir korrelasies en gevolgtrekkings. Die taalvaardigheid van die EMT leerders was oor die algemeen op 'n Graad 10- vlak. Die algemene taalvaardigheid van die ETT leerders was ook op 'n graad 10- vlak, wat aanvaarbaar is vir ETT leerders. Kritiese denkvermoë soos bv. evaluasie en interpretasie was in alle opsigte voldoende ontwikkel. Meeste van die leerders het egter swak gevaar met gevoltrekkings. Alhoewel statistiese korrelasies nie gemaak kon word nie, aangesien van die klein steekproef, blyk dit tog dat daar 'n verband tussen taalvaardigheid en kritiese denke met 8 van die leerders se taalvaardigheid en kritiese denkvermoë was of ewe swak of ewe goed.

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CHAPTER ONE

ORIENTATION AND STATEMENT OF THE PROBLEM

This chapter discusses the orientation and statement of the problem. The following aspects are addressed:

- Literature background;
- Research questions;
- Aims and objectives of the study;
- Research design;
- Concept clarification;
- Contributions of the study to research focus area; and
- Pre-liminary chapter division

1.1. INTRODUCTION AND PROBLEM STATEMENT:

Critical thinking is necessary for every day decision making (Woolfolk, 2004:338). Regardless of one's circumstances, a person with good thinking skills will be more successful in life (Paul & Elder, 2001: xix). Paul and Elder (2002: xiii) state that poor thinking causes frustration, is a waste of time, and an ineffective use of energy. A critical thinker will be able to apply the knowledge he has learnt in real life situations (Paul & Elder, 2001: xx).

Language proficiency is of utmost importance when it comes to cognitive development within the classroom, the curriculum or life in general, especially when a learner has to learn his subjects in another language of learning and teaching (Donald, Lazarus, & Lolwana, 2005:73). In educational psychology it is generally accepted that language and thinking are interwoven (Donald, *et al.*, 2005:219). According to Cummins (in McKay, 2007:2) each learner should be taught in his mother-tongue to a threshold level of proficiency in order to transfer the knowledge to the other language and ensure positive cognitive growth. Mc Peck (1990:34) as well as Donald, et al., (2005:19) assert that if a learner is not proficient in the Language of Learning and Teaching (LOLT) his academic achievement will be poor as will his critical thinking skills.

The ACE (Accelerated Christian Education) system is based on flexible, non-graded and individualised mastery-learning. Mastery learning entails that a learner has to achieve 80% or higher in his assessments in order to proceed to the next level of the curriculum within a learning area (School of Tomorrow, 1994: i). Each learner is assessed individually and prescribed a non graded program on the learner's performance level. The test used for evaluating the learners in Grade 11 or 12 in the ACE schools as an exit point for endorsement or without endorsement is the Scholastic Aptitude Test I (SAT I) test. The SAT I is an American standardised test used to assess the critical reading and mathematical skills for the placement of learners into tertiary institutions overseas. The Board for Higher Education South Africa and Accelerated Christian Education ministries of South Africa and Scandinavia came to an agreement that the SAT I serves as an assessment tool to evaluate whether learners are allowed entry level to tertiary institutions in South Africa on the senate's route of discretion. The benchmark for the New SAT I, which was first administered in 2005, was set by the Higher Education South Africa board at an overall score of 1600, of which a minimum score of 550 for critical reading, 500 for writing and 500 for mathematical skills out of 800 marks per section or 2400 of the total test were established (Robinson, Katzman & staff of The Princeton Review, 2009:5).

According to an interview with Baumgardt (2007) from the ACE Schools' National Office, it was revealed that in 2005 and 2006 32% of Grade 11 and 12 learners of South African schools using the ACE system did not receive endorsement on their college entrance certificate which can be compared to the National Senior Certificate in South Africa. This was due to the fact that their score on the SAT I, specifically with regard to language proficiency and critical thinking skills, was about 50 points below the previously required score of 1100. This result mainly occurred with English Second language (ESL) learners (Baumgardt, 2007).

This alarming result prompted an investigation into the possible link between language proficiency and critical thinking, with particular reference to learners in ACE schools.

1.2. LITERATURE BACKGROUND

1.2.1 Language Proficiency

According to Bussman (in Dippenaar, 2004:7) language proficiency is "*the ability to communicate in the target language and to display a sense for appropriate linguistic behaviour in a variety of situations, by using and processing language in all four skills i.e. reading, writing, speaking and listening.*" The target language is the language a person wants to be proficient in as in this case, English.

South Africa has 11 official languages in terms of Act 108 of the Constitution (SA, 1996) (Department of Education, 1997). In the Further Education and Training (FET) phase, learners have to take two of the 11 official languages as their core majors and other languages can be taken as electives (Department of Education, 2005:11). Since parents have the right to choose their child's language of learning and teaching (LOLT) and are not bound by law to choose their mother-tongue, English is mainly chosen, as it is seen as the language of educational and economic empowerment (De Klerk, 1995:28). However, it is emphasised by Schroeder (2004:383) and Woolfolk (2004:179) that mother-tongue education is by far preferable. Weideman and Van Rensburg (2006:157) are of the opinion that it is better to be taught and be academically successful in one's mother-tongue before the learner chooses another language of learning and teaching. De Klerk (1995:50) asserts that a lack of language proficiency in the language of learning and teaching is a major reason for low academic performance.

Gleitman and Liberman (1995:21) are of the opinion that language acquisition consists of the very complex interaction between the learner's innate capacities and different circumstances within culture, society, motivation and talents. They have found that every child between the ages of 6 and 7 years can learn a language at native level, provided the child is of normal mental ability (1995:14). Although Pinker (in Gleitman & Liberman, 1995:381) states that language development does not depend on fully functional general intelligence, as his research with Spina Bifida learners has shown. Versfeld (in Heugh, 1995:26) declares that language educators agree that a learner who is proficient in his first language has a higher probability to be proficient in his second

language. Language proficiency is also of utmost importance when it comes to cognitive development within the classroom, or even within the curriculum, when a learner has to learn his subjects in another language of learning and teaching (Donald *et al.* 2005:73).

In the next paragraph one aspect of cognitive development, namely critical thinking is discussed.

1.2.2. Critical Thinking

Critical thinking has been defined by many well-known researchers on this topic: "*Critical thinking is the diligent and skilful use of reason on matters of moral/social importance – on personal decision making, conduct, and belief*" (Noddings, 2006:32). Paul and Elder (2002:316) affirm that: "*Critical thinking is disciplined; self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thinking. It is the mastery of intellectual skills or abilities. The art of thinking about one's thinking.*" Woolfolk (2004: 668) defines critical thinking as: "*evaluating conclusions by logically and systematically examining the problem, the evidence and the solution.*"

Critical thinking applies to all areas of our lives, for example when trying to decide on a career, taking responsibility, making decisions about our health or how to manage troubled emotions, to name a few (Paul & Elder, 2002:13). Critical thinking becomes vital in professions such as a medical practitioner who has to decide on the treatment of his patients - especially if there is some unfamiliar disease. According to De Bono (1979:21), a well renowned researcher and author on critical thinking, researchers depend on critical thinking when examining a certain hypothesis from a different perspective, yet keeping to that which is accurate, precise and relevant. Any person, whether academically educated or not, has to bear the consequences of their own decisions which in turn reflect on their level of critical thinking (De Bono, 1979:21).

A high level thinking ability has the following features: analysis, evaluation, reasonableness and reflection, which operate in terms of criteria; it is self-corrective; is sensitive to context; and it allows one to make judgments about the world

(Jeevanantham, 2005:120). Someone who does not understand a text in detail or in context due to low language proficiency will therefore be disadvantaged with regards to expressing thoughts or understanding text in context (Cummins, 1992:17; Hong-Nam & Leavell, 2006:399).

In the 1960' and 1970's De Bono (1970:14) declared that there are two elements of high level thinking, namely, vertical thinking and lateral thinking. The former is concerned with proving or developing concept patterns through spiralling information whereas the latter is concerned with restructuring such patterns (De Bono, 1970:14). Vertical thinking is analytical, sequential, finite, develops ideas and excludes irrelevant information whereas lateral thinking is provocative, jumps, is probable, generates ideas and welcomes changes. In contrast to vertical thinking which selects a pathway to come to a solution, lateral thinking opens up a pathway (De Bono, 1970:40).

The Accelerated Christian Education approach is not a spiral method of introducing new principles, but rather reviews previously learnt material before introducing new concepts. Only when the previous concepts have been mastered, new concepts are introduced and reinforced (School of Tomorrow, 1994:6).

Students of language acquisition and cognitive development argue that young children know less than adults, but that they do not differ from adults in any cognitive way (Smith & Osherson, 1995:50). This means that children can think logically and they possess the same logical and conceptual resources as the adult.

Having discussed language proficiency and critical thinking separately, in the next paragraph the possible relationship between critical thinking and language proficiency is discussed.

1.2.3. The relationship between language proficiency and critical thinking

One of the main aims of education is to gain as much information as possible. However, information is gained through communication and communication through a language (De Bono,1969:9). If, however, the individual is not able to understand the language

with all its nuances, certain information is lost. And as information is lost, it is discarded. A person cannot think about something he does not understand (Strydom & Du Plessis, 2000:129).

According to Eysenck (2004:537) language is used as a tool or instrument of thought. Vygotsky emphasized that there is an essential link between the development of language and critical thinking (Eysenck, 2004:537). Paul (2004) asserts that critical thinking is the intellectually disciplined process of actively and skilfully conceptualizing, applying, analyzing, synthesizing and evaluating information gathered from or generated by observation, experience, reflection, reasoning or communication, as a guide to belief and action. Consequently, to accomplish these critical thinking actions a good language ability is crucial. Donald, et al. (2005:19), as well as McPeck (1990:34), assert that language, thinking and therefore learning are intimately tied together and that the capacity to use language is essential to execute critical thinking.

Cummins (2001:66) developed a theoretical framework that considers the interrelationship of academic performance and language proficiency of mother-tongue learners, as well as English Second Language (ESL) learners. The framework consists of two continuums, namely context embedded versus context reduced communication. Context embedded language is used on a daily basis and is referred to as BICS (Basic Interpersonal Communication Skills). Context reduced language is used at an academic level and is referred to as CALP (Cognitive Academic Language Proficiency) (Cummins & Swain, 1986:152).

Cummins and Swain (1986:156) declare that multilingual speakers can definitely improve their critical thinking skills, problem solving and logic as long as they have learnt two or more languages that are running parallel to each other or they have in both languages achieved a level of Cognitive Academic Language Proficiency (CALP). This is especially true if learners have been exposed to an additive language system e.g. an Afrikaans first language speaker is exposed to his mother tongue as a LOLT up to at least Grade level 6 while a second language is slowly added. This is either also a language of learning and teaching i.e. English as LOLT in about 50% of school subjects such as history, geography or it is just an additional isolated second language subject isolated by it (Ramirez in Heugh et al.1995:57). These speakers that are language

proficient in two or more languages and are operating on a CALP level for both or all languages will definitely have a more lateral and critical thinking ability because they go through different processes of language control and have to put themselves into the shoes of other speakers (De Klerk, 1995:54). They are also much more successful concerning comprehension in stories, where they deduce the essence of a story much more undemanding, or they are able to unveil more in a story compared to a monolingual speaker (De Klerk, 1995:54). Bilingual or multilingual learners seem to have a higher ability for abstract thinking (in Cummins & Swain, 1986:12); De Klerk (in Heugh et al. 1995:54). This does not mean that a mono-lingual learner does not have the ability to think abstractly, but abstract thinking comes more easily to the bi/multilingual learner due to the different processes of language control (Heugh, 1995:54). Ben-Zeev (in Baker, 1993:122) claims that multi/bilingual learners have increased analytical awareness since they constantly organise, analyse and inspect their language in order to avoid interference between the languages. Baker (1993:124) therefore states that multilingual learners have higher academic achievement due to a constant analysis and control of their language expression. However, De Klerk (in Heugh, 1995:53) states that these findings were refuted before the 1960s with a bulk of research that found that bilinguals were inferior to monolinguals in terms of intelligence and academic performance.

As mentioned earlier, multilingual learners seem to cope better with abstract thinking than monolingual learners, as long as the multilingual learners have been exposed to additive language programmes. Also, both languages need to be at the level of CALP (cf. 2.2.2.2) in order for the multi/bilingual learner to be successful in their academic performances.

Consequently, ESL learners that follow a subtractive language programme are falling drastically behind with their academic performance when the curriculum becomes more academically demanding (Heugh, 1995:47). In turn, a learner that is not language proficient is probably also not proficient in his critical thinking skills. This is simply due to the fact that a thinker must be sensitive to different connotations, usages and understanding of the language (Moon, 2008:95).

In the next section the research questions for the study are formulated.

1.3. RESEARCH QUESTIONS

Based on the above deliberation the issue that was investigated with this research study was: to determine what is the language proficiency and critical thinking ability of Grade 11 learners and to make suggestions to Grade 11 educators on how to try and address any possible deficiencies.

The following research questions were asked:

- What do the concepts language proficiency and critical thinking constitute?
- What is the language proficiency level of Grade 11 learners in schools using the ACE system?
- What critical thinking skills do Grade 11 learners in schools using the ACE system, possess?
- Is there a possible link between these Grade 11 learners' language proficiency and critical thinking skills?
- What suggestions can be made in order to enhance the language proficiency and critical thinking skills of Grade 11 learners in schools using the ACE system?

1.4 AIMS AND OBJECTIVES OF THE STUDY

The overall aim of the study was to determine to what extent language proficiency and critical thinking skills of Grade 11 learners in the Accelerated Christian Education system were developed.

The objectives were:

- to determine what the concepts language proficiency and critical thinking constitute;
- to establish the English language proficiency of Grade 11 learners in schools using the ACE system;
- to establish the critical thinking skills that Grade 11 learners in schools, using the ACE system, possess;
- to determine if there is a possible link between language proficiency and critical thinking; and
- to make suggestions in order to enhance the language proficiency and critical thinking skills of Grade 11 learners using the ACE system.

1.5 RESEARCH DESIGN

1.5.1 Literature review

The Ferdinand Postma Library as well as other databases were consulted for relevant books, journals and articles. The following databases and search engines were consulted: Sabinet, South African Electronic Publications, Science direct, Google, Ebscohost and Eric.

Key words that were used included the following: Critical thinking, creative thinking, Accelerated Christian Education, language proficiency, mother-tongue education, English second language learners, language development.

A literature study is the departure point of any well conducted scientific study (Leedy & Ormrod, 2005:64). Since this topic of language proficiency and critical thinking skills have been investigated by well known research pioneers, like De Bono, Vygotsky and Feuerstein, the researcher endeavoured to consult an extensive resource base from the early 1900's when the original works of these pioneers were published. However, because of continuous research and persistent new findings more recent resources were of course also consulted.

1.5.2 Research method

An empirical investigation was conducted to clarify to what extent language proficiency and critical thinking abilities were developed in Grade 11 learners in schools using the ACE system. The language proficiency level was determined using the ELSA test (English Literacy Skills Assessment) and the critical thinking abilities were tested using the WGCTA (Watson & Glaser Critical Thinking Appraisal).

The approach that was used is a quantitative research method. A quantitative research method is used to explain and to predict (Leedy & Ormrod, 2005:94).

1.5.3 Research design

This study was a non-experimental descriptive research study. Non-experimental research designs describe things that have occurred and examine relationships between things without any direct manipulation of conditions that are experienced (McMillan & Schumacher, 2006:24). According to McMillan and Schumacher (2006: 58) descriptive research is concerned with: what is or what was? Descriptive research describes achievement, attitudes, behaviour, or other characteristics of a group of participants (McMillan & Schumacher, 2001:283).

1.5.4 Study Population and sampling

The population consisted of all learners in schools using the ACE system. For the purpose of this study the population was limited to Grade 11 English Second language (ESL) and English Mother Tongue (EMT) learners at independent schools using the Accelerated Christian Education system in the Vaal Triangle area, Gauteng province. The reason for using Grade 11 learners was that Grade 12 learners in the ACE system were preparing to finish off for graduation by the end of the year, and therefore any outside disturbance might have been seen as distracting. Grade 11 learners were not yet exposed to all the pressure of finishing off. Further, once problems concerning language proficiency and critical thinking abilities were detected, one might still be able to rectify these before these Grade 11 learners leave school and enable them to obtain endorsement.

There are only 34 schools with a total of 40 Grade 11 learners all together using the ACE system in the Gauteng Province. The majority of the schools do not have the Further Education and Training (FET) phase incorporated. The schools are very scattered over the province, which made it very inconvenient, expensive and time consuming for the researcher to visit each school. Therefore, a convenient sample (Leedy & Ormrod, 2005:206) was selected, three schools in the Vaal Triangle within a radius of 30km were chosen. However, two of the schools that originally agreed to participate in the study later withdrew. Subsequently, only one school participated in the study with 10 Grade 11 learners, some of which were ESL (n=4) and others English

mother tongue learners (n=6). Therefore, these 10 Grade 11 learners of one school using the ACE curriculum constituted the study population for this study.

1.5.5 Measuring instruments

In this study the following quantitative measuring instruments were used:

- The language proficiency test: the English Literacy Skills Assessment (ELSA) test to determine language proficiency (cf. Appendix A). ELSA is a language, norm-based, non-criteria based, group-measuring instrument that can quantify and diagnose (Horne, 2007). It is standardised for South African English mother-tongue users. ELSA's reliability is .86 and its predictive validity at 84%. This reliability is good for a standardised test. Above .90 is considered very reliable, .80 to .90 is good, and below .80 is not very good reliability (Leedy & Ormrod, 2005:522).
- The critical thinking test: the Watson-Glaser Critical Thinking Appraisal (WGCTA, 2002), (UK edition) (cf. Appendix B). The WGCTA consists of five test exercises requiring analytical reasoning skills. These skills have to be applied to written material in normal every day use such as newspapers, magazines or other electronic media. The five subtests deal with inferences, assumptions, deductions, interpretations and evaluation of arguments. The test is a standardised test and is used internationally in many countries to measure critical thinking (Watson & Glaser, 2002:2.1). The scores can be compared to other candidates in the population at large (Watson & Glaser, 2002:2.1). A pilot study was conducted to determine the reliability of the WGCTA for South African learners (Lombard & Grosser, 2008:568). For reliability, a Cronbach alpha coefficient was determined and face-, construct- and content validity was considered (Lombard & Grosser, 2008:568). Reliability and validity of the WGCTA and the ELSA are discussed in Chapter 4.

1.5.6 Statistical techniques

The quantitative data was analysed by means of descriptive statistics, according to the specifications of the WGCTA and the ELSA test. Descriptive statistics are used to

organise and summarise data in a meaningful way to enhance the understanding of the properties of the data (Pietersen & Maree, 2008:183).

1.5.7 Ethical aspects

All participants were informed about the nature of the study and reassured that the information or results would only be used for research purposes, and always be kept confidential. Any participant could withdraw from the study at any time (Leedy & Ormrod, 2005:101). Informed consent from these participants and their parents was sought. Assent from the Grade 11 learners were also requested by an informed consent form. The participation was on a voluntary basis and anonymity at all times was guaranteed. Anonymity was guaranteed by replacing the names of the learners with numbers from 3-12.

Endorsement for the research was obtained from the Regional representative of schools using the ACE system – School of Tomorrow curriculum, the principal of the school, the parents of the Grade 11 learners and the learners themselves..

An application was submitted to the ethics committee of the North West University, and approval was granted to conduct the study.

1.5.8 Data collection procedure

The learners' language proficiency was evaluated by using the English Literacy Skills Assessment (ELSA) language proficiency test. Their critical thinking skills were assessed with the Watson-Glaser Critical Thinking Appraisal (WGCTA) test. Both the language proficiency test and critical thinking test were administered by the researcher to the same group of Grade 11 learners in two sittings early in the morning. It was a Tuesday and Wednesday, since those days were recommended for testing by ACE School of Tomorrow. It was done during the third term. Learners in Grade 11 at a school using the ACE system are not exposed to writing official external or internal exams in the third term and therefore any time of testing is suitable.

1.6 CONCEPT CLARIFICATION

For the purpose to eliminate any misunderstanding, the following concepts central to the study are clarified:

1.6.1 ACE

Accelerated Christian Education is the trade name of School of Tomorrow. The School of Tomorrow program is individualised and non-graded. It allows each learner to work on his performance and achievement level which can differ from learning area to learning area (School of Tomorrow, 1994:29).

1.6.2 Critical Thinking

Woolfolk (2004: 668) defines critical thinking as: "*evaluating conclusions by logically and systematically examining the problem, the evidence and the solution.*"

1.6.3 Language proficiency

According to Bussman (in Dippenaar, 2004:7) language proficiency is "*the ability to communicate in the target language and to display a sense for appropriate linguistic behaviour in a variety of situations, by using and processing language in all four skills i.e. reading, writing, speaking and listening.*"

1.6.4 Mother tongue education (MTE)

MTE entails being educated in one's home language, mother-tongue or first language.

1.6.5 English Second Language learning (ESL)

English second language is English that is used or spoken as an additional language not as one's mother tongue. For the purpose of this study ESL learners will be learners that learn in English, their second language, and not in their mother tongue. The LOLT of the school is English, although the learners use another mother tongue language at home.

1.7 CONTRIBUTIONS OF THE STUDY TO RESEARCH FOCUS AREA

This study attempted to answer the following question; "to what extent is language proficiency linked to critical thinking?" The study also aimed to aid to direct learners in the FET phase to enhance their language proficiency and their critical thinking.

1.8 CHAPTER DIVISION

Chapter 1: Overview/Introduction
Chapter 2: Language proficiency
Chapter 3: Critical thinking
Chapter 4: Research Design and Methodology
Chapter 5: Data analysis and interpretation
Chapter 6: Findings, conclusions and recommendation

1.9 CONCLUSION

A general idea of what this research study encompassed, was given in this chapter. The following chapter will examine language proficiency.

CHAPTER 2

LANGUAGE PROFICIENCY

2.1. INTRODUCTION

South Africa has a multilingual scenario which currently has a negative impact on learners' language proficiency and consequently their academic achievement (Brand, 2003:29; Rees in Krügel, 2005:1). In order to discuss language proficiency relevant to the South African scenario, it is essential to briefly refer to the acts and policies that influence the fact that many learners in South Africa learn in their second language, namely English.

This multilingual scenario includes: 11 official languages, as well as other spoken languages; acts and policies which acknowledge parents' freedom of choice regarding the Language of Learning and Teaching (LOLT) of their children; research and policies that recommend the mother tongue as the best choice of LOLT; English as the dominant choice of Language of Learning and Teaching; and consequently ESL learners, with a limited English proficiency, experiencing barriers to learning (Heugh, Siegrühn and Plüddemann, 1995; Prusente, 2005:9).

The language section of the constitution compelled the South African government to design and put into practice a multilingual policy (Strydom & Pretorius, 2000:115). However, in practice, the public and private sector followed the way of least resistance by using English as the national language of politics, record and international commerce (James *et al.*, in Nel, 2004:7). The domination of English in politics and commerce, consequently, also influences the choice parents make for the LOLT of their children (Cele, 2001:181).

According to the language in education policy (Department of Education, 1997) parents may choose their children's LOLT. Research has shown that most parents opt for English as LOLT since it is seen as the language of empowerment (Balfour, 1999:103; Howie, 2002:35; Scheepers, 2006:4; Alexander, 2007:15; Gudhlanga & Makaudze,

2007:11). Most learners, therefore, are not learning in their mother tongue, but in their second or even third language which causes major barriers to learning (Prusente, 2005:9; Plüddemann, 2007:14). Not only that, but many educators teaching ESL learners are themselves ESL speakers and this intensifies the problem even further (Nel, 2004:44).

Alexander (2007:15) affirms that mother tongue education is by far more preferable to learning in a second or third language. Alexander (2003:3; 2004:3) also asserts that this lack of language proficiency in the LOLT directly results in low academic performance of the learners in all subjects.

This chapter explores the concept language proficiency. The following aspects will be addressed:

- A definition of language proficiency;
- Language proficiency and academic achievement;
- Mother-tongue versus second language learning;
- Limited language proficiency;
- The language proficiency scenario of the South African learner;
- Proficiency in listening, speaking, reading and writing; and
- External barriers ESL learners experience resulting in limited language proficiency.

2.2. A DEFINITION OF LANGUAGE PROFICIENCY

According to Bussman (in Dippenaar, 2004:7) language proficiency is "*the ability to communicate in the target language and to display a sense for appropriate linguistic behaviour in a variety of situations, by using and processing language in all four skills i.e. reading, writing, speaking and listening.*" The target language is the language a person wants to be proficient in. According to Parkinson (2001:279) proficiency includes organisation and linguistic appropriateness and is also related to context and the way it is used.

The Department of Education (2003:9) defines language as, "*a tool for thought and communication. It is through language that cultural diversity and social relations are expressed and constructed. Further, learners that are proficient in a language are able to think and acquire knowledge, to express their identity, feelings and ideas, to interact with others, and to manage their world.*" (DoE, 2003:9).

Therefore, learners that experience difficulties with language, i.e. are not language proficient, will automatically experience barriers to learning (Hartas, 2005:26) as will be discussed in the next section.

2.3. LANGUAGE PROFICIENCY AND ACADEMIC ACHIEVEMENT

Das (in Woolfolk, 2004:47) states that language is critical for cognitive development, since it provides a means for expressing ideas and asking questions. Donald, et al. (2005:73) confirm that language proficiency is of utmost importance when it comes to cognitive development within the classroom, the curriculum or life in general, especially when a learner has to learn his subjects in a language different to his mother tongue. The same argument is brought forward by Brand (2003:29) who asserts that the LOLT should be the mother tongue to ensure academic success. A second language should only be introduced at a later stage, once Cognitive Academic Language Proficiency (CALP) has been reached in the mother tongue (Cummins, 2001:37) .

Cummins (2001:66) developed a theoretical framework that considers the interrelationship of academic performance and language proficiency of mother-tongue learners, as well as ESL learners. The framework consists of two continuums, namely context embedded versus context reduced communication. Context embedded language is used on a daily basis and is referred to as BICS. Context reduced language is used at an academic level and is referred to as CALP (Cummins & Swain, 1986:152).

2.3.1 BICS (Basic Interpersonal Communication Skills)

BICS are indispensable for everyday conversations when using informal, idiomatic language (Cummins in Nel, 2004:54). Cummins (1997:36-62) refers to BICS as context embedded communication. Context embedded communication exists when two individuals communicate with one another face to face. One of them is the sender, giving information, while the other person is the receiver, obtaining information and vice versa. An important aspect in this situation that needs to be noted is that feedback between the two participants is immediately possible in order to eliminate any misunderstandings. Both individuals can have a meaningful communication and relate to previous experiences (Cummins,1992:21).

Cummins (1992) also describes BICS as phonology or fluency in a language. In other words, this could be explained as "surface language", connecting pronunciation, vocabulary and grammar as being part of the language processes. The cognitive processes that are involved on this level are knowledge, comprehension and application. First, learners must remember previously learnt material, and then know what is meant by it and lastly they need to apply it in the correct context (Cummins, 1992: 17).

According to research, ESL learners acquire BICS before they acquire CALP, due to interpersonal and contextual cues (Cummins, 1992:20). In other words, face-to-face communication with other individuals makes it easier for ESL learners to acquire English on an every day level. According to Cummins (1997:42) the time period ESL learners would need to reach BICS is about two years. As the learner reaches a proficient BICS level, the linguistic tools have been mastered and therefore communication tasks are cognitively undemanding. The learners now communicate in an automatic manner, without much cognitive effort (Cummins, 1992:18).

In the next section, the second continuum namely, CALP will be discussed.

2.3.2 CALP (Cognitive Academic Language Proficiency)

CALP is the cognitive academic language proficiency, which is the formal, more superior command of language used at schools and needed for academic success (Cummins 1992:17, Hong-Nam & Leavell, 2006:399). CALP is described by Cummins as context reduced communication or decontextualised communication and takes between 5-7 years to be learnt (Cummins,1997:42). Context reduced or decontextualised communication could be seen as an extension of BICS, on a sequential and hierarchical level. CALP relies strongly on linguistic cues. These cues give meaning and help to interpret the message accordingly (Cummins, 1992:18). CALP differs from BICS in the learner's ability to read and write as well as in a wider range of vocabulary (Cummins, 1999:2). A learner who is proficient on the CALP level of a language has a larger vocabulary, a better comprehension level, reads more fluently and considerably faster and writes in a superior style to a learner operating on BICS level (Cummins, 1999:6). For a learner to operate on a CALP level, more demanding cognitive processes are required, such as: analysis, synthesis and evaluation. Here a learner will be able to persuade another person about his viewpoint or write a comprehensive essay or in turn read and interpret it (Cummins, 1992:18). However, children will reach a plateau with the BICS level within the first six years of learning a language. This means that the rate of subsequent development is reduced compared to previous development (Cummins, 1999:3).

Cummins (2001:37) reports that the level of competence a learner reaches in a second language in CALP (Cognitive Academic Language Proficiency) depends to some extent on the stage of development reached in the mother tongue. Interdependency exists; learners need to think in their mother tongue up to a CALP level first, in order to reach CALP in their second language. The reason is simply that cognitive skills in the mother tongue are more easily transferred to the second language and eventually CALP is reached in both languages (Luckett, 1995:74).

Cummins acknowledges that neither BICS nor CALP must be seen as definite categories but rather as an aid or model to understand the different language proficiency levels (Cummins, 1999:4). Cummins also (1999:3) asserts that CALP does not reach a plateau

as it does with BICS, but can be further developed within the vocabulary level and syntactic features. There is an ever-increasing vocabulary load to be learnt within the academic environment, which is not encountered in everyday conversations. In addition, learners encounter syntactic features such as passive voice rather than active voice within CALP (Cummins, 2001:67).

Conversely, Aukerman (2007:627) refutes the theory behind BICS and CALP. According to Aukerman BICS and CALP are interchangeable. Aukerman (2007:633) estimates that there is no "prerequisite language" for success or "not enough CALP" but rather the educator has to determine where each learner starts off and proceeds from that place and make academic material more familiar and relevant. This means that for all ESL learners to comprehend certain words these words need to be context related. An example might illustrate this point: a Professor in Theology will have a high level of CALP within his branch of learning, yet he will only operate on the level of BICS when it comes to Agriculture. Aukerman (2007: 626) states that educators are responsible for many learners operating on low levels of CALP. He asserts that educators need to familiarise themselves with the surroundings, history and language background of each learner in order to make themselves and the learners understood (Aukerman, 2007: 626). Of course reflecting to the South African scenario of multilingualism this is not an easy task for the educator, especially if he is unfamiliar with the diversity of different home languages in a classroom.

To describe CALP in practical terms a few examples will be provided. Anderson (1988) recalls that in the former homeland of Lebowa, a private school gave their entrance learners an entry exam with an essay question to write about the postman. Hardly anyone of the learners had much to say about the postman, not because of their low level of CALP, but because they were never exposed to a postman in their area, nor does the vocabulary in their mother-tongue seem to contain the connotation of a postman. There are no postmen in the rural areas of Lebowa. Therefore, those learners' knowledge had no context. Would the essay have been on being a cattle herdsman, the result might have been different. According to Aukerman (2007:269) these learners' CALP was not developed on that specific topic due to a lack of vocabulary and different surroundings, yet would there have been a choice of topics their level of CALP might have been sufficient.

The University of North Texas investigated the impact of language learning strategies use on ESL college students' CALP that were enrolled in an Intensive English Program (IEP) (Hong-Nam & Leavell, 2006:399). According to Rubin (in Hong-Nam & Leavell, 2006:400) language learning strategies were defined as: "*...strategies that contribute to the development of the language system which the learner constructs and which affect learning directly.*" The participants were given a pre-test to determine their language proficiency in English and were placed in one of three categories: beginners, intermediate and advanced. However, Hattingh (2005:58) cautions against the use of labels such as 'beginners', 'intermediate' and 'advanced'. The argument being that such labels don't describe the level of development of a second language learner very precisely. Laser-Freeman (in Hattingh, 2005:58) argues that these labels are extremely vague and very subjective. The test assessed listening, speaking, reading, grammar, and composition. The study showed that 'beginners' learning English did not use any metacognitive language learning strategies. Metacognitive language strategies would include statements such as (Hong-Nam & Leavell, 2006: 405):

- I pay attention when someone is speaking English;
- I try to find out how to be a better learner of English;
- I think about my progress in learning English;
- I notice my English mistakes and use that information to do better;
- I have clear goals in improving my English skills;
- I look for people I can talk to in English; and
- I plan my schedule so I have enough time to study English.

According to Hong-Nam and Leavell (2006: 410) these are all statements that point to the fact that one is aware of a problem or situation. The 'beginners' were simply not aware of any declarative knowledge, neither procedural nor conditional knowledge. Declarative knowledge is described as knowledge about learning tasks (*"I know that speaking and writing English require different types of grammar"*) and personal abilities (*"I am good at speaking English"*). Procedural knowledge is knowledge on how to learn, make inferences from text and knowing how to summarise. Conditional knowledge, which is at the top of the hierarchy, allows the learner to choose the correct strategy for the correct task (Hong-Nam & Leavell, 2006: 410).

Hong-Nam and Leavell (2006:410) explained that the 'intermediate' learners used more metacognitive strategies. Since these learners knew about different learning strategies they planned and self-monitored their learning. 'Advanced' learners reported that they did not use metacognitive strategies. The reason for this, according to Hong-Nam and Leavell (2006:410), could be that for 'advanced' learners, using learning strategies is rather internalised, and these 'advanced' learners are not directly aware that they are using meta-cognitive strategies.

One can conclude from this study that language learning strategies play a major role in learning or improving the level of CALP within language. As mentioned earlier, higher cognitive processes are required in order to operate on a CALP level in any language. Those processes are: analysis, synthesis and evaluation which form part of critical thinking (Jeevanantham, 2005:120). One can also deduce from these above mentioned studies that if one does not operate on a CALP level, one could experience barriers to thinking critically and vice versa: if one cannot think critically, one cannot operate on a CALP level within a language.

As a result of this reasoning and in the context of the study, the focus will be on CALP.

2.4. MOTHER TONGUE VS. SECOND LANGUAGE LEARNING

Unfortunately, many parents believe that the earlier their children are exposed to a second language as LOLT, the better their performance and language proficiency in that second language will be (Heugh, 2002:174). However, Heugh declares (2002:83) that it is not scientifically proven that when learners are exposed as early as possible to a second language as LOLT that this exposure would correspond with an increase in language proficiency of the second language, especially when the mother tongue is neglected. According to Collier (1995:7) rather the opposite is true; the less the mother tongue is used, the worse the language proficiency in the second language will be.

According to Cummins (2001:100) language proficiency in a second language is influenced by a multitude of factors: the quantity (time), as well as the quality of input (nature of instruction) which influences the comprehensible input as well as the

comprehensible output. Pritchard (1997) mentions that attributes in second language acquisition such as age, cognitive abilities, mother-tongue literacy, personality, personal confidence and motivation also play a role in second language proficiency.

Ah-Vee and Collen (2003:6) as well as Maseko (in Rademeyer, 2008:1) assert that learners learning in their mother-tongue have greater opportunity to develop their cognitive and academic abilities. Cummins (2001:100) confirms that a learner can only operate on a CALP level in a second language if his mother tongue has reached the CALP level. Alexander (2003:3) concurs that most people learn best in their mother tongue and concepts established in one's own language are later more readily transferable into an additional language.

Language educators agree that a learner who is proficient in his first language has a higher probability to be proficient in his second language (Versfeld, 1995:26). According to De Wet (2002:119) learners should first think and function in their mother-tongue up to CALP level, before a new language is introduced as LOLT. Otherwise a subtractive language environment is created and not only is low language proficiency experienced in the second language, but also in the mother tongue. This implies that none of the two languages is actually adequately developed.

In educational psychology it is generally accepted that language and thinking are interwoven (Donald et al., 2005:219). Therefore, it will be better if each learner is taught in his mother-tongue to a threshold level of proficiency to be able to transfer the knowledge to the other language and consequently ensure positive cognitive growth (Cummins, 1999:5). Brand (2003:26) confirms that activities of thinking are intrinsically bound with the use of language. "*Thought without language is as inconceivable as language without thought*" (Brand, 2003:26).

Submerging second language learners in an English school or replacing their first language according to Heugh (2005:2) has never helped learners to perform academically. Cummins (1999:5) affirms that the second language should rather be developed gradually with literacy instruction parallel to the learner's mother-tongue and learners should not just be immersed in an all second language medium.

2.5. LIMITED LANGUAGE PROFICIENCY

According to Smith (2008:13) as much as 50% of school going learners in South Africa experience barriers to learning due to a lack of language proficiency and become educator dependent instead of learner centred. Donald, Lazarus and Lolwana (2004:223-225) assert that the two main factors that contribute mainly to limited language proficiency are: contextual and learner factors.

Mahlobo (1999:27-58) describes three categories of contextual factors that influence the development of language proficiency:

- Societal factors such as status of the language, institutional support and sociocultural factors.
    - Status of the language refers to the position or role of the target language group as defined by other language groups. In South Africa, English is seen as the language of power, the language of economy, technology and politics (Cele, 2001:181; Kamper, Mahlobo & Lemmer, 1995:165). Therefore, one could conclude since English has a high status, ESL learners would value English proficiency (Kamper et al., 1995:165).

    - Institutional support refers to the degree to which the target language is represented in media, religion, government or industry (Mahlobo, 1999:34). English is well represented in all those categories and experiences great exposure, therefore a higher status within the community (Garret, Giles & Coupland, in Kamper et al. 1995:165).

    - Sociocultural factors such as social cohesion and enclosure. The lower the cohesion, the more open the society is to learn a second language. During the apartheid era, social segregation was high and the exposure to English of African learners low (Mahlobo, 1999:31-34).

- Home/family: language proficiency is closely related to a family's socioeconomic status (Mahlobo, 1999:27-29) therefore, the higher the socioeconomic status, the more language proficient the child will be. This is simply due to the fact that those families have better access to resources such as

books, television, magazines and other literature or media as well as better motivation and possibly more effective parental support (Donald et al., 2004:30).

- School/classroom factors (Mahlobo, 1999:42-50): this includes issues such as availability of textbooks according to Naidu, (in Kamper et al., 1995:166), teacher-learner ratio (Mahlobo, 1999:44) and for language teachers to be proficient in English (Van der Walt in Kamper et al., 1995:166). Therefore, it can be concluded that language proficiency can be improved if more textbooks are available, the teacher-learner ratio is lower, and if more individualised learning is taking place.

Learner factors that influence language proficiency could consist of (Mahlobo, 1999:83):

- Independent learner factors: factors that are not influenced by the context from which the learner comes or in which learning takes place. This could include factors such as age, mother-tongue, language aptitude, intelligence level, personality and cognitive style (Mahlobo, 1999:83).

- Dependent learner factors: factors that are influenced by the context from which the learner comes or in which learning takes place. This includes factors such as motivation, levels of confidence and anxiety toward learning a second language, attitudes to the second language and learning strategies. The higher the motivation, the higher the confidence, the less anxiety, the more positive the attitude towards learning a second language and the most suitable use of the learning strategy, the better are the results to become language proficient (Kamper et al., 1995:166).

Should any of the above factors result in low language proficiency in the LOLT, learners will not succeed academically (Brand, 2003:29: Rees in Krügel, 2005:1). Lemmer (1995:83) also affirms that language plays a vital role in obtaining important information, knowledge and skills and consequently academic achievement.

Research has shown that low language proficiency does not only negatively influence literacy skills, but also numeracy skills (Howie, 2002:232). This, however, does not imply that high language proficiency automatically guarantees high numeracy skills. Rather, language proficiency is one of many factors that negatively influence numeracy skills (Howie, 2002:40). If a learner cannot comprehend the instructions or the problem statement in numeracy due to low language proficiency, he cannot solve the problem accordingly.

In the ACE system ESL learners are supported in the following way with regard to improving language proficiency (School of Tomorrow, 1995: 57):

- Learners below age 8 years are placed in the *A B Cs with Ace and Christi* (a complete programme for learning the vital skills for phonetic reading) Learning Centre (classroom to complete academic work) for the first 4-6 months of the school year (or until they successfully pass the A B Cs Post Test). Conversational English skills should be presented prior and during the time spent in the *A B Cs with Ace and Christi* Learning Centre.
- Learners between 8 years of age and 12 years of age are placed in the same programme as learners below 8 years of age, but **separate** from the younger learners. Conversational English skills and the A B Cs lessons are presented for the first 3 months of the school year, or until they pass the A B Cs Post Test.
- Learners above 12 years of age are prescribed an *English as Your Second Language* video programme before they begin English, Social Studies and Science PACEs (Packet of School of Tomorrow, a bite sized booklet of curriculum). Thereafter, they continue with their prescribed PACEs.

New learners are given a baseline test and, according to these results, certain PACEs (Packet of School of Tomorrow; a bite sized booklet of the curriculum) are prescribed and handed to the learners in order to fill the learning gaps (School of Tomorrow, 1995:57).

2.6. THE LANGUAGE PROFICIENCY SCENARIO OF THE SOUTH AFRICAN LEARNER

According to Heugh (in Nel, 2004:4) and Plüddemann (2007:14) many South African learners are immersed into using English as LOLT immediately following Grade 3. Up to that point in time, learners and their parents might have chosen their mother tongue as LOLT. After 1994, Model C schools were established which allowed any learner to attend the school of his choice. Consequently, many African learners started attending former white schools with well qualified educators (Scheepers, 2006:4), but with English as LOLT. As a result, many of these parents neglect the continued advancement of their children's mother tongue to reach CALP level prior to introducing a second language such as English. This in turn resulted in a low language proficiency in English (De Klerk, 1995:56).

According to Scheepers (2006:5), many rural and township schools also favour English as a LOLT. The reason for this is that these schools regard English as the language of freedom and empowerment. In this situation, subtractive multilingualism is evident, stunting the home language and not furthering the LOLT to a CALP level (Scheepers, 2006:5). These learners are also mainly taught by non-English educators, who themselves seem to have low language proficiency in English and a tremendous amount of code-switching takes place. That means switching between LOLT and the mother tongue within class (Scheepers, 2006:5).

Howie (2002:36) mentions that many tests and systemic assessments have shown that the language proficiency of South African ESL learners is poor and consequently it influences their academic performance even to the level of Grade 12. Research reveals that language proficiency is interlinked with academic achievement, and therefore low English proficiency should be seen as a major contributor to the low matriculation pass rates (Berry, 2005:2). As a result one could cautiously assume therefore, that critical thinking skills can also be inadequate.

Since English is the common language of communication between the different language groups it is important to emphasize that the low English proficiency in South Africa can have a serious impact on learners and citizens. Research has shown that as

much as 46% of South Africans do not understand English well enough to follow the speech of any politician (Pienaar, 2002:146). Pienaar (2002:147) states that the result of this could be that only citizens who are proficient in English will be able to influence governmental affairs. Persons working in public services need to be mostly English proficient in order to serve the general public and the business world. This is one reason why many banks, universities, technikons, and worldwide organisations require that their employees are tested for English literacy skills (Horne, 2008). Another South African scenario is that many African citizens speak an English that is termed Black South African English, using strategies common to their African languages which are described by many as a lack of proficiency in English (Pienaar, 2002:147).

Research by Hough and Horne has shown that 86% of ESL students at a previous South African Technikon tested to be on an English proficiency level of Grade 8 learners (Rademeyer, 2007b: 6). Only 1% of these ESL students were on a Grade 12 English proficiency level. Of the Afrikaans mother tongue speakers, 41% were below a Grade 8 level English proficiency and only 14% were on or above Grade 12 levels (Rademeyer, 2007b:6). Research has also shown that ESL learners, who were immersed into English as LOLT too early, only obtained a maximum of a 40% pass rate in English in their final matriculation exam (Heugh, 2002:174).

According to the results of the National Benchmark Test project in 2008, as a national service to Higher Education, only about 50% of first year students at various universities of South Africa are proficient in English as academic language. A mere 25% of the participants are proficient in quantitative literacy and barely 7,5% are proficient in Mathematics (HESA, 2009:9). In contrast, the results of the National Senior Certificate exam of these same students show a 70% pass rate in Mathematics (HESA, 2009:5).

Until 1976, all African language speaking learners were taught in their mother tongue for 8 years. Thereafter, mother tongue instruction of those learners was reduced to 6 years and eventually dropped down to 4 years. This change from mother tongue instruction to English as LOLT had drastic results on the matric pass rates. According to SAIRR – Topical Briefing and South African Survey (in Heugh, 2002:187) the pass rate was 83.7% in 1976 and dropped to 49% in 1994. These results confirm that mother tongue instruction is by far the best.

Proficiency in a language refers to good ability in listening, speaking, reading and writing (Lerner, 2003:351) which will be discussed next.

2.7 PROFICIENCY IN LISTENING, SPEAKING, READING AND WRITING

For a learner to be language proficient, he needs to be competent in the four language skills of listening, speaking, reading and writing (Lerner, 2003:351). Also as a learner matures, language plays a major role in the development of thinking processes and the ability to think abstractly (Lerner, 2003:352, 358).

A child learns his mother tongue by listening, speaking and imitating the language in the initial stages. Once a child attends school, he is formally taught how to read, write, speak and listen. Yet, most of the time for South African learners this is not performed in the mother tongue, but rather his second or even third language (von Gruenewaldt, 1999:205). The ultimate purpose of being proficient in a language is to enable learners to think and acquire knowledge, express their identity, emotions and thoughts, to interact with others and to manage their environment (DoE, 2005: 11). What the learner learns through oral language provides a knowledge base for reading and writing, and what he learns through writing in turn improves reading and oral language (Lerner, 2003:351). Any learner who is not proficient in his LOLT will eventually be a poor performer academically, many times because of a limited proficiency in listening, speaking, reading and writing skills in the LOLT. With Grade 11 learners (the focus of this study), it is assumed that these skills should be on a level of competence in order to be academically successful. However, this is not always the case (Krügel, 2005:78; Smith, 2009:15; HESA, 2009:9).

As mentioned by Mucelli (1997:2), reading is seen as a vital part of language proficiency. A proficient reader reads and comprehends quickly, retains subject matter by making the necessary links between subject and ideas previously read, and connects them to life situations. This means that a learner that is still reading to learn does not yet have the ability to read a text that portrays different viewpoints, not to mention that any critical reading will be taking place (Chall, 1983:9-26; Lerner, 2003:401; Birch, 2007:11).

In order to improve critical thinking skills, skills of reading, listening, and observing need to be emphasised (Pienaar, 1999:126). This statement by Pienaar confirms the relationship between language which is represented by reading and listening skills and the level of critical thinking. One could conclude that as learners are language proficient, their level of critical thinking is also competent.

Clayton (in Pienaar,1999:126) mentions that comprehension is the focal point in the reading process as it involves: relating vocabulary to experience, understanding ideas, concepts and processes, recognising relationships, making comparisons, drawing inferences, reflecting and interpreting and reading between the lines. The mastery of these skills where comprehension occurs will lead to one being able to critically evaluate ideas (Pienaar, 1999:126).

2.7.1 Language proficiency and listening:

Listening requires concentration, energy, insight, understanding, a critical approach and active involvement (Van Aswegen in Krügel, 2005:2).

Block (2001: 143-159) distinguishes between six levels of listening. The first being receiving i.e. to hear; the second is auditory discrimination the ability to distinguish between sounds; the third is to attend to a message as well as paying attention (Block, 2001:143-154); the fourth is to comprehend what is heard; the fifth is to become an active, enthusiastic listener; and the last is to listen appreciatively and reflectively (Block, 2001: 154-159), the latter being the ultimate goal to reach. On this last level learners will begin to enjoy listening and obtain personal meaning (Krügel, 2005:15). Listening is part of the receptive skills where the listener decodes the sound symbols into an idea (Lerner, 2003:354).

According to the NCS (National Curriculum Statements) (DoE, 2005:24) the overall goal of the listening outcome in the Further Education and Training (FET) phase is for the learner to listen and speak for a variety of purposes, audiences and contexts. This is achieved when the learner is:

- demonstrating knowledge of different forms of oral communication for social purposes;
- demonstrating planning and research skills for oral presentation;
- demonstrating the skills of listening to and delivering oral presentations; and
- demonstrating critical awareness of language use in oral situations. Consequently, exercising critical thinking skills.

Within the Accelerated Christian Education (ACE) system this is obtained during sessions at chapel, devotions, discussion groups, oral presentation by and for learners, instructions given, quizzes, CDs, DVDs and drama presentations. Chapel, devotion or discussion groups are presented by the principal or educator for about 30 minutes every morning, depending on the daily schedule. Here, learners are required to take notes for further discussion or for their written presentation later on the topic. Oral presentations are made by each learner at least once a month; other learners listen to the presentation and have to ask questions about the topic afterwards. The educator should always encourage the learners to further question or answer as well as stimulate critical thinking. All oral presentations or discussions are assessed by the educators. Such presentation or discussion could be on a literature book, take the form of a poem recitation, or through drama (School of Tomorrow, 1995:142). Mathematics, Life Science and Physical Sciences are all reinforced with the viewing of DVD's which are handed out to each learner when required with their PACEs (Packet of the School of Tomorrow), a bite sized booklet of the curriculum (School of Tomorrow, 1995:30).

Wessels and Van den Berg (1999:115) affirm that any primary language is obtained mainly through listening and a learner who listens will learn more easily and will therefore be more successful in his academic achievement.

2.7.2 Language proficiency and speaking:

According to the Department of Education (2002:59), learners must be able to speak with correct intonation and rhythm in order to be classified as language proficient. For the learner to become language proficient, he must pass through stages of oral development (Lerner, 2003:384). These stages include:

- babbling, any sounding of the child's mother tongue or any other language, during the first nine months (Lerner, 2003:384);
- jargon, here the child's vocalisation of language has rhythm and melody (Lerner, 2003:385);
- single words, between 12 and 18 months of age words like *mama* and *dada* are developed (Lerner, 2003:385);
- two and three word sentences, such as "*Daddy up*" signify the next stage (Lerner, 2003:385).

Some children might show difficulties in phonology of language where they cannot differentiate or produce sounds or have problems in remembering words (Lerner, 2003:384).

At the age of 5-6 years, most children should have mastered the basics of their mother-tongue (Woolfolk, 2004:54), which entails mainly listening and speaking in the mother tongue. One should bear in mind that listening precedes speaking, but listening alone does not produce the ability to speak, rather it is an interaction between the two (Lerner, 2003:384). The child that has mastered the basics of the mother tongue would then be operating on a BICS level, since the language is context-embedded and relevant to every day conversations. The child hears speech and begins to understand and repeat certain words and sentences (Lerner, 2003:356). Not much thought is given yet to language structure, sound system, grammar or vocabulary, according to Krouse (1992:40). However, speech will be developed as the child attends school and progresses to higher grades.

Children that show oral language disorders as preschoolers will later show problems in reading and writing (Lerner, 2003:368). That is why it is important for educators in the preschool section to be observant of any learner that might show any language disorder so that this disorder might be rectified at an early age. Therefore, any learner that experiences barriers in oral language will show limited language proficiency in later years (Lerner, 2003:371).

Both Vygotsky and Piaget agree that language and thinking interact. As a child develops language and thinking independently the thinking process builds language meaning and

vice versa (in Lerner, 2003:358). What the learner acquires about the language system through oral language establishes a foundation for reading and writing, and what the learner learns about written language in turn expands reading and oral language (Lerner, 2003:351). As a result, limited oral language might lead to limited language proficiency.

Both language skills, listening and speaking, are dealt with within the ACE system when learners are encouraged to present orals on a regular, monthly basis within English, Literature, Life Orientation, end term functions and Convention presentations. The convention is a kind of a mini-Olympiad where all schools using the ACE system compete against each other within sports, culture and art events. The participation is compulsory from the age of 13 years. Evaluation and judging forms provide guidelines to each educator or judge as to criteria that should be examined i.e. pitch, volume, and fluency (School of Tomorrow, 1995:48). These orals can be based on everyday language use. Cummins would refer to this as the development of BICS, or context embedded language. The speaker is in control of the topic and choice of words he wishes to communicate with. At the same time, immediate feedback is available to both the speaker as well as the listener. The communication process between two persons consists of sending a message (expressive language) and receiving a message (receptive language) (Lerner, 2003:354). Speaking requires a higher level of cognitive- and language processes. In speaking the learner does not just have to listen, as explained above in 2.7.2, but also has to apply the pronunciation, grammar and vocabulary to construct intelligent sentences (Richard-Amatao & Snow, 1992:18).

Should a learner have any speech or communication disorders, defined as *impairments in spoken language or in language comprehension* (Ormrod, 2008: 170), these language disorders will lead to low academic performances. One of these language disorders, is for example, the mispronunciation of certain sounds i.e. "th" might be pronounced as "v". This learner spells the sound as he speaks it, rather than as he hears it (Ormrod, 2008:171). Other examples might be the pronunciation of "ship" as in "sheep". In a sentence such as, "the slaves were kept in the belly of the ship," where ship is being pronounced as sheep, changes the whole meaning of sentence. Another example, according to a communication by Mr. J. De Oliveira (2009), is where learners said: "please, pass me the tippex," (pronounced as teabags), and the educator wondered when learners had begun drinking tea during class time.

2.7.3 Language proficiency and reading:

Mucelli (1997:2) asserts that adequate reading is seen as a vital requirement for language proficiency. A proficient reader reads and comprehends quickly, retains subject matter by making the necessary links between subject and ideas previously read, and connects them to life situations. Reading speed and insight will contribute to scholastic achievement. Mucelli (1997:4) states that the faster the reading and the better the comprehension, the better the academic achievement. According to Nation (in Scheepers, 2006:5) an independent reader needs to understand 95% of the vocabulary of the text he is reading, which an ESL learner can struggle with.

The ability to read well is essential for academic achievement, especially at a secondary school level, which is the focus of this study. Learning to read in English might be more difficult for ESL learners compared to English mother tongue learners (Birch, 2007:12) because the mother tongue interferes with the second language. Each language has different writing systems and each reader is first of all familiar with his mother tongue's writing system, before any transfer into English can take place (Birch, 2007:12).

Although Chall (1983) carried out his research in the 1980's, Birch (2007:10) is convinced that Chall is still the best and original source for a description of the stages of reading development. For a learner to read adequately Chall (in Lerner, 2003:401; Birch, 2007:10-11; Mohler, 2009:1-17) proposes that there are six stages of reading that a child needs to go through, which are both sequential as well as hierarchical. The speed at which a child progresses through the stages depends primarily on the interaction between the individual and environmental factors. These individual factors could be intelligence, eye sight, motivation, attitude, exposure to literature and social status.

The six stages are (Chall, 1983:13-24; Chall in Lerner, 2003:401; Mohler, 2009: 1-17):

- Pre-school or stage 0: This stage proceeds from birth to about 5/6 years of age. Here pseudo reading or pre-reading takes place. The child might pretend to read as the parent reads stories to the child also called, "Pseudo Reading" (Mohler, 2009: 3).

- Stage I: Initial reading and decoding (Lerner, 2003:401). Reading grade 1 levels and beginning 2 (Lerner, 2003:401). The child has reached the age of 6/ 7 years. The child is taught initial reading and decoding of words i.e. "learning to read."

Within the ACE system there exists a complete program for learning the basic, vital skills of phonetic reading (School of Tomorrow, 1995:1) and is called the ABCs with Ace and Christi learning to Read Program. According to Strydom and Du Plessis (2000:119) the act of reading is unitary and all actions occur simultaneously. First the learner needs to be taught how to focus on one specific task and keep his attention on it. Both are an act of one's will and concentration and can be taught. Then there is the area of perception, through which one discerns, through auditory, visual or haptic senses and becomes aware of one's environment. Through practice and experience one interprets what is read. Then visual discrimination occurs as well as discrimination of colour, foreground, background, shape, position and dimension. Learners that cannot distinguish between these dimensions might read words backward e.g. top – pot; they cannot distinguish between left and right and cannot cross the middle line, nor can they use mnemonics or memory aids. Eventually letters are combined into words and words put into a specific sequence to form sentences (Strydom & Du Plessis, 2000:119). As mentioned above, meaning has to be simultaneously ascribed to the words. This process is called decoding. A poor reader concentrates on the reception of the message and has no concentration left to decode the message (Strydom & Du Plessis, 2000:124).

Learners must decode the printed words and sentences and translate it into sounds; this is called breaking the code (Lerner, 2003:408). Research has shown that learners that were taught phonics are more successful in reading later in their primary school career than learners that were not taught in phonics (Chall in Lerner, 2003:409). Unfortunately, some educators themselves are unfamiliar with phonics and therefore cannot teach phonics to the learners (Lerner, 2003:409). According to Williams and Chall (in Lerner, 2003:407) without the adequate development of lower level reading skills, the higher levels of cognitive skills cannot operate.

- Stage II: The child is about 7 to 8 years of age and in grade 2 or 3. At this level, confirmation, fluency and ungluing from print are imparted to the child. Previously learnt knowledge and skills from stage 0 and I are integrated. The learner relies on decoding to identify new vocabulary and meaning. Fluency is the ability to recognize words quickly. At this stage, fluency in reading is improved (Lerner, 2003:401, 414).

- Stage III: The learner is between 9-14 years old or in grade levels 4-8 and can access information from books i.e. "reading to learn." This is probably one of the most exciting stages in a child's schooling; here the learner is uncovering the world round about. New information, values, attitudes and ideas are discovered through reading. This broadens a learner's background knowledge, gives meaning to additional vocabulary and increases cognitive abilities (Lerner, 2003:401).

- Stage IV: The learner is between 14-18 years of age and learns to deal with layers of facts and concepts. He accommodates different viewpoints, becomes more critical, and applies revision of prior knowledge (Lerner, 2003:401).

- Stage V: Young adults and older, 18 years of age and above. This is the most creative stage where analysis and synthesis takes place. Information is scrutinised and new knowledge is composed on a higher abstract level. One's own knowledge is integrated with others and new knowledge is created (Lerner, 2003:401).

If these reading stages should be common to English mother tongue learners, then one might speculate on how many of the ESL learners progress through all of these stages in order to become expert readers (Birch, 2007:11). As mentioned above, these reading stages are hierarchical as well as sequential. This implies that each reader has to start at stage 0 and proceed through to stage 5. ESL learners might not read English in the most efficient way and consequently never reach the highest stage that implies critical reading (Birch, 2007:11). This means that a learner that is still reading to learn does not yet have the ability to read a text that portrays different viewpoints, nor can the learner read

critically (Chall, 1983:9-26; Lerner, 2003:401; Birch, 2007:11). If this is already the dilemma in one's mother tongue, how many more barriers are there to overcome for an ESL learner?

ESL learners consequently face more severe barriers in reaching the required reading stages compared to English first language learners (Birch, 2007:11). Birch (2007:11-12) mentions that a learner primarily understands and uses sounds, words and sentences in his mother tongue. This might mean that these ESL learners do not operate on the same level of listening and speaking in English, as they do in their mother tongue. This in turn leads to low levels of reading, since not only do ESL learners have to decode English written symbols, but they also have to understand what they are reading (Hough & Horne, 2006a:1).

A rich verbal background is necessary for both comprehension and decoding in reading (Rude & Oehlerks, 1984:57; Lerner, 2003:416). A low vocabulary would lead to low levels of comprehension and therefore low levels of scholastic performance and in return content would be easily forgotten, as stated by Masitsa (in Krügel, 2005:42) which results in low levels of language proficiency and could consequently also result in low levels of critical thinking.

In the ACE programme, in order to increase and to establish new vocabulary, each one of the learners' Package of ACE (PACE) material per subject, introduces new vocabulary that is relevant to the new learning material. Especially in the GET (General Education and Training) phase, vocabulary introduced in English is also introduced in Wordbuilding, Science and Social Studies. Although vocabulary plays a crucial role within language proficiency, this does not mean that with an increase of vocabulary an automatic improvement of language proficiency is achieved. Grammar, comprehension and background knowledge in a specific subject are also needed. However, no language acquisition can take place without lexis. Even good readers in a second language need to have a minimum vocabulary of at least 3000 words (Scheepers, 2006:5).

Viljoen (2002:35) supports that a rich verbal background is necessary and further states that effective learning only takes place if the learner can relate previous experiences with the present content of the text. Only after decoding a message can learning take

place in order to store and to recall the message (Strydom & Du Plessis, 2000:126). Therefore, if a learner cannot decode a message, no learning can take place. Such learners cannot link the written symbols (letters) with the spoken symbols (sounds) and therefore won't become fluent readers (Birch, 2007:11). Further, these learners cannot comprehend what they have read; they do not understand what has been read (Lerner, 2003:407). That in turn results in low language proficiency and low academic achievement.

This leads to the argument that one cannot read and comprehend in English if one is not proficient in it. An ESL learner with a limited proficiency in English will be a poor reader in English (Birch, 2007:12).

Every reader has a specific amount of schemata, which is a specific concept or idea about various aspects of the environment. Young English mother tongue readers are taught decoding skills because they have sufficient schemata, in comparison to ESL readers (Wessels & Van den Berg, 1999:199) who might not have sufficient knowledge in English (Birch, 2007:11). ESL learners might fail to "crack the code" because reading comprehension depends upon syntax (grammar) as well as semantics (meaning) of English. If these decoding skills are not adequately developed, ESL readers might read extremely slow, non-fluently and will not be able to read in chunks (Wessels & Van den Berg, 1999:200). Learners might only "bark" at print, meaning they can read fluently and can crack the code, but what is read has no meaning for them (Wessels & Van den Berg, 1999:201). The process of decoding is called bottom-up, whereas the process of giving meaning to what is read is top-down (Wessels & Van den Berg, 1999:202). To be a successful reader in a second language one needs to first be able to read in one's mother tongue, in order to transfer the above mentioned skills to the target language i.e. English (Weideman & Van Rensburg, 2006:158).

The National Curriculum Statement (DoE, 2005:24) for Grade 10-12 states under the reading and viewing learning outcome 2 of languages: The learner is able to read and view for understanding and evaluate critically and respond to a wide range of texts. This is achieved when the learner:

- demonstrates various reading and viewing strategies for comprehension and appreciation;

- explains the meaning of a wide range of written, visual, audio and audio-visual texts;
- recognises how languages and images may reflect and shape values and attitudes in texts; and
- explores the key features of texts and explains how they contribute to meaning. Thus, making use of his critical thinking skills.

All of these aspects are covered within the ACE system in all subjects. Learners have to provide answers to questions within the PACEs. A PACE might consist of a textbook and an activity pack in which the learner answers and completes certain tasks in writing. Dictionaries are used on a daily basis, books are read, and the internet is accessed for additional reading material and information. In addition, learners are encouraged to read texts on Read Master - a computer program that allows learners to read at their proficiency level, continually increasing the level of difficulty and speed. Readmaster is designed to improve reading rate, comprehension and vocabulary. Features that are included in Readmaster are: user-defined character fonts and font size, VGA colour graphics, and computerised diagnostic testing and scoring. In addition, features include automated control of reading rate and reading performance level, a composite score, a computerised comprehension test with automated scoring and learner revision mode (School of Tomorrow, 1995:35). It is not clear whether ACE uses Chall's reading learning theory, but there seems to be some similarity. Beginning with Pre-school and Grade 1, learners are exposed to phonology. As each learner progresses from grade level to grade level, the learners are exposed to reading literature which becomes more challenging the higher the grades i.e. from simple stories to reading texts from one viewpoint and then to various viewpoints (School of Tomorrow, 1995:44).

A learner can only learn if he comprehends the text he has read. Learners need to recognise words accurately and automatically. Otherwise they take extremely long to decode phonetics and have difficulty understanding what they have read. Consequently, they don't learn adequately and their academic achievement is poor (Viljoen, 2002:4). Pretorius (in Scheepers, 2006:5) states that a lack of reading ability forms a barrier to effective academic performance.

Fleisch (in Rademeyer, 2007:1) confirms that a low reading ability will eventually lead to low academic performances. In the International Reading Literacy Study of 2006, it was found that South African Grade 4 and 5 learners, English mother tongue and English second language learners, are underachieving in their reading skills (Rademeyer, 2007:1). This is due to the fact that 75% of those Grade 4 and 5 learners do not read in their leisure time, but only what is required at school. Consequently, their reading proficiency is low and therefore they cannot cope with the curriculum (Rademeyer, 2007:1).

This, however, could have an even greater negative impact for ESL learners since they still need to improve and develop their second language proficiency which may be achieved through constant reading.

2.7.4 Language proficiency and writing

The NCS declares that writing is essential for thinking and learning across the curriculum (DoE, 2005:54). To write well means to master the structure of spelling, punctuation and a large volume of vocabulary (Lerner, 2003:457). ESL learners or any other learners with barriers often show deficiencies in critical writing abilities and may have rigorous complications in expressing themselves through writing. Their writing may show errors in spelling, grammar, punctuation or capitalisation (Lerner, 2003:457).

The ACE system provides the following guidelines for writing from Grade 9-12 (School of Tomorrow, 1995:35ff): learners should be encouraged to first write a rough draft before anticipating the final draft of a composition. Here, the main aim of the rough draft should be the putting down of thoughts on paper and not the educator's emphasis on grammar and spelling. This is to convince learners that they can write and that they have thoughts that are interesting and worthy. In the final draft the educator should watch out for capitalisation, punctuation, indented paragraphs and spelling (School of Tomorrow, 1995:35ff).

In order for a learner to express himself in writing, he needs to have a certain amount of vocabulary. One important part in effective language learning is the development of vocabulary (Kamper et al. 1995:175).

The NCS, Learning outcome 3 in the Further Education and Training phase for languages, writing and presenting, states (DoE, 2005:24) that the learner should be able to write and present for a wide range of purposes and audiences using conventions and formats appropriate to diverse contexts. This means that a learner will be able to:

- demonstrate planning skills for writing for a specific purpose, audience and contexts;
- demonstrate the use of writing strategies and techniques for first drafts; and
- reflect on, analyse and evaluate own work, considering the opinion of others, and present final product. This definitely would represent one of the highest levels of critical thinking.

Depending on the educator, there is enough scope for the development of the writing skill within the ACE system. In fact, learners write most of the time. Simple, compound and complex sentences are taught on a regular basis in order to develop sentence structure. However, concerning essay writing, compositions, research papers and paragraphs, much depends on how much emphasis the educator puts on it. An inadequate composition should be returned and improved by the learner and not just accepted by the educator (School of Tomorrow, 1995: 35). The researcher has been facilitating learners at an ACE school since 1993. The experience is that many of these learners are tempted to just gather information from the internet and copy and paste, rather than expressing their own ideas in their own words. It seems, therefore, that the "information age" has become a stumbling block rather than a stepping stone towards improving writing skills.

According to Wessels and Van den Berg (1998:286) writing is expressed through clear thoughts, in logical, well constructed sentences. Kilfoil and van der Walt (1997:250) state that functional writing is linked to the idea of improving CALP, especially in schools using English as Language of Learning and Teaching (LOLT). While learners write they have to use their background knowledge and integrate their language skills (Lerner, 2003:458). One could deduce that if a person or learner has insufficient language skills, such as might be the case with ESL learners, their writing skills can also be inadequate.

One could regard the fourth level, writing, as the highest level in communication and language proficiency skills. Learners that write well are able to read well, speak well and listen well. Bermudez and Prater (in Spangenberg-Urbschat & Pritchard, 1997) believe that writing will enhance higher order thinking skills. Should one find low levels of reading skills, there will automatically be low writing skills.

This would apply to English mother tongue speakers as well as ESL learners; one could assume the latter would encounter more barriers if their reading skills in English are low.

There are also external barriers that ESL learners experience that could result in limited language proficiency.

2.8 EXTERNAL BARRIERS ESL LEARNERS EXPERIENCE RESULTING IN LIMITED LANGUAGE PROFICIENCY

There exist certain barriers such as, e.g. educators that are not language proficient, poverty and other external factors that can cause limited language proficiency.

2.8.1 Educators are not language proficient in English

Many educational experts ascribe ESL learners' low language proficiency to educators who are not proficient in English (Uys, 2006:1). English second language educators, who themselves have a limited proficiency in English, also lack methodological and presentational skills necessary to teach in English which in turn has a negative influence on learners academic development (Uys, 2006:1; Uys,van der Walt, Botha & van den Berg, 2006:68; Krügel, 2005:85).

Yet, according to Weideman and van Rensburg (2005:161), it is not necessary to have native language educators as a model to follow. They are of the opinion that it is not as important to have a native speaking educator teaching in a second language, since there are a range of factors, such as motivation of the learner, cognitive ability, investment of time, first language literacy and personal confidence that influence learners' academic achievement. The nature of instruction by a native speaker is just one of many factors

influencing the outcome of language proficiency (Weideman and Van Rensburg, 2005:161). However, even a non-native speaking educator teaching in a second language must be proficient in that second language. In contrast, according to Balfour (1999:109) there is enough evidence to confirm that if educators are incompetent to teach in the LOLT , the learners are not proficient in the LOLT i.e.English. Not only is it vital that the educator is language proficient, but he should also be equipped to teach language learning strategies to the learners in order to become proficient in the target language (Kamper, Mahlobo and Lemmer, 1995:176).

According to Foley (2002:60) apart from late or early immersion, the question arises as to how the learners are supposed to be equipped to learn and be instructed in English. The emphasis should also focus on the educator's input and method. In other words, the emphasis on the educator's language proficiency is much more severe than when a learner is confronted with a second language as LOLT. The educator can make or break the learning process in a second language, assuming the educator is, as in this study, English proficient (Krügel, 2005:35; Alexander, 2003:3; Foley, 2002:55).

2.8.2. Language Proficiency linked to poverty and learning environmental circumstances.

Other factors that can contribute to poor language proficiency are poverty and environmental circumstances. Learners from less privileged areas experience problems in obtaining English proficiency simply due to a lack of finances and lack of textbooks. In other words, these poor learners are less exposed to the reading material that would allow them to improve their language skills (Lemmer, 1995:92; Mahlobo, 1995:28). The ACE system attempts to prevent this obstacle with a policy that all learners must have their own learning material and textbooks (School of Tomorrow, 1995: iv). Any additional books are provided by the school library (School of Tomorrow, 1995:36). Should learners not be able to afford the learning material, they can be supplied with second hand learning material and textbooks from other schools (School of Tomorrow, 1995:35).

Other factors that also contribute to low language proficiency and low academic performance are: educator-learner ratios, levels of motivation, levels of confidence and attitudes to the language and language learning strategies (Kamper, Mahlobo & Lemmer, 1995:165). Within the ACE setup the educator-learner ratio exists of about 1:20. Learners are primarily motivated within an external motivational programme through merits, demerits, stickers and additional privileges such as a longer break (School of Tomorrow, 1995:77). As mentioned in 2.8.1, motivation of learners is another factor that influences learning and learning a second language. A positive attitude towards language is promoted in the ACE system, with slogans such as, "readers are leaders." However, not all learners might respond positively.

The lower the socio-economic background the higher the dropout rates from school according to Pascarella, Terezini and Wolfle (in Stephen, Welman & Jordaan, 2004:43). This might be due to high learner-educator ratios and educators that have to deal with disciplinary issues rather than education in South Africa. Educators in those circumstances cannot give special attention to ESL learners with a limited language proficiency in the LOLT and ensure that these learners become language proficient. Educators are drowned by their workload simply because the number of learners in classes are too big. Independent schools produce better university students simply because they have smaller classes and better educators (Stephen, Welman & Jordaan, 2004:43). It can therefore be deduced that if educators can spend more time with each individual learner, due to smaller classes, the learner's academic performance and language proficiency should be better.

2.9 CONCLUSION

Language proficiency, proficiency in the four language skills and the external barriers that ESL learners experience were discussed in this chapter.

According to Cummins (1999:6), language proficiency in the mother-tongue is determined by the levels of BICS and CALP (Cummins, 1999:6). The same applies to second language proficiency. However, if the mother-tongue has reached a CALP level, then the mother tongue can be more easily transferred over to the second language (cf.

2.3.2). The better the CALP level in the LOLT the better the academic achievement and visa versa (cf.2.3.2). Further, in order for a learner to become language proficient, he has to be competent in the four language skills of listening, speaking, reading and writing. This applies both to the mother-tongue as well as to the second language (cf. 2.7).

In addition, ESL learners face a number of barriers that they need to overcome in order to become language proficient in their second language. These include: time of immersion into the second language as LOLT, level of proficiency of the mother-tongue, educators that are not language proficient as well as poverty issues such as a lack of resources (cf. 2.8). The later the transition occurs into the second language as LOLT the better. Cummins (2001:37) reports that the level of competence a learner reaches in a second language in CALP (Cognitive Academic Language Proficiency) depends to some extent on the stage of development reached in the mother tongue. Interdependency exists; learners need to think in their mother tongue up to CALP first, in order to reach CALP in their second language. The reason is simply that cognitive skills in the mother tongue are more easily transferred to the second language if these skills are well established in the mother tongue first (Luckett, 1995:74) (cf. 2.3.2).

The next chapter will clarify some of the aspects of critical thinking.

CHAPTER THREE

CRITICAL THINKING

3.1. INTRODUCTION

Paul and Elder (2002:xiii) declare that critical thinking is necessary on a day to day basis to resolve any dilemmas. No matter what one's situation, a person with good thinking skills will be more successful in life because he has the ability to transfer the knowledge he has learnt in theory to practical real life situations. Poor thinking causes disappointment, a waste of time, ineffective use of energy and discomfort (Paul & Elder, 2002: xiii). This chapter explores the concept critical thinking. The following aspects will be addressed:

- Critical thinking: a concept clarification;
- Critical thinking and the South African scenario;
- Language proficiency and critical thinking; and
- Nurturing critical thinking skills.

3.2 CRITICAL THINKING: A CONCEPT CLARIFICATION

As mentioned earlier, critical thinking applies to all areas of our lives, for example when trying to decide on a career, taking responsibility, making decisions about our health or how to manage troubled emotions (Paul & Elder, 2002:13). Many occupations, especially on management level, require good critical thinking skills for the person to be successful. Therefore, one of the major goals in education is to teach learners how to think critically (Watson & Glaser, 2002:1.2).

Van der Berg (2004:285) asserts that a critical thinker is also:

- A reflective learner;
- a responsible citizen;
- culturally and aesthetically sensitive;
- one who explores the opportunities of education and within careers; and

- one who is an entrepreneur.

Further, critical thinking apart from reflective thought and sceptical attitude is the ability to make sound decisions and judgments and to justify decisions (McPeck, 1990:42). De Bono (1979:21), a pioneer on lateral and creative thinking who is still influencing research on critical thinking today, asserts that critical thinking applies to any person whether highly educated or not. Any person has to carry the consequences of their own decisions which in turn reflect on their level of critical thinking (De Bono, 1979:21). If a person can approach a problem and observe it from multiple viewpoints and then draw a conclusion, then it is said that such a person is a critical thinker (Heugh, 1995:56). One should take note, as Halpern (2007:6) states, that critical thinking does not necessarily arrive at one conclusion or solution per se, but is rather open-ended and might have an unlimited number of solutions (Halpern, 2007:6).

According to Hindes and Bakker (in Blunt, 2005:1374) all supportive cognitive skills have to be exercised simultaneously rather than used as building blocks for critical thinking (Blunt, 2005:1374). Researchers on language acquisition and cognitive development argue that although young children have less knowledge than adults, children do not differ from adults in any cognitive way (Carey, 1995:50). This means that children have the ability to think critically.

The construct "critical thinking" can be classified (McGregor, 2007:167-210) in four major categories:

- The development of dispositions/attitudes for effortful thinking;
- the development of cognitive skills;
- the development of behavioural critical thinking habits; and
- the development of metacognitive skills (reflective thinking).

In the context of the study, critical thinking is generally conceptualized in terms of Watson and Glaser's (2002:1) views.

3.2.1 The development of dispositions/attitudes for effortful thinking

In order to become a good critical thinker certain dispositions are warranted. Moon (2008:79) uses the term "academic assertiveness" to describe a range of capacities a critical thinker should apply in order to manage the challenges in progressing in learning and critical thinking. Some of the attitudes are:

- The willingness to challenge, disagree or to accept a challenge: to think differently towards textbooks and to put more effort into thinking;
- the willingness to change one's mind if necessary: De Bono uses the term: "*the willingness to be judged right by others*" (in Moon, 2008:83) and not necessarily winning an argument (Moon, 2008:83);
- the willingness to listen to others and take account of the viewpoint of others: this is done by reading, listening to others as well as social interaction (Moon, 2008:84); and
- a willingness to be pro-active: this implies to make independent judgements (Moon, 2008:85).

Critical thinkers who engage in this category seek alternatives and are sceptical in a valuable approach (Chabeli, 2007:73). Such critical thinkers don't just accept any statement at face-value, but question and try to solve the problem in a new way (McGregor, 2007:167).

Lombard and Grösser (2008:564) specify that having intellectual resources available for critical thinking does not automatically produce a critical thinker. Characteristics such as attitude, certain mannerisms and the dedication to use intellectual resources effectively are necessary to produce a critical thinker (Lombard & Grösser, 2008:564).

Other attributes that add to critical thinking skills are: curiosity, analytical thinking, open-and fair mindedness, flexibility, self-assurance, being methodical and integrity (Chabeli, 2007:69). A curious person will ask questions about a situation, the intention is clearly to learn about a new idea (De Bono, 2004:210). The analytical thinker will examine in detail to discover the underlying disposition (Paul & Elder, 2001:393). To be an open and fair minded person implies that one is receptive to new ideas or alternatives.

Alternatives might bring forward progress, change and improvement (De Bono, 2004:122). Flexibility relates to the extent a person is willing to change one's thinking. Self-assurance or self image might influence the way of approach. If the person sees himself as being clever, he might always argue a point of view (De Bono, 2004:204). The methodical person will start with one task and work through according to a specific method. Integrity is another attribute, which describes a person that is sound, genuine and lives according to high principles (Hayward & Sparkes, 1987: 613).

3.2.2 The development of cognitive skills

Critical thinking could be described as a cognitive skill that any person can obtain or possess (Paul & Elder, 2001:xvii). These cognitive skills refer inter alia to the following: analytical thinking skills, reasoning skills, thinking as hypothesis testing, decision making, development of problem solving skills and creative thinking. Each of these skills will be explained briefly.

The critical thinker is therefore a person who examines, studies, makes links with his environment and according to his reasoning ability, draws conclusions and deductions, and makes inferences accordingly (Woolfolk, 2004:338; Jeevanantham, 2005:126).

According to Sternberg (in Sternberg, Roediger III & Halpern, 2007: 7) analytical thinking skills include skills such as analysis, criticism, judgment, evaluation comparison, construction and assessment. Learners that like to think and theorise are more successful in these types of skills.

According to Mc Gregor (2007:23), good thinking is: effortful, challenging, not easy and requires practice. Mayer (2006:155) asserts that the greater the repertoire of knowledge and strategies are, the more creative the thinking. According to De Bono (1982:204), creative thinking forms part of lateral thinking. Lateral thinking uses the existing pattern, breaks it up and modifies it in such a way as to produce and reconstruct a new pattern. New ideas are created and welcomed. But a prerequisite of this is knowledge about the subject and insight which is obtained by vertical thinking. Vertical thinking is analytical and sequential (De Bono, 1970:40).

Additional components of effortful thinking are likelihood and uncertainty (Halpern, 2007:8). Likelihood and uncertainty ask the question: how should one use probability judgement in decision making or avoid overconfidence (Halpern, 2007:8)? Likelihood is the degree of probability, the chance of something happening (Longman, 2007:404). Uncertainty is the unpredictability of something that can happen (Collins, 1990:254) e.g. learners are taught probability calculations during Maths lessons and are then exposed to the likelihood and uncertainty of some specific outcome.

Halpern refers to **analytical thinking** as analysing arguments (2007:8). Analysing arguments refer to how one should examine the credibility of an information source and judge one's own argument. This would entail distinguishing from a statement made by a general person compared to a specialist in the area (Halpern, 2007: 8) e.g. a little boy might tell me that it is going to rain because his elbow is sore, whereas the weather forecast predicts sunny weather. Do I assume that the boy is right because he is so cute, or do I believe the weather forecast? Analysis, in its basic form, is defined as breaking down a whole into its segments (Jacobsen et al., 2002:134), e.g. in Science the learner has to determine the different elements in a substance. This could be done through weighing, heating, magnetism and electric current.

The ACE system makes ample use of this, especially with Science laboratory experiments (School of Tomorrow, 1995:20) as well as in the language sections (School of Tomorrow, 1995: 43), i.e. in order to find out what type of gas is in a test-tube, the learner might use his knowledge about oxygen, hydrogen and carbon dioxide and put a match to the gas. Depending on the outcome, a conclusion can be drawn. If it is oxygen, the match will light up further.

Reasoning refers to drawing deductively valid conclusions (Halpern, 2007:8). One basic type of reasoning is deductive reasoning and is commonly used in Mathematics and Science (ACE, 1993:2). Deductive reasoning is the method of verifying a specific statement from a more general statement that is accepted as true (ACE, 1993:2). In other words, deductive reasoning proceeds from the general to the particular (Killen, 1998:132). Deductive reasoning can be illustrated as follows: learners propose a general theory and all possible factors that might influence the result. Thereafter, the learners

form a hypothesis which then is tested. If the hypothesis passes the test, it is valid. Should the hypothesis fail the test, it is refuted (ACE, 1993:2).

The ACE system covers this type of thinking in some learning areas. In the language areas, the learner is given certain rules for grammar and then has to apply these rules to specific tasks e.g. the function of nouns. However, deductive reasoning is very prevalent in Geometry Paces which are placed in the curriculum in Grade 9 and 10 (School of Tomorrow, 1995:264). Here learners have to move from a given Postulate or Theorem that is true, to a specific statement, which is also accepted to be true, to a reliable conclusion (ACE, 1993:2).

Thinking as hypothesis testing addresses the issue of how to understand limits of correlational reasoning (Halpern, 2007:8) e.g. a specific course, that prepares learners for an exam, states that anyone having completed the course will pass the exams. Therefore, it seems obvious that the claim is true and anyone taking the course will automatically pass the exam. This is not always true, since other variables such as motivation, social economic background etc. must be taken into consideration. Jacobsen et al. (2002:200) declares that probably only persons belonging to the upper social level will be able to participate since only these people can afford the course tuition and at the same time always were in the more advantageous group of learners. In testing the hypothesis, learners might ask questions like, "What will happen if...?" (Jacobsen, Eggen & Kauchak, 2002:200). Once the "what if..." question is discussed the educator and the learner will be able to assess if learning has taken place.

Decision making refers to how one should understand the distinction between the quality of a decision and its outcome (Halpern, 2007:8). Jacobsen et al. (2002:83) defines decision making as a decision that involves a resolution, or a conclusion that requires the professional judgement of the person making it. Decision making also depends a great deal on information acquired, experience and context, e.g. an educator reading up on a report about a student. This educator might rely on previous experience with similar situations and then might apply it within the school environment. The more research is conducted and the more experience is gained the better and more reliant the decision making will be (Jacobsen *et al.*, 2002:21).

Development of **problem solving skills** addresses the issue of how one plans and monitors a strategy to find a solution (Halpern, 2007:9). Problem solving is a process of overcoming obstacles to reach a goal (Jacobs et al., 2004:97). Jacobs et al. (2004:97) asserts that learners must be given ample opportunities to identify problems to be able to think critically and creatively. According to Evans and Wallace (in Jacobs et al., 2004:97) problem solving strategies are acquired by:

- Gathering facts;
- defining the problem;
- brainstorming ideas;
- choosing the best idea;
- implementing it; and
- checking the outcome.

The Watson-Glaser critical thinking test categorises analytical reasoning skills underpinning critical thinking as follows (Watson & Glaser, 2002: 2.1):

- inference: a conclusion a person can draw from certain observed or supposed facts. For example, when reading a sign outside a gate "Beware of the dog," one could assume the people have a dog that is vicious;
- recognition of assumption. An assumption is something presupposed or taken for granted, e.g. we will visit Grandpa, assuming we can afford it or are not sick;
- deduction refers to determining that certain conclusions necessarily follow from the information given, e.g. it is necessary to have a team in order to play football. It is the process of determining a specific statement from a more general statement (ACE, 1993);
- interpretation includes weighing evidence and deciding if generalisations based on the data are warranted. Literature, poetry are examples of areas for interpretation, e.g. what did the poet really want to say in his work?; and
- evaluation of argument means distinguishing between strong, valid versus invalid arguments, e.g. often in panel discussions people are confronted with this skill. Should the argument be invalid, it might get belittled by the audience, if the audience recognises it as invalid (Watson & Glaser, 2002:2.1).

Learners in the ACE system are confronted with discussion groups during devotion or chapel time, Life Orientation, English, Literature and Creative Writing, Science, Social Studies and Life Sciences. Questions are asked, such as, what is the difference or similarity, what would be the possible outcome of future events (School of Tomorrow, 1995:45-47). These activities indicate a strong focus on critical and creative thinking activities.

Creative thinking according to Facione (in McGregor, 2007:168) is *"the kind of thinking that leads to new insights novel, approaches, new perspectives, a whole new way of understanding and conceiving things."* One should bear in mind that creativity is not just restricted to visual or dramatic art but should be represented in all areas of life, e.g. science, business, mathematics (McGregor, 2007:170). Creative thinking includes divergent thinking which starts from one point and creates many different ideas (Ormrod, 2008:292). Creative thinking refers to how one should brainstorm and gather further information (Halpern, 2007:9). This includes making mind maps, setting out ideas and choosing the best suited idea. In creative thinking learners will first of all attack the problem that they are facing, monitor its actions and evaluate the success (Jacobsen et al. 2002:140). According to Heugh (1995:56), if a person can approach a problem from different angles and see it from different view points, that person is a critical thinker.

3.2.3 The development of behavioural critical thinking habits

Costa and Kallick (in Mc Gregor, 2007:300) advocate thoughtful behaviours that learners should be able to apply in any learning situation. These 16 habits of the mind are as follows (Mc Gregor, 2007:302):

- Persistence: to ensure the task is completed;
- managing impulsivity: first think, then act;
- listening to others with empathy: listen closely to what is said, with the intention to understand, not to attack;
- thinking flexibility: not to be limited because of one's own view;
- metacognition: to reflect on one's own thinking;
- striving for accuracy and precision: to strive for perfection;

- questioning: knowing what kind of questions to ask;
- applying past knowledge to new situations: transfer of knowledge and application;
- thinking and communicating with clarity and precision;
- gathering data through all senses;
- creating, imagining and innovating: producing new ideas;
- responding with wonderment and awe: to appreciate the unique value in ideas;
- taking responsible risks: daring to be different;
- finding humour: develop funny connections;
- thinking interdependently: thinking together not in isolation; and
- learning continuously: realising that learning is never ending.

In order to establish these habits of the mind, the person has to put them into practice. This leads to practical thinking skills which include skills such as: applying, using and practicing the other thinking skills (Halpern, 2007:9). Sternberg refers to practical intelligence as the ability to grasp, understand and solve real life situations (Mc Gregor, 2007:30).

Before practical thinking takes place, the three basic know-all processes defined by De Bono (1979:11-17) are present:

i) instinct: an automatic reaction within creatures; therefore, no learning is required. An example would be the migration of birds to warmer areas before the winter season;

ii) learning through trial and error or second hand learning through books. The former is very slow and the latter depends on the source of information. This could be illustrated by a person trying to figure out how the electric cables from the television should be connected to the DVD player. Trying one cable at a time and observing if it works, compared to a person that reads the instruction manual and follows the steps as indicated; and

iii) understanding, which refers to the process of changing an unfamiliar process into a familiar one; i.e. Any number of new situations is transferred into familiar ones. As an educator, one is confronted with this especially when learners comment, "I don't understand." Educators then have to 'translate' the unknown into something the learner can identify and is familiar with, such as the difference between a solvent and a solute –

coffee versus sugar. Eventually, the learner will know what to do about the situations if he understands.

3.2.4 The development of metacognitive skills (reflective thinking)

Metacognition is defined by Dewey (in McGregor, 2007:212) as: *"Active, persistent and careful consideration of a belief or supposed form of knowledge in the light of the grounds which support it and the further conclusions to which it tends."* According to Chabeli (2007:73) true critical thinkers are reflective (Chabeli, 2007:73), which means that these learners are checking themselves and asking additional critical questions (Nieuwoudt & Beckley, 2004:346).

Noddings (2006:32) defines critical thinking as follows: "*Critical thinking is the diligent and skilful use of reason on matters of moral/social importance – on personal decision making, conduct, and belief.*" Paul and Elder (2002:316) affirm that: "*Critical thinking is disciplined, self-directed thinking that exemplifies the perfections of thinking appropriate to a particular mode or domain of thinking. It is the mastery of intellectual skills or abilities. The art of thinking about one's thinking.*" Nelson (in Woolfolk, 2004:257) affirms that metacognitive knowledge is used to control learning and thinking. This is achieved by planning, monitoring and evaluating (Woolfolk, 2004:257). Planning involves deciding how much time one should invest, what strategy to use or what to emphasise. Monitoring entails checking one's progress and evaluating is more concerned with one's judgment (Woolfolk, 2004:257). In a school environment this might mean that the educator or learners among themselves ask questions among themselves, or each learner ponders upon a question he asked himself (McGregor, 2007:218).

According to Halpern (2007:8) the following questions are a guideline for any person who would like to think reflectively: What is the goal? Have you reached the goal? Which thinking skill will help you reach the goal? Each person should ask themselves the above mentioned questions if they want to use critical thinking skills. With reference to the first question, what is the goal, any learner has to know what is required of him and the goal must be within his reach (Killen, 1998:13; Gunter, Estes & Schwab, 2003:65). When asking the question if the goal has been reached the learner is checking

himself, reflecting on his learning. The learner is rethinking his process and asking additional critical questions (Paul & Elder, 2001:24). The learner might summarise previous statements to ensure he has understood the question or goal (Killen et al., 1998:45). And lastly, the thinking skills that will lead to achieving the goal could be, among others, memorisation, problem solving, and inductive or deductive reasoning (Killen et al., 1998:132).

Within the ACE system each learner is given the objectives at the beginning of each PACE (cf.2.3.4) and through self-evaluation or small quizzes he can establish if the goal has been achieved. Educators are urged not to answer questions directly, but rather lead the learners to the answer so as not to stop the mental inquiry short of a learning experience (School of Tomorrow, 1995:103-104). For example, the educator should rather answer in the following manner: "Explain in your own words what you are supposed to do" or "Work out the problem while I listen to your explanation."

In this regard, Robert Sternberg (Sternberg, 1999:8) refers to a theory of mental self-government, which is a theory that deals with the management of learners' own reflective thinking styles. Sternberg defines style as a way of thinking (Sternberg, 1999:8). It does not refer to the ability of one's thinking, but rather how someone prefers to administer their thinking (Sternberg, 1999:8). Governance is an external reflection of what goes on within one's thought processes. Each learner has the ability to monitor, regulate and decide on a strategy of how to achieve their goal, and then decides what thought process to use (McGregor, 2007:219). Thinking is classified by Sternberg (1999:20-26) according to function (legislative, judicial and executive), form (monarchic, hierarchic, oligarchic and anarchic), level (global or local), scope (internal or external) and leaning (conservative or liberal).

a) Function: the performance of the thinking

Legislative thinkers like to create and do things their way (Sternberg, 1999:30). These are people that do well as novelists, mathematicians, scientists, fashion designers. At school learners who are legislative thinkers might not do very well on fixed assignments since fixed assignments prevent them from expressing their creativity (Sternberg, 1999:33).

Judicial thinkers are persons that like to analyse and evaluate existing items, especially rules and procedures (Sternberg, 1999:39). In Science a learner might apply the rule that litmus paper changes its colour to red, if it is put into an acid. Therefore as the litmus paper is immersed into an unknown liquid and does not change its colour to red, the liquid must be an alkali.

Executive thinkers prefer to address one task at a time, are teacher-dependent learners, and prefer to work within certain parameters (Sternberg, 1999:35). Within the ACE system these are learners who will first tackle one task within a PACE, and not work in two PACEs simultaneously. Here the facilitator needs to be very attentive to the learner in case he needs help and cannot continue with the work.

b) Form: what type of method or procedure is used

Monarchic thinkers are motivated by one need or goal at a time (Sternberg, 1999:46). As a monarch they are in control of what they want to do. They put all their energy into accomplishing their goal, no matter what (Sternberg, 1999:46). A learner who is monarchic can be motivated by the educator by bringing in the learner's interest e.g. a soccer fan might be motivated to do addition by pretending to add goals shot.

Hierarchic thinkers establish a hierarchy of goals by giving preference or importance to them. Goals are labelled from most important to least important (Sternberg, 1999:51). These thinkers are very systematic in their decision making (Sternberg, 1999:52).

Oligarchic thinkers like to handle goals of equal importance at the same time (Sternberg, 1999:53-54).

Anarchic thinkers also prefer to tackle a variety of problems simultaneously but at random. However, if they feel limited by a system, they simply reject it (Sternberg, 1999:58). Learners that are anarchic tend to defy any person in authority i.e. the educator, just for the sake of it (Sternberg, 1999:58).

c) Level: this describes the extent of thinking

Global thinkers are all rounders. They favour a broad universal goal, whereas local thinkers favour detail (Sternberg, 1999:64). The Witkin Model of Learning Styles clarifies the question of how we understand and learn best. Are we global or analytic learners? As a global learner one would need to get the main idea first i.e. what needs to be done and not how to do it (Tobias, 1994). The learner needs to be exposed to the big picture about what he has to learn. This is given mainly in the objectives within each Package of Academic Christian Education (PACE) within the ACE system. Thereafter, the task is tackled by showing how the task is to be done through teaching strips in each PACE. Should the learner have any questions or foresee problems in accomplishing the task, he can at any time ask the educator or facilitator in private. One must bear in mind that all learners can learn, but not all in the same way (Tobias, 1994).

d) Scope: this refers to internal as well as external issues that a person deals with (Sternberg & Ruzgis, 1994:176)

Internal thinkers tend to be introverted and task orientated (Sternberg, 1999:70). Such learners would probably do very well in an individualised learning environment, since they can concentrate on their task at hand and don't necessarily have to interact with other learners. On the contrary, external thinkers are extroverts who are people oriented and outgoing. They would have a preference for e.g. a cooperative teaching method (Sternberg, 1999:70).

e) Leanings: the inclination or what type of thinking the person favours

Conservative thinkers are teacher dependent and conservative (Sternberg, 1999:74). The direct teaching method might be most suitable for them as they receive immediate feedback. On the other hand, liberal thinkers are intellectuals that love to go beyond rules and procedures and seek to bring change as much as possible (Sternberg, 1999:74).

In this section the concept of cognitive skills has been elaborated on in order to construct a broad understanding. However, since this study focuses on a South African context it

is important to deliberate further on how the development of critical thinking skills is viewed in this specific context.

3.3 CRITICAL THINKING AND THE SOUTH AFRICAN SCENARIO

Outcomes Based Education (OBE) forms the foundation for the curriculum in South Africa and represents the tool used to achieve critical thinking goals (Department of Education, 2006:2). The Revised National Curriculum Statement builds its Learning Outcomes on the critical and developmental outcomes that were inspired by the Constitution. These critical and developmental outcomes envisage learners who are able:

- to recognise problems and to solve them in an active manner, using critical and creative thinking;
- to build team spirit. Co-operative learning strategies are incorporated (Vakalisa, 2004:171);
- to organise and manage themselves and their activities effectively. This could be achieved through co-operative learning such as the jigsaw method (Sharan, 1990:3);
- to collect, analyse, organise and critically evaluate information;
- to communicate effectively using different modes;
- to use science and technology effectively. Learners rather experiment with science than learn definitions by heart (Vakalisa, 2004:169);
- to understand the world in context;
- to be reflective learners. These are learners that halt and check their progress. They evaluate whether they are still on the right track;
- to participate in life as responsible citizens;
- to be culturally and aesthetically sensitive to others;
- to explore education and career opportunities; and
- to develop entrepreneurial opportunities.

The South African Quality Authority (SAQA) recognises that analysis and critical thinking are necessary skills to become responsible citizens, and these are therefore incorporated into the National Qualification Framework (NQF) (Blunt, 2005:1374; SAQA, 1997).

According to Vakalisa (2004:168), the outcome based education (OBE) approach is underpinned by the socio-constructivist perspective. The characteristics of socio-constructivist learning content are (Vakalisa, 2004:169);

- The amount of content information is reduced to bare essentials;
- the focus is to transfer information to one's surroundings and to emphasise the holistic approach;
- the disciplinary boundaries are distorted, since learning areas overlap;
- learning content is organised around themes and current issues;
- science is a discipline where learners rather do than learn rules or definitions; and
- learning is seen as a scientific enquiry and adventure.

All of these characteristics form part of the critical outcomes within the Revised National Curriculum Statement which should enable learners to achieve critical thinking goals (DoE, 2006:2).

However, although the development of critical thinking is a main focus of OBE and the new curriculum, our South African learners do not show the results of this key focus. For example, South Africa came last in the Third International Mathematics and Science Study (TIMSS), an international test undertaken by many overseas and African countries in order to determine the level of Mathematical skills as well as Science knowledge and skill (TIMSS, Boston College, 1995:2-3). Even further, according to Mohlala (2008:2), South Africa was ranked 120th in the world for Maths and Science standards by the World Economic Forum. Both these results and tests for Maths and Science are an indication of lower levels of critical thinking since Maths and Science deal with levels of inductive and deductive reasoning (ACE, 1993:2).

As the meagre results in Mathematics and English (HESA, 2009:9) (cf.2.6) show, one could possibly conclude that most South African learners have low critical thinking abilities. Local educators are of the opinion that South African learners do rather poorly on national exams because the learners are not language proficient in English and don't understand what is required of them and consequently cannot think critically (Laubscher, 2008).

According to Baumgardt (2007) within the ACE system 33% of all ACE learners did not qualify for the College certificate with endorsement; this certificate would give the learners the opportunity to attend university. To receive endorsement, learners have to write the Scholastic Aptitude Test I (SAT I). SAT I is an international test that comprises of a critical reading, writing and maths section, therefore, relating to critical thinking. This test is available only in English and in order to score well, one has to be exceptionally proficient in English.

Van den Berg (2000) concluded in a study that there is a need for tertiary first year students to acquire critical thinking skills. Although these critical thinking skills should have already been acquired at secondary institutions, 1/5 of the interviewed learners in this study had either a misconception or a negative impression of the western term of critical thinking as defined by Halpern (2007:6): "*It is not merely thinking about one's thinking but rather skills and abilities and how to dispose of these skills and abilities.*" Most students understand critical thinking as being critical about someone's opinion for the sake of being critical which showed a negative perception. Following their interviews, students asked to be taught the skills of critical thinking. However, according to van den Berg (2000:106) this should not be done in the isolation of a module, but rather in context within the different learning areas.

In contrast, in Great Britain many primary schools have embarked on specifically teaching thinking skills as a separate subject (Burke et al., 2007:1). Feuerstein's Instrumental Enrichment Programme, which is based on mediation, is used by many schools as a particular subject. Contrary to this Van den Berg (2004:292) suggests that the teaching of thinking skills should be integrated within subject content.

3.4. LANGUAGE PROFICIENCY AND CRITICAL THINKING

According to Eysenck (2004:537) language is used as a tool or instrument of thought. Vygotsky (in Eysenck, 2004:537) emphasizes that there is an essential link between the development of language and critical thinking. Paul (2004) asserts that critical thinking is the intellectually disciplined process of actively and skilfully conceptualizing, applying, analyzing, synthesizing and evaluating information. This information is taken

in via the senses that are exposed to specific environments and then reflected upon and reasoned, according to specific beliefs. High level thinking has the following features: analysis, evaluation, reasonableness and reflection, which operate in terms of criteria; it is self-corrective and sensitive to context; and it allows one to make judgments about the world (Van den Berg, 2004:286; Jeevanantham, 2005:120). Consequently, to accomplish these critical thinking actions a good language ability is crucial. Donald et al. (2005:19), Mc Peck (1990:34), as well as Krügel (2005:85) assert that language, thinking and therefore learning are intimately tied together and that the capacity to use language is essential to execute critical thinking.

Hindes and Bakker (2004:76) regard critical thinking as a generic skill rather than a technical skill. A generic skill is deemed to include both interpersonal skills such as communicating, questioning, and listening; problem solving skills that include analysing, organising; and decision making. In other words, one needs to be language proficient in order to implement critical thinking skills. This was also observed in the study by Lombard and Grösser (2004:215) who examined prospective educators and their critical thinking skills. In that specific study it was noted that low levels of semantics by the educators could be responsible for low levels of critical thinking (McPeck, 1990:49; Lombard & Grösser, 2004:215; Burke et al., 2007:3).

Two elements of high level thinking are vertical thinking and lateral thinking. The former is concerned with proving or developing concept patterns through spiralling information, whereas the latter is concerned with restructuring such patterns (De Bono, 1982:4). Vertical thinking is analytical, sequential, finite, develops ideas and excludes irrelevant information whereas lateral thinking is provocative, jumps, is probable, generates ideas and welcomes changes. Vertical thinking selects a pathway to a solution and in contrast, lateral thinking opens up a pathway (De Bono, 1970:40). Vertical thinking would need a certain knowledge base before a learner can move on to the next level of degree of difficulty. However, if the language proficiency is low, a learner cannot express his ideas properly nor is he able to comprehend context-reduced text which is required at secondary institutions. As a result, he cannot expand his vertical thinking level (Cummins, 1992:17; Hong-Nam & Leavell, 2006:399).

One of the main aims of education is to gain as much information as possible. However, information is gained through communication and communication through a language (De Bono, 1969:9). If, however, the individual is not able to understand the language with all its nuances, certain information is lost. McPeck (1990:49) confirms that linguistic incompetence is responsible for most of the inconsistency in understanding.

Cummins and Swain (1986:156) declare that multilingual speakers will definitely improve their critical thinking skills, problem solving and logic provided they have been exposed to or learnt languages that are running parallel to each other, or they have come to a level of Cognitive Academic Language Proficiency (CALP) (cf. 2.2.3) in both languages. This is especially true if they have been exposed to an additive language system e.g. an Afrikaans first language speaker is exposed to his mother tongue as a LOLT up to at least Grade level 6 in all subjects, then a second language is added. This may also be a language of learning and teaching i.e. English as LOLT in about 50% of school subjects such as History, Geography, or English is taught as a separate subject (Ramirez in Heugh et al. 1995:57). These speakers will definitely have a better lateral and critical thinking ability, because they go through different processes of language control and have to put themselves into the shoes of other speakers. They are also more successful in comprehending stories, where they deduce the essence of a story more easily, or they are able to unveil more in a story compared to a monolingual speaker (De Klerk, 1995:54). Bilingual or multilingual learners seem to have a higher ability of abstract thinking (in Cummins & Swain, 1986:12; in Heugh et al.1995:54). This does not mean that a monolingual learner does not have the ability to think abstractly, but that abstract thinking comes more easily to the bi/multilingual learner due to the different processes of language control (De Klerk, 1995:54). De Klerk further mentions (in Heugh et al., 1995:54) that multi/bi-lingual learners have increased analytical awareness because they constantly organise, analyse and inspect their language in order to avoid interference between the languages. Versfeld (in Heugh, Siegrühn & Plüddemann, 1995:26) and Baker (1993:124) therefore affirm that multilingual persons can have higher academic achievement due to constant analysis and control of their language expression (Baker, 1993:124; Versfeld in Heugh, Siegrühn & Plüddemann, 1995: 26). This is assuming that they are proficient in both languages.

In order to improve critical thinking skills, skills of reading, listening, and observing need to be emphasised (Pienaar, 1999:126). This statement by Pienaar confirms the relationship between language and the level of critical thinking, the latter represented by reading and listening skills. One could conclude that if learners are language proficient, their level of critical thinking will also be competent. This will be investigated in this study.

According to Clayton (in Pienaar,1999:126), "*It is reading that promotes the essential cognitive development skills that one must possess in order to succeed in daily life.*" Clayton (in Pienaar,1999:126) mentions that comprehension is the focal point in the reading process as it involves: relating vocabulary to experience, understanding ideas, concepts and processes, recognising relationships, making comparisons, drawing inferences, reflecting and interpreting and reading between the lines. The mastery of these skills where comprehension occurs will lead to one being able to critically evaluate ideas (Pienaar, 1999:126). However, as mentioned in 2.3.3, most learners fail to "crack the code" because reading comprehension depends upon the knowledge of syntax and semantics of e.g. English. Without this knowledge of syntax and semantics the learners will get lost and words will be meaningless to them (Hough & Horne, 2006). This phenomenon will then become a barrier to critical thinking since learners cannot comprehend the text.

3.4.1 The relationship between thought and language

This section will clarify the relationship between thought and language. The issue that will be discussed here is: how does one understand and use questioning and listening strategies? Vygotsky asked the question: "*Does language mirror thought or thought language or both*?" (McGregor, 2007:10). In other words, does one first think and express one's thoughts via language or does language cause us to think? Paul and Elder (2001, 53) refer to the parts of thought as, "*Whenever you reason, you do so in some circumstances, making some inferences based on some reasons or information using some concepts, in trying to settle some questions for some purpose within a point of view.*" In applying the parts of thought, a person is reasoning i.e. drawing conclusions (Paul & Elder, 2001:51). According to Vygotsky, thought and language are united. This

unity is reflected in word meaning (Gamaroff, 2007:19). Vygotsky (in Kozulin, 1990:157) distinguishes between four stages of thought and language which emphasize the link between critical thinking and language:

- primitive stage: preintellectual speech where intelligence operates without words. A child building with blocks, sorting by size or colour;
- practical intelligence: mastering problem solving at sensory motor level;
- external symbolic means for internal problem solving i.e. learner counts his fingers to add up numbers; and
- internalisation: operations with internal symbolic means.

The next question that arises is: How does one develop or nurture critical thinking skills? This question will be answered in this section.

3.5 NURTURING CRITICAL THINKING SKILLS

Nurturing critical thinking skills implies the attempt to develop, to cultivate, to foster and promote critical thinking skills and to be successful (Longman, 2007: 471). Before one can apply critical thinking skills, one must have a well integrated knowledge base related to the subject matter (Ormrod, 2008:289). Knowledge again is acquired, retained and eventually retrieved as it is needed (Halpern, 2007:8-9). This procedure of acquiring, retention and retrieval of knowledge is memory (Halpern, 2007: 8-9).

Ormrod (2008: 198) presents a model of memory with three simplified components: sensory register, working memory and long term memory. In short, information is taken in through the senses and held in the sensory register in an unencoded form. The learner, as he pays attention, then moves the information from the sensory register to the working memory. The working memory then stores the information as the learner tries to understand it (Eggen & Kauchak, 2006:198). Information in the working memory is then either lost if not used or transferred to the long term memory (Ormrod, 2008:198). This transferral only occurs if new information is connected with prior knowledge (Ormrod, 2008:198). The long term memory is our permanent library (Eggen & Kauchak, 2006: 201) from which the learner can then retrieve information as needed.

Concerning critical thinking, memory, although indispensable, is one of the low level critical thinking skills, that helps to remember day to day events and academic subject matter (Ormrod, 2008:265). Memory is part of the cognitive process of information input, manipulation of information and information output (Schunk, 2004:19). However, memorizing knowledge is a critical step in cognition since it is vital process to build on acquiring more knowledge (Jacobsen et al., 2002:130). Gregory and Chapman (2007:97) state that in order for the learners to memorise material, they have to review the material. To review material means the learner needs to go over the material again, reassess and rethink the material (Gregory & Chapman, 2007:97). As the learner goes over the information, he will reinforce memorisation of the information and acquire more knowledge. The ultimate goal of memorisation is the moving of learnt information from the short term memory to the long-term memory where it can eventually be recalled by the learner without effort. It should be kept in mind that memorisation is on the lower level of cognition and should not be abused by teachers by overuse (Jacobsen et al., 2002:129), at the expense of learners using higher cognitive levels of thinking.

In order to memorise material, it has to be reviewed or rehearsed. Three things might happen after information is assimilated in the short term memory: information is thrown out; information is further applied; or transferred into long term memory (Gregory & Chapman, 2007:97). Learners require many opportunities to review and rehearse, at different times, in different ways, e.g. re-reading, summarising, and verbalising, so as not to bore the learner (Gregory & Chapman, 2007:97).

Memory work is incorporated within the ACE system in all learning areas through preparation for tests and other forms of assessment, but especially through Scripture memorisation (School of Tomorrow, 1995:49 & 79).

However, De Bono, Feuerstein and Glaser (in Mc Peck, 1990:34; in Lomofsky & Young, 2007:13), all agree that the process of reasoning should take precedence over the content of what is being reasoned about. This does not imply that the content is irrelevant or that the knowledge of content is redundant, but rather that an educator should concentrate on the method of teaching learners how to reason as opposed to concentrating predominantly on teaching new or more content (Garnstom in Gregory & Chapman, 2007:96). Knowledge is critical: "*we read for knowledge, we study for*

understanding and we personalise for wisdom..." (ACE, 1995:19). No critical thinking can take place without knowledge acquisition in the first place (Mc Peck, 1990:28; Halpern, 2007:2). For example, a teacher first needs to have knowledge before he knows what needs to be done. For instance, in Mathematics: i.e. an educator needs to know, understand and apply mathematics before he can teach it. The critical thinking part materializes when the decision has to be made as to what to do, when to do it, how to apply it and how to prioritise. Critical thinking becomes vital in professions, e.g. as a medical practitioner who has to decide on the treatment of his patients especially if there is some unfamiliar disease. Researchers also depend on critical thinking when examining a certain hypothesis from a different perspective, yet keeping to that which is accurate, precise and relevant (Leedy & Ormrod, 2005:33). In these cases knowledge as resource for critical thinking is essential.

Kramer (2006: 22) asserts that, as an educator, one should not be interested primarily in the knowledge acquisition of a subject, but in the application of that knowledge, relevance of the acquired knowledge to other areas and judgement of the knowledge within a subject. The educator has to open the horizon of knowledge and application. It is not merely a recall or listing of facts, which would be the first level of critical thinking, mainly using memory, as in 'parrot fashioned learning', but is rather an application of that recall, presenting the understanding of that knowledge (Halpern, 2007:8; Zascavage, Masten & Scroeder-Steward & Nichols, 2007:30). The learners observe the environment, try to understand the occurrence and apply it in other areas. Many why and how questions will lead the educator to judge whether the learners truly understand the subject and know what implications it might have within their environment (Feuerstein, 2007:11).

Mc Peck (1990:34) agrees that there should be an ultimate goal to improve critical thinking and to produce autonomous thinkers. However, he does not agree that thinking skill programs necessarily lead to critical thinking. His viewpoint states that each educator should teach critical thinking while teaching specific subject content, consequently applying reasoning techniques simultaneously (Mc Peck, 1990:35). This implies that various kinds of knowledge and understanding of things will shape a person's thinking about these things (Mc Peck, 1990:35). Therefore, critical thinking needs to be incorporated within the curriculum (Mc Peck, 1990:34).

Mc Peck (1990:50) calls for educators to apply a variety of teaching methods that would encourage learners to discuss and argue specific points of view, especially once the learners enter secondary school (McPeck, 1990:50). However, for educators to be able to implement this they first need to have knowledge about the subject of critical thinking. Lombard and Grösser (2008:576) assert that the educator needs to be a proficient critical thinker himself, before teaching learners about becoming critical thinkers and applying it in the curriculum. This should take place without the learners being fully aware of the fact that they are now being taught critical thinking techniques.

Literature highlights a number of factors that can improve the lack of critical thinking such as: subject knowledge, language, culture, socio-economic environment and the teaching practice of teachers. For the purpose of this study, the focus will be on the role of the teacher in nurturing critical thinking. During teaching and learning, teachers have to take cognizance of the variety of learning styles in the classroom.

3.5.1 Learning styles

According to Dunn (in Fraser, van Ede, Hislop-Esterhuisen & Owen, 2004:207) learning styles are "*the way in which a person absorbs and retains information and/or skills.*" This statement is the key to the reason why learning styles should be discussed with critical thinking. As mentioned already (Halpern, 2007:2; cf.3.5), no critical thinking can take place without the necessary knowledge about a topic or subject (Halpern, 2007:2) and learning styles are the avenue to acquiring that knowledge. Dunn (in Fraser et al. 2004:207) confirms that each learner has a preferred category of thinking skills and as these thinking skills match the teaching/learning style, the learner's learning is improved and increased.

As educators become aware of different learning styles and incorporate a variety of learning styles, the likelihood is greater that the learners will use their whole brain (Gregory & Chapman, 2007: 24).

It was found by Dunn (in Fraser, van Ede, Hislop-Esterhuisen and Owen, 2004:207) that no learning style is above another, or better. In the same research it is mentioned that different learning styles can be complementary to various teaching styles and can therefore lead to improved academic performances. This does not mean that the educator always needs to adapt his teaching method to the learners' preferred learning style in order to increase academic performance, but rather to focus on developing stylistic flexible learners (Fraser et al. 2004:208). Stylistic flexible learners are better equipped to adjust to a variety of environments (Fraser et al. 2004:208). Thinking styles change according to learners' needs and situations, as well their age and experience, and therefore the way they learn (Fraser et al. 208).

To nurture critical thinking a variety of teaching methods are needed.

3.5.2 Teaching methods

Mc Peck (1990: 34) stresses the importance of teaching methods as a vehicle for learners to obtain knowledge. As the knowledge about a subject increases, so does the possibility of becoming a critical thinker. According to Nuthall (in Grosser, 2007:37) it is assumed by many educators that if something is taught it is automatically learnt, otherwise the fault lies with the learner. Nuthall (in Grosser, 2007:37) therefore states that the ineffectiveness of the educator to teach has no effect on the ineffectiveness of the learner to learn. Therefore, the responsibility to be successful in learning lies completely with the learner and not with the educator. However, teaching and learning cannot be seen as two independent entities but rather are linked in a multifaceted way (Mayer in Grosser, 2007: 38).

The ACE curriculum stresses the following educational principles (School of Tomorrow, 1995:49).

- A learner must be on the level where he can perform: through a baseline assessment the learner is placed on his performance level and not on a level according to his chronological age;
- a learner must set reasonable goals that he can achieve in a set period of time: a less gifted learner is required to complete a lesser workload than a gifted learner;

- a learner must be controlled and motivated: this is done through external as well as internal motivation i.e. merits, privileges;
- a learner's learning must be measurable: through assessment for as well as of learning as explained in 3.5.3.1 and 3.5.3.2; and
- a learner's learning must be rewarded; through congratulation slips, merits, public acknowledgement .

In order to reach these goals it is the educator's responsibility to motivate, instruct, discipline, inspire and praise the learners (School of Tomorrow, 1995:89). The educator has to "*cause the learners to learn*" (Hendricks, 1987:122). Woolfolk states that "*the most effective teacher you ever had, was the one you learnt the most from.*" (Woolfolk, 2004: 440). The characteristics of an effective teacher are (Woolfolk, 2004: 440 - 441):

- he is knowledgeable in his learning area, can present new information clearly and recognises when learners face difficulties;
- he is organised in his teaching; and
- he is enthusiastic, friendly and understanding.

In this section the direct, indirect, independent and interactive teaching models are discussed.

3.5.2.1 Direct teaching method

The first teaching method to be discussed is the direct teaching method. The direct teaching method focuses primarily on rote learning, and therefore, only develops low levels of critical thinking skills (Gunter, Estes & Schwab, 2003: 63).

The direct instruction method is a teaching method that is teacher-centred and teacher controlled (Gunter et al. 2003:64). The learning outcomes are clear to the learners; time is controlled as are the lesson activities. Academic achievement is emphasised, student performance is monitored and feedback is given to learners on an academic basis (Killen, 1998:2).

The direct instruction model (Gunter et al. 2003: 63) lends itself perfectly to teaching learning objectives such as alphabetising, periodic table of elements, scientific equations, just to name a few. However, it mainly deals with rote learning which refers to memorisation and it is a lower level of cognition (cf.3.2). It has short instruction periods and extensive practice until mastery is achieved. It should be predominantly used to master basic skills and once these are established, further higher order thinking and learning can take place. Unfortunately, according to Lombard and Grösser (2008:573), many educators mainly fall back to the "old" teaching method of direct instruction within OBE (Outcomes Based Education). This is the case simply because the educators themselves don't know any better (Lombard & Grosser, 2008:573) and this is the method they feel most comfortable with. This means, however, that mostly lower order thinking skills are developed.

3.5.2.2 Indirect teaching method

The second type of teaching method to be discussed is the indirect teaching method or inquiry model. These models are based on the theory that good questions are more important then correct answers (Gunter et al. 2003:117). Indirect teaching focuses on problem solving through discovery and questioning (Gunter et al. 2003:123). This method is advisable for the development of critical thinking skills.

3.5.2.3 Independent teaching method

Since independent teaching expects the learner to work out instructions for himself, it is also recommended to teach critical thinking skills.

Kramer (2006:104) identifies a number of independent teaching techniques:

- Homework: here the learner works independently outside regular class work (Kramer, 2006:104). However, in order to make homework valuable, the learner first has to understand the assignment since he might not receive the needed help at home, and then he must be held accountable for doing the work (Woolfolk, 2004:446). Within the ACE system, the learner might be required to accomplish any work he has not completed in class at home (School of Tomorrow, 1995:86).

- Research projects: learners have to gather information on a specific topic and thereafter present it to the class. This is accomplished within the ACE system especially for projects within Science, Social Studies, Life Sciences, Life Orientation and Languages.

- Report Projects: these are projects done outside of class. Learners have to be very specific as regards to purpose, terms and analysis. In ACE this is represented in projects as in research projects.

- Interview tasks: learners interview any role models and give the report back in class. This technique is especially popular within the Life Orientation learning area in the ACE system. For example learners are asked to interview their parents or family concerning their occupation and then give a report back in class.

- Assigned questions: new learning is introduced or reinforced by asking assigned questions that each learner works through individually. This is applied in the ACE system through a Packet of School of Tomorrow (PACE), a bite sized booklet of curriculum (School of Tomorrow, 1995:5). In order to ensure learning, PACEs include activity questions covering the material presented, mini quizzes and a test for self evaluation. Learners have to read the text, complete certain tasks and get tested on it. In upper level PACES, questions that stimulate thought or cognition are presented and in this way the learner is guided into correct thinking which encompasses logic and Biblical principles (School of Tomorrow, 1995:30).

- Worksheets: learners work through a worksheet at their own pace. The same applies for a learner using the ACE system as in the section for assigned questions.

- Equipment assisted learning: learners use computers, scientific and other equipment for learning to ensure individual practice of skills. The use of computers is especially encouraged within the ACE curriculum. Learners are

encouraged to write essays, book reports, short stories and research papers using the computer. Also, mathematical skills, spelling and reading are practiced using relevant computer software (School of Tomorrow, 1995: 45, 55).

- One-on-one debates: learners prepare assignments before discussing them with a partner. This takes place when two learners decide to work on a project together, such as for a convention, a mini-Olympiad on national and international level and especially for Science and Social Studies projects within the ACE system (ACE, 2006:8).

- Learning centres: designated space within the classroom for learners to find and use resource material. Within the ACE system each classroom is named a Learning Centre. In this learning centre learners complete academic work (School of Tomorrow, 1995:4).

- Writing assignments: essays and paragraphs are done individually. Each learner within the ACE system is expected to do his work on an individual basis (School of Tomorrow, 1995:4), since it is based on the theory of mastery of learning. Mastery of learning is founded on the belief that each learner can master anything at his own pace: some need more time, but others grasp a concept quicker (Ormrod, 1995:465).

- Self-assessment: learners assess themselves and their own work according to certain guidelines set out by the educator. The ACE curriculum refers to a Self-test, which is a self-assessment tool for each learner to see if he has understood the topic correctly. The learner marks his test according to specific criteria and then, with the guidance of the educator, takes the necessary steps to either continue with a new task or improve on the present one (School of Tomorrow, 1995:177).

- Crossword puzzles: educators prepare crossword puzzles for learners to complete from notes or research material. As mentioned earlier, the ACE curriculum has

this kind of technique built into its PACEs within all learning areas (School of Tomorrow, 1995: 5).

3.5.2.4 Interactive teaching method

Interactive teaching takes place when learners are teaching learners within small groups in order to improve their academic achievement (Gunter, et al., 2003: 256). The two most common methods that will be discussed here are the co-operative learning method and mediated learning. These two methods are also judged as very useful methods to develop critical thinking skills.

a) Co-operative Learning Method

Keeping OBE in mind and its critical thinking goals, one could conclude that co-operative learning is the ideal and most effective way to reach and fulfil these critical thinking goals. In short, co-operative learning requires a **co-operative task** and **a co-operative incentive structure** (Killen, 1998:82). This teaching system requires team building, conflict resolving and extensive verbal communication with the other team partners (Gunter et al. 2003:257). This in turn would help ESL learners to improve their language proficiency (Gunter et al. 2003:258), provided positive peer pressures of motivation and encouragement are applied. Overall, co-operative learning motivates the individual to perform at least as well as the group in order to be successful. However, this requires well prepared lessons by the educator, discipline within the groups, as well as strict monitoring by the educator (Gunter et al. 2003:258). The educator decides when a project is completed successfully, he guides the discussions, monitors the participation and has to ensure no learner lets "George do the task" while passively sitting back (Gunter et al. 2003:276). In short, co-operative learning represents the ideal to improve and apply critical thinking skills. This is because information is acquired from different sources; i.e. the learners have to present the information in a logical, creative way to each other and the rest of the group; other learners might challenge one another's findings; and learners have to justify and defend their conclusions within discussion groups. These activities are all part of developing critical thinking (Moon, 2008:21).

b) Mediated learning

In the teaching and learning environment, the educator is not only the planner but also the mediator between teaching and learning (Grosser, 2007:39). Critical thinking is a skill and learners need to engage in activities that stimulate critical thinking. Since critical thinking does not come by itself, learners have to be guided in their engagement of critical thinking (Van den Berg, 2004:286). This, in turn, is not that simple, as some subjects, such as languages, lend themselves to better or easier ways of integrating all thinking skills (Burke, Williams & Skinner, 2007:10).

As an example of incorporating critical thinking within a language class, Pienaar (1999:126) suggests that, in a language classroom, the following should be valued:

- The elaborating of an argument and development of its implications; as in analysing arguments (cf. 3.2.2);
- the understanding, analysis and evaluating of arguments;
- the supporting of general assertions with details; reasoning by drawing deductively valid conclusions (Halpern, 2007:8) (cf. 3.2.2) and
- recognising the central thesis in a work.

In a language classroom, critical analysis of any literature could be used (Pienaar, 1999:126). The learners are given possible conclusions relating to a specific statement and the learners then have to decide which conclusion would apply e.g. *the Constitution is the highest law of South Africa and must be followed by all the people in South Africa.*

1. Conclusion: the State President does not need to follow the Constitution.
2. Conclusion: a foreigner does not have to follow the Constitution.
3. Conclusion: the Constitution of South Africa compares favourably to other countries.

It is apparent that all of these goals relate to or imply cognitive skills (cf.3.2.2).

Given that not all thinking skills are appropriate in all contexts, teachers need to give learners the opportunity to select situation-specific thinking skills (Burke *et al.* 2007:10). Again, learners can only participate in speculations, hypotheses and group discussions when, or rather if, they are language proficient (Van den Berg, 2000:106).

According to O'Tuel and Bullard (in Van den Berg 2004:280) it is the educator's responsibility to create the proper thinking environment. The educator needs to be a role model for critical thinking so that the learners can internalise the critical thinking skills. As the educator is confident in leading learners to obtaining critical thinking skills, so will the learners become confident in using them. Also, a relaxed atmosphere was shown to be beneficial in obtaining critical thinking skills (Chabeli, 2007:73). Each learner is unique, with his own strengths and weaknesses, which in turn will determine his learning styles (Tobias, 1994:14). It is up to the educator to reinforce those strengths and to eliminate the weaknesses (Fraser et al., 2004:208).

Feuerstein, a pioneer researcher on the development of thinking skills (Haywood, 1993:27) has introduced his program of mediated learning to improve critical thinking. According to Feuerstein (in Lomofsky & Young, 2007:8) mediated learning can be described as an approach to teaching that involves an adult facilitator, a learner and his environment. The facilitator acts as a go-between connecting the learner and his environment. The facilitator's task is to select, to focus and to give feedback to the learner about his environment in such a way as to produce in him specific learning practices (Feuerstein, 1982:71). According to Feuerstein's Theory of Structural Cognitive Modifiability, there is no limit to age and no limit to the level of development in order to improve learning (Feuerstein, 2007:1).

One could compare Vygotsky's Zone of Proximal Development (ZPD) with Feuerstein's theory of Structural Cognitive Modifiability. Vygotsky states that an educator should lead a learner to his ZDP, where the learner would then need assistance from the educator in order to understand and explore new fields of discovery (Woolfolk, 2004:52). The ZPD is the area where the learner cannot solve the problem alone, but through prompts and structuring or scaffolding by a more experienced person, whether adult or learner, eventually becomes successful (Woolfolk, 2004:52). Language plays a

major part within the ZPD as learners are encouraged to use language to organise their thinking.

Feuerstein requires that an experienced adult, not a learner, is needed for the mediated learning experience (Lomofsky & Young, 2007: 8). Further, Feuerstein does not stress the use of language as much as Vygotsky in order to solve problems. Feuerstein uses different techniques, such as orientation in time and space, repetition, comparison – to name a few, to mediate cognitive processes (Feuerstein, 1982:71). The mediator facilitates the connection between the experience and the learner who then becomes aware of the learning process. This process is operative when skills are passed on by observation from generation to generation (Feuerstein, 1982:71).

In conclusion, it is therefore obvious that a variety of teaching methods, addressing different learning styles, must be used to develop critical thinking skills.

3.5.3 Assessment

Another tool, through which critical thinking can be nurtured, is assessment. The aim of assessment is to measure whether learning is improving, and whether the level of accomplishment is achieved (Woolfolk, 2004:548). In this regard a distinction between assessment of learning and assessment for learning is made.

3.5.3.1 Assessment for learning

Eggen and Kauchak (2006:242) refer to assessment for learning as an assessment that takes place while learning is in process. This is known as formative assessment. The main purpose of formative assessment is to assist with learning (Hanna & Dettmer; 2004:7).

Assessment for learning includes diagnosing learners' pre-knowledge, assessing their learning progress and the providing of feedback by the educator (Eggen & Kauchak, 2006:460).

Within the ACE curriculum, each new learner's pre-knowledge is assessed with the "Diagnostic Test." A learner demonstrating gaps in his learning is then prescribed material that will help him to fill those learning gaps (School of Tomorrow, 1995:57).

Further, assessment for learning assesses learning in progress. Pre-tests, work samples and written assignments are all part of formative assessment (Eggen & Kauchak, 2006: 460). A school that uses the ACE curriculum will use check-ups i.e. a form of quiz, Self-tests which are a form of self-assessment and work samples. Self-assessment, according to Marnewick and Rouhani (2004: 273), encourages learners to take responsibility for their own work and therefore their own learning. Simultaneously, this self-assessment encourages critical thinking in learners concerning their own work. They can draw conclusions and make decisions on how to improve their work by (Marnewick & Rouhani, 2004:273), e.g. using different learning styles, such as; auditory: absorbing the spoken word; visual: by reading; tactile: by writing; kinaesthetic: becoming physically involved; and tactile/kinaesthetic: role-playing (Gregory & Chapman, 2007:24). Work samples are assessed by the learners themselves and monitored by the educator. The educator may then decide if the learner needs to repeat a certain section, requires more assistance or would benefit from further explanation (School of Tomorrow, 1995: 92-93).

Lastly, assessment for learning provides feedback to the leaner about his learning progress (Eggen & Kauchak, 2006: 460). Information is given to the learners about learning objectives and what kind of effort they need to put in, in order to be successful. Once the learners succeed, they will be motivated to learn (Eggen & Kauchak, 2006:435).

Within the ACE curriculum, a learner is "*motivated to the point where he assimilates, uses, or experiences the material*" (School of Tomorrow, 1995:79). The educator, together with the teacher's aid, monitor each learner, ensuring that he has set adequate and manageable goals in each learning area that allow him to progress (School of Tomorrow, 1995: 79- 88).

Armstrong, Henson and Savage (2001:248) affirm that each learner desires to be successful, and as the learner experiences success, the learner will be motivated to be

successful in the future. Should the learner, however, experience difficulties, good assessment techniques will point out why he is not successful and, by this revelation, the learner is then able to change his thinking which in turn improve his critical thinking skills.

3.5.3.2 Assessment of learning

The second type of assessment refers mainly to summative assessment, which is done at the end of a learning process using an exam or test, in order to ascertain whether the learner has achieved a certain level and can be promoted to the next grade (Kramer, 2006:28). Summative assessment establishes whether learning has taken place and to what level (Hanna & Dettmer, 2004:7). The main goal of summative assessment is to judge a learner's competence (Fisher & Frey, 2007:4). Summative assessment aims to find out how much a learner can recall. This is based mainly on memory which is the lowest part of critical thinking (Jacobs et al. 2004:269).

3.6 CONCLUSION

In this chapter critical thinking was discussed in detail. Viljoen (2002:13) and Van den Berg (2004:282) declare that a learner who has developed critical thinking skills will automatically become an independent thinker and learner.

The South African scenario and critical thinking was described and it was discovered that the situation in South Africa shows low levels of critical thinking skills of learners which could be partially due to low levels of English language proficiency as well as lack of integrated course work material in the areas of study (Zascavage, et al. 2007: 28).

It was discovered that critical thinking can be influenced by language proficiency, learning style and teaching methods (cf.3.4; 3.5.1 & 3.5.2). As the educator tunes into the certain learning styles that a learner prefers, the possibility of improving critical thinking increases (3.5.1). The same outcome may be reached by using specific teaching methods, such as the co-operative learning method and mediated learning (cf. 3.5.2.4).

Assessment for learning is another tool available for nurturing the development of critical thinking skills (cf. 3.5.3). In addition, as Grösser and Lombard (2008: 573) point out, in order to teach critical thinking skills successfully to learners, it is required that educators themselves are competent critical thinkers. Therefore, educators need to master critical thinking skills before they can transfer this skill to their learners. Otherwise these low levels of critical thinking skills might further disable our learners (Zascavage, 2007:30) and cause more barriers for their future employment possibilities.

In the next chapter the research design will be discussed.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

The purpose of this chapter is to outline the design of the empirical research regarding the influence of language proficiency on the critical thinking abilities of Grade 11 learners in the Accelerated Christian Education system.

Research is defined by McMillan and Schumacher (2006:9) as: *"a systematic process of collecting and logically analyzing data for some purpose."* Research may demand the venture into unknown areas or the filling of gaps in limited knowledge (Leedy & Ormrod, 2005:1). One has to keep in mind that empirical research in education cannot be carried out with the same precision as the natural sciences (Behr, 1983:10). This is the case because too many variables, e.g. intellect, motivation, and cultural backgrounds, interact with each other (Behr, 1983:10). In educational research the researcher investigates behavioural patterns in learners, educators and other participants at educational institutions. In educational research learning is assessed. However, this cannot be done directly but rather through the products or outcomes of learning through direct observation, written responses, oral responses, ratings by others, self-reports such as questionnaires, interviews, stimulated recalls, think-alouds and dialogues (Schunk, 2004:7).

According to Schumacher and McMillan (2006:22) the purpose of a research design is a plan for selecting subjects and participants, the choice of research sites and collecting of data in order to answer the research questions. The design per se specifies: what or who is to be studied, when (time span), where (the site), and it provides more clarification about the circumstances. This is done to provide credible results (McMillan & Schumacher, 2006:22).

This chapter will address the following aspects:

- Aim and objectives of the research;

- Literature review;
- Empirical research;
- Measuring instruments
- Study population and sampling;
- Statistical techniques;
- Ethical aspects;

4.2 RESEARCH QUESTIONS

Based on the above deliberation the issue investigated with this research study was: to determine where the deficiencies in language proficiency and critical thinking lie with Grade 11 learners enrolled at a school using the ACE curriculum and to make suggestions to Grade11 educators at schools using the ACE curiculum on how to attempt to address any possible deficiencies.

The following research questions were posed:

- What do the concepts language proficiency and critical thinking constitute?
- What is the language proficiency level of Grade 11 learners in schools using the ACE system?
- What critical thinking skills do Grade 11 learners in schools, using the ACE system possess?
- Is there a possible link between these Grade 11 learners' language proficiency and critical thinking skills?
- What suggestions can be made in order to enhance the language proficiency and critical thinking skills of Grade 11 and Grade 12 learners in schools using the ACE system?

4. 3. AIMS AND OBJECTIVES OF THE STUDY

The overall aim of the study was to determine to what extent language proficiency and critical thinking skills of Grade 11 learners in the Accelerated Christian Education system were developed.

The objectives were:

- To determine what the concepts language proficiency and critical thinking constitute;
- to establish the level of English language proficiency of Grade 11 learners in schools using the ACE system;
- to establish the level of critical thinking skills that Grade 11 learners in schools, using the ACE system, possess;
- to determine if there is a possible link between language proficiency and critical thinking; and
- to make suggestions in order to enhance language proficiency and critical thinking skills of Grade 11 learners using the ACE system.

4.4 LITERATURE REVIEW

McMillan and Schumacher (2006:75) define the literature review as a summary and analysis of the relevant literature about a research problem. These documents are comprised of professional journals, academic books, government documents, dissertations and electronic resources.

For this research the Ferdinand Potsma Library was consulted for relevant books, journals and articles. The following databases and search engines were also consulted: Sabinet, SA e-Publications, Science direct, Google, Ebscohost and Eric.

Key words utilized: Critical thinking, creative thinking, Grade 11 learners, Accelerated Christian Education, language proficiency, mother tongue education, English second language learners, language development.

4.5 EMPIRICAL RESEARCH

4.5.1 Research method

An empirical investigation was conducted to clarify the extent to which language proficiency and critical thinking abilities are developed in Grade 11 learners in schools using the ACE system. The language proficiency level was determined using the ELSA (English Literacy Skills Assessment) test, and the critical thinking abilities were

revealed using the WGCTA (Watson & Glaser Critical Thinking Appraisal). The approach that was used is a quantitative research method. A quantitative research method is used to explain and to predict (Leedy & Ormrod, 2005:94).

Research design

This study was a non-experimental descriptive research study. Non-experimental research designs describe things that have occurred and examine relationships between things without any direct manipulation of conditions that are experienced (McMillan & Schumacher, 2006:24). According to McMillan and Schumacher (2006:58) descriptive research is concerned with: what is or what was? Descriptive research describes achievement, attitudes, behaviour, or other characteristics of a group of participants (McMillan & Schumacher, 2001:283).

4.6 MEASURING INSTRUMENTS

Schumacher & McMillan (2006:177) state five major techniques for gathering quantitative data: tests, questionnaires, interviews, observation and unobtrusive measures. This quantitative data is then presented in numerical form (Schumacher & McMillan, 2006:10).

The choice of the data gathering instrument is of utmost importance. According to McMillan and Schumacher (2006:189) the instrument determines the kind of cognitive task measured as well as the level of language proficiency.

In this study the following quantitative measuring instruments were used:

4.6.1 Using tests as research instruments

The following guidelines for good assessment practices as indicated by Hough and Horne (2006:5) were followed:

- Make necessary preparation as instructed by the manuals ahead of time. Ensure sufficient quantity of assessing instruments. The researcher familiarised herself

with the manual, assessment instrument and ensured sufficient material available for learners;

- assessing location must be safe, free of any disturbances and suitable for the purpose. The participants were assessed in a safe classroom, without any disturbances of noise or interruptions.
- the person administrating the assessing instrument must be familiar with the instrument. The researcher completed a course on the administration of both assessment instruments;
- learners with physical barriers should be accommodated accordingly. There were no learners with physical barriers that took part in this research;
- learners to be assessed must be on the appropriate level of assessment. All learners were on the relevant grade level;
- minimising the level of anxiety. Before the assessment the learners were assured that the outcome of the test would not be used in any way against them. The researcher also explained that it was for research purposes only and not part of their school assessment. Before commencing with the assessment a prayer was said, according to school policy;
- any distractions are removed. No cell phones or other electronic devices were allowed and were put away in a safe place;
- only answer queries within the requirements of the manuals. Guidelines were only given as instructed by the manual;
- specify where results are to be stored. Learners were assured that the results would be locked away in a safe place and would only be seen by persons directly involved with the research; and
- ensuring secure storage of assessment material and results. Results were locked away by the researcher in a safe place.

4.6.2 Reliability and validity

There are two major factors any researcher should keep in mind before deciding which test to use, namely validity and reliability.

The validity of a test is the extent to which inferences made on the basis of scores from an instrument are appropriate, meaningful and useful (Schumacher & McMillan, 2006:179). According to Leedy and Ormrod (2005:94) validity is concerned with the extent to which it actually measures what it is supposed to measure. In this study, the researcher attempted to ensure that language proficiency and critical thinking skills were measured using the appropriate tests.

The other factor to be considered is reliability. Reliability ensures a consistency of measurement (Schumacher & McMillan, 2006:183). It indicates the degree of deviation when the same test is applied to the same individuals under the same circumstances at another time (Leedy & Ormrod, 2005:29). However, reliability does not ensure accuracy any more than precision (Leedy & Ormrod, 2005:29). This means, for example, that a person taking the ELSA test (cf.4.5.3), who is an English mother-tongue learner, might state on the form that he is an ESL learner. Therefore, the incorrect inference is drawn that he is rated at a reasonable acceptable level for English proficiency. In other words, an English mother-tongue learner on Grade level 11 is expected to rate at Grade 11, whereas, an ESL learner's English proficiency is adequate even though he performs two grade levels lower (Horne, 2008, designer of the ELSA test, as communicated verbally to the researcher).

Both validity and reliability reflect the errors or bias in a measuring instrument. This implies the higher the factors rate, the lower the room for error (Leedy & Ormrod, 2005:29). For the reliability and validity of the tests please refer to paragraph 4.6.3 and 4.6.4.

The tests that were used for this research were the English Literacy Skills Assessment (ELSA) to determine language proficiency at present and the Watson-Glaser Critical Thinking Appraisal (WGCTA, 2002) (UK edition) for the critical thinking test.

4.6.3. The language proficiency test (see Annexure A for an example)

The English Literacy Skills Assessment (ELSA) test was used to determine language proficiency at present of Grade 11 learners enrolled at a school using the ACE

curiculum. This test was developed by Hough and Horne (2007) for learners from Grade 1 to 12. The ELSA test is a language, norm-based, not criteria based, group-measuring instrument that can quantify and diagnose (Horne, 2007:1). In addition it is culture fair, using no colloquialism, meta language or idiomatic expressions and dialects (Horne, 2007:3).

According to Horne (2007:1) the scoring is objective and the functions are mastery, survey and diagnostic. The suppliers are responsible for the manual scoring and the researchers receive the test results. The ELSA takes about one hour to complete. It is standardised for South African English mother-tongue users. ELSA norms are national norms and were established under the direction of the HSRC. ELSA's reliability is .86 and its predictive validity 84% (Horne, 2007: 2). This reliability is good for a standardised test. Above .90 is considered very reliable, .80 to .90 is good, and below .80 is not very good reliability (Leedy & Ormrod, 2005:522).

Moreover, ELSA literacy skills levels are benchmarked against South African norms as follows:

- literacy – equivalent to three years of schooling (mother tongue implied);
- functional literacy-equivalent to eight years of schooling (mother tongue implied); and
- academic literacy - equivalent to ten years of schooling (mother tongue implied).

The ELSA test comprises of the following sub-tests:

- **Phonics Skills** (Decoding/Encoding) points out any problem with the sound system of the language of learning (Hough & Horne, 2006:1).

- **Dictation** (Decoding and Encoding) evaluates how well English is "heard" and if the conventions of writing are part and parcel of the learners' literature skills. Spelling is also considered (Hough & Horne, 2006b:1).

- **Quantitative Literacy/Numeracy** determines if the learner is numerate. If a learner is not numerate he cannot read a time-table, e.g. a bus time-table, etc. Numeracy is an integral part of literacy (Hough & Horne, 2006b:1).

- **Language and Grammar of Spatial Relations (Decoding/Encoding)** detects learners who lack in these areas. ESL learners, especially who prefer English as LOLT seem to have this problem. The ELSA founders have identified about 55 concepts that often create confusion in the workplace. These learners cannot master Technical Drawings, Machine Drawing etc. which can be linked to this dilemma (Hough & Horne, 2006b:1).

- **Reading Comprehension at ABET III level (Decoding/Encoding)** assesses the narrative writing level at a readability index of about Grade 9. Four sets of questions need to be answered: sequencing (cloze), true/false, yes/no and multiple choice. The "pass-mark" is 80%. A grade 12 learner who has a problem with a user-friendly narrative text will never be able to cope with expository writings contained in training manuals, regular business correspondence, standing orders, etc. (Hough & Horne, 2006b:1).

- **Cloze Procedure/Exposure to and familiarity with English (Decoding/Encoding)** to assess whether the learner has a "feel" for the LOLT (English) and to determine the extent of his/her exposure to English (Hough & Horne, 2006b:2).

- **Vocabulary in Context (Decoding)** comprises of expository writing. There are 30 items and 1000 words that need to be processed in 10 minutes. The readability index is Grade 12. Grade 12s that are mother-tongue English speakers can process 250 words a minute with 70 – 80% comprehension. Therefore a learner who processes 100 words per minute with great difficulty and poor comprehension has major problems in reading processing, a restricted reading vocabulary and limited understanding of syntax of English (Hough & Horne, 2006b:2).

Hough and Horne (2007:2), the developers of this test, assert that the ELSA is unique in that it:

- predicts trainable outcomes;

- equates the functional skills level of a respondent to that of an English mother-tongue (EMT) colleague;
- pinpoints strengths and weaknesses in an English training environment; and
- prescribes remedial treatment in order to become more efficient.

4.6.4 The Watson Glaser Critical Thinking Appraisal (See Annexure B for an example)

The critical thinking test that was used was the Watson-Glaser Critical Thinking Appraisal (WGCTA, 2002) (UK edition). The WGCTA consists of five test exercises requiring analytical reasoning skills. These skills have to be applied to written material in normal every day use such as newspapers, magazines or other media. The five subtests deal with inferences, assumptions, deductions, interpretations and evaluation of arguments. The test is a standardised test and is used internationally in many countries to measure critical thinking. The scores can be compared to other candidates in the population at large (Watson & Glaser, 2002:2.1).

The WGCTA distinguishes and includes topics that are neutral e.g. the weather as well as topics that might reveal strong emotional biases. This is intentional since strong feelings cause some people to think critically, according to Jaeger and Freijo (in Watson & Glaser, 2002:2.2).

The test takes about 50 minutes, ten minutes per section, no rigid time limit. A maximum raw score of the complete test is 80 (Watson & Glaser, 2002:4.2). As a guideline from WGCTA, scores are related to age according to a study in the USA. Fourteen year old learners scored about 32, 18 year olds about 40. Eighteen to 21 year olds scored about 47 and a peak was reached at 21 years of age with a score of 52. Thereafter the scores decreased as age increased. As cognitive development levels 'out' at about 18 years of age, the general adult population score is about 40 (Watson & Glaser, 2002:6.4).

It is important to note that, although reading is a prerequisite in all types or forms of tests, reading ability is not seen as a confounding factor in test score interpretation, **except** for candidates who are ESL learners (Watson & Glaser, 2002:6.4).

There is no shame in receiving a low score in critical thinking abilities; rather it should be seen as a diagnosis for which a cure can be described. According to Halpern (in Watson & Glaser, 2002:6.6) critical thinking ability can be trained, and a low score only reveals that the individual has not been trained appropriately in critical thinking skills (in Watson & Glaser, 2002:6.8).

The high quality of the WGCTA can be attributed to the following aspects:

- it has a long history of development i.e. 50 years,
- it is used in many countries and settings,
- a large number of international companies use the WGCTA,
- it is reviewed on a regular basis,
- it has been standardised on a set of 1546 participants with over 50 occupations and different levels of education,
- it has been subject to successive experiential analysis and improvement

The test –retest reliability of the WGCTA was 0.73, reflecting an acceptable measure of stability over time (Watson & Glaser, 2002:8.3). No pilot study was yet conducted to determine the reliability of the WGCTA for South African learners. However, Grosser and Lombard conducted the test with first year students and found the results quite reliable and valid (Lombard & Grosser, 2008:568).

The Watson & Glaser Critical Thinking Appraisal comprises of the following five sub-tests (Watson & Glaser, 2002:2.1):

- **Inference:**
  Evaluation of inferences drawn from a series of factual statements
- **Recognition of Assumptions:**
  Identifying unstated assumptions or presuppositions in a series of assertive statements
- **Deduction:**

Determining if certain conclusions can necessarily follow from certain information given in the statement

- **Interpretation:**
  Pondering on evidence and deciding if generalisations and conclusions based on given data are warranted
- **Evaluation of Arguments:**
  Distinguishing between strong and relevant arguments compared to weak and irrelevant arguments for a particular question at issue

There are two kinds of content the participant has to respond to: neutral topics and controversial issues. Neutral topics include issues such as the weather, scientific facts, experiments or topics about which people don't have strong prejudices. Controversial topics include politics, economics or social issues. The reason for including controversies is to ascertain how critically people deal with issues when they are surrounded by strong biases (Watson & Glaser, 2002:2.1).

Further, the WGCTA is a test of power rather than a test of speed. There is no rigid time limit. However, 50 minutes is suggested as an appropriate administration time (Watson & Glaser, 2002:2.2). The researcher informed the participants to take not more than 10 minutes per section and set a stopwatch accordingly. The participants, in general, had completed the questions before the time was over. Each subtest has a maximum score of 16 points. Therefore the total overall score is: 16 x 5=80 points. The results are first expressed as a raw score and then expressed as percentages.

According to Watson and Glaser (2002b:8.1-9.19) the establishment of the reliability and validity of the instrument is sound. According to Lombard and Grösser (2008:568) reliability and validity were also established during a pilot study for local circumstances with a group of first year students during 2005. The test results for the group revealed a split-half reliability coefficient of 0.566515 and a Guttman split-half reliability coefficient of 0.566471(Lombard & Grösser, 2008:568). The Department of Statistical Consultation Services of North West University on the Vaal Triangle Campus assured the instrument's reliability criteria. With regards to validity the following was taken into consideration:

- **Face validity.** The WGCTA-UK shows rapport and public relations. The operations and processes involved signify abilities that are valued and appreciated (WGCTA, 2002b:9.2).
- **Content validity.** The content validity of the instrument is sustained by the fact that its questions reflect the various parts of the content domain (Leedy& Ormrod, 2005:92).
- **Construct validity.** The construct validity of the WGCTA –UK is highlighted by the fact that all sections deal with critical thinking (Lombard & Grösser, 2008:568).
- **Criterion validity.** The test has been used to predict a variety of criteria such as course grades, degree attainment and academic performance (Lombard & Grösser, 2008:568).

As mentioned in 4.5.1 the same directions for administering the WGCTA were applied. The researcher attended a session where the WGCTA was administered to first year students at the NWU (North West University) as part of another research project and helped with the invigilation in order to familiarise herself with the procedures and to overcome any possible shortcomings.

4.7 STUDY POPULATION AND SAMPLING

The population of this study was so small that convenience sampling was used (Leedy & Ormrod, 2005: 206). Convenience sampling uses participants that are readily available at the time (Leedy & Ormrod, 2005: 206). For the purpose of this study the population was limited to Grade 11 ESL and English mother-tongue learners at independent schools using the Accelerated Christian Education system in the Vaal Triangle area, Gauteng province. The reason for using Grade 11 learners is that Grade 12 learners in the ACE system prepare to finish off for graduation by the end of the year, and therefore any outside disturbance might be seen as disruptive. Grade 11 learners are not yet exposed to all the pressure of finishing off.

There are only 34 schools with 40 Grade 11 learners in total using the ACE system in the Gauteng Province. The majority of the schools do not have the Further Education

and Training (FET) phase incorporated. The schools are very scattered over the province, which made it inconvenient, expensive and time consuming for the researcher to visit each school. Therefore, three schools in the Vaal Triangle which were within a radius of 30km were chosen. Out of the 16 Grade 11 ESL and English mother-tongue learners from these schools, only 10 gave consent to participate. All ten learners were from one school in Vereeniging and constituted the sample for this study.

4.7.1. Test group

All 10 Grade 11 participants were enrolled at the same school in the Sedibeng District East. These ten learners grew up in the Western Culture. The school is following the School of Tomorrow curriculum Accelerated Christian Education, which is an American based curriculum (School of Tomorrow, 1994: v). The study was carried out over two days, one test at a time, to provide the learners optimal time for testing. Test procedures of the ELSA and WGCTA were followed.

There were three female and three male English mother tongue participants. Further, two female and two male English Second Language learners participated. All Grade 11 learners, ranging from the ages of 15 to 18 years of age, took part in the study. Details of individual learners are discussed in chapter 5.

4.8. STATISTICAL TECHNIQUES

The quantitative data was analysed by means of descriptive statistics, according to the specifications of WGCTA and the ELSA test. Descriptive statistics are used to organise and summarise data in a meaningful way to enhance the understanding of the properties of the data (Pietersen & Maree, 2008:183).

4.8.1 Ethical aspects

All participants were informed about the nature of the study and assured that the information or results would only be used for research purposes, and information would always be kept confidential. Any participant could withdraw from the study at any time

(Leedy & Ormrod, 2005:109). Since the learners were still minors their parents signed an informed consent letter (see Annexure C).

Endorsement was obtained from the Regional representative of schools using the ACE system, the principal of the school, the parents of the Grade 11 learners and the learners themselves.

Ethical approval was gained from the ethics committee of the North West University for the final empirical study.

4.9 CONCLUSION

In this chapter research design and methodology has been discussed. In the following chapter the data analysis and the interpretation will be presented.

CHAPTER FIVE

DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

The aim of this study was to determine the extent to which language proficiency and critical thinking abilities of Grade 11 learners who are either English mother-tongue or ESL (English Second Language) learners, enrolled at a school using the ACE curriculum, are developed. This was done by means of the ELSA (English Literacy Skills Assessment) (cf. 4.6.3). The level of critical thinking of the same learners was assessed with the WGCTA (Watson- Glaser Critical Thinking Appraisal) (cf. 4.6.4).

Three schools using the ACE curriculum were identified and approached in the Sedibeng East District (D7). However, due to the small numbers of Grade 11 learners at each school and two of the schools not wanting to participate with their learners, only one school ultimately took part in the study. Ten Grade 11 learners participated in the study and were assessed with the ELSA and WGCTA tests. **For the purpose of the analysis and interpretation the learners were numbered from 3-12.**

The following table shows the participating learners according to gender, ESL- or English mother-tongue learners, as well as a combination of the factors.

Table 5.1: Number of participants according to gender and ESL/EMT learners

Number	Language	Gender	N
6; 11; 12	EMT (English Mother Tongue)	Female	3
5; 8; 9	EMT	Male	3
7; 10	ESL(English Second Language)	Female	2
3; 4	ESL	Male	2
Total			10

The results will be discussed as follows:

- The results of the language proficiency and the critical thinking level of each learner will be discussed individually.
- The results of the learners as a whole group concerning ELSA and WGCTA will then be summarised.
- Lastly the outcomes of the group according to EMT/ESL concerning ELSA and WGCTA will be deliberated upon.

5.2 SCORING THE ELSA (ENGLISH LITERACY SKILLS ASSESSMENT) TEST.

The ELSA test was scored by Hough and Horne, the designers and developers of the ELSA test.

The ELSA –FET INTERMEDIATE test comprises of the following sub-tests:

Refer to chapter 4.6.3 for full details with regard to the ELSA test.

- **Phonics Skills** (Decoding/Encoding) point out problems with the sound system of the language of learning (Hough & Horne, 2006b:1).

  The results are not expressed as percentages but as:

  - Adequate which indicates: above 80 % (8 or more points out of 10).
  - Below par: between 60% and 70% (6 or 7 points out of 10).
  - Passable: 50% (5 points out of 10).
  - Inadequate: below 50% (below 5 points out of 10)

- **Dictation** (Decoding and Encoding) evaluates how well English is "heard" and whether the conventions of writing are part and parcel of the learners' literature skills. Spelling is also considered (Hough & Horne, 2006b:1).

  The results are not expressed as percentages but as:

  - Adequate: above 80 %. (8 or more points out of 10 points).
  - Below par: between 60% and 70%. (6 or 7 points out of 10).
  - Passable: 50% (5 points out of 10).
  - Inadequate: below 50% (below 5 points out of 10)

- **Quantitative Literacy/Numeracy** determines if the learner is numerate. Numerate is defined as having a good basic knowledge and understanding of mathematics and science (Hawkins, 1990:557). According to Hough and Horne (2006b:1) numeracy is an integral part of literacy. A person who is literate but not numerate would not be able to read a time-table, like a bus time-table, read a weather report or understand and write down messages involving numeracy etc. (Hough & Horne, 2006b:1).

- **Language and Grammar of Spatial Relations (Decoding/Encoding)** detects learners who lack in these areas. ESL learners, especially, who prefer English as LOLT seem to have this problem (Hough & Horne, 2006b:2). The ELSA designers have identified about 55 concepts that often create confusion in the workplace. These learners cannot master Technical Drawings, Machine Drawing etc. which can be linked to this dilemma (Hough & Horne, 2006b:1). Strydom and Du Plessis (2000:122) assert that spatial order such as "on top of", "down", "right"," left", "in front" and "behind" can cause major bewilderment for ESL learners.

  Results are expressed as:

  - Intact: above 80 % (8 or more points out of 10 points).
  - Satisfactory: between 60% and 70% (6 or 7 points out of 10).
  - Inadequate: 50% (5 points out of 10).
  - Poorly developed: below 50% (below 5 points out of 10)

- **Reading Comprehension at ABET III or NQF 1 level (Decoding),** which is the exit level for general education and training, assesses the narrative writing level at a readability index of about a Grade 9 level (Hough & Horne, 2006b:2). Four sets of questions need to be answered: Sequencing (cloze), True/false, Yes/No and Multiple Choice. The "pass-mark" is 80%. A grade 12 learner who has a problem with a user-friendly narrative text will never be able to cope with expository writings contained in training manuals, regular business correspondence, standing orders etc. (Hough & Horne, 2006b:1).

  Here the results indicate:

  - On par: above 80 % (8 or more points out of 10 points).

- Below par: between 60% and 70% (6 or 7 points out of 10).
- Poorly developed: 50% (5 points out of 10).
- Inadequate: below 50% (below 5 points out of 10)

- **Cloze Procedure/Exposure to and familiarity with English (Decoding/Encoding).** This sub-assessment test of the ELSA helps to identify if the learner has a "feel" for the LOLT i.e. English, and determines to what extent the learner has been exposed to English (Hough & Horne, 2006b:2). This test would determine whether he is a bilingual who has learnt the symbols of English as mother tongue equivalent or if he applies his mother tongue as mediator. If the latter is true, then he is a rote learner begging for help (Hough & Horne, 2006b:2).

  The results are illustrated as:

  - High degree: above 80 %.(8 or more points out of 10 points).
  - Limited: between 60% and 70%. (6 or 7 points out of 10).
  - Rare - lacking: 50% (5 points out of 10).
  - Very little: below 50% (below 5 points out of 10)

- **Vocabulary in Context (Decoding)** comprises of expository writing. There are 30 items and 1000 words that need to be processed in 10 minutes. The readability index is Grade 12. Grade 12's that are mother-tongue English speakers can process 250 words a minute with 70 – 80% comprehension. Therefore a learner who processes 100 words per minute with great difficulty and poor comprehension has major problems in reading processing, has restricted reading vocabulary and a limited understanding of syntax of English (Hough & Horne, 2006b:2).

  The results are expressed as:

  - Excellent: above 80 %.(8 or more points out of 10 points).
  - Well developed: between 60% and 70%. (6 or 7 points out of 10).
  - Average: 50% (5 points out of 10).
  - Poorly developed: below 50% (below 5 points out of 10)
  - Inadequate for most white collar jobs: 0 to 9 points out of 30 i.e. 30% and below.

- **Grade profile:** The ELSA equates the functional skills level of a participant to that of an English mother tongue peer (Hough & Horne, 2006b: 2).

5.3 WGCTA (WATSON & GLASER CRITICAL THINKING APPRAISAL):

The Watson & Glaser Critical Thinking Appraisal comprises of the following five sub-tests (Watson & Glaser, 2002):

- **Inference:**

  Inference is the evaluation of inferences drawn from a series of factual statements (Watson & Glaser, 2002:2.1).

- **Recognition of Assumptions:**

  This refers to the identifying of unstated assumptions or presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1).

- **Deduction:**

  Deduction determines whether certain conclusions can necessarily follow from certain information given in the statement (Watson & Glaser, 2002:2.1).

- **Interpretation:**

  Interpretation means the pondering on evidence and deciding whether generalisations and conclusions based on given data are warranted (Watson & Glaser, 2002:2.1)

- **Evaluation of Arguments:**

  Evaluation of arguments distinguishes between strong and relevant arguments compared to weak and irrelevant arguments surrounding a particular question at issue (Watson & Glaser, 2002:2.1).

Since there are no instruments tailor-made for the South African society (Lombard & Grosser, 2008: 566), it was decided to administer the WGCTA which has a high rating in the world of critical thinking (Lombard & Grosser, 2008: 566).

Since there are no South African norms available, the results of each individual participant will be described in detail in order to determine where deficiencies related to language proficiency and critical thinking are.

5.4 RESULTS

5.4.1 Learner 3:

5.4.1.1 Biographical detail:

Gender: Male

Age: 18

Mother tongue: Afrikaans

Grade: 11

5.4.1.2 ELSA results:

- Grade profile: 10
- Literate: YES
- Phonic Skills: adequate
- Dictation Skills: below par
- Basic Numeracy: adequate
- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of a about Grade 9, compared with the educational level claimed: on par

- Cloze procedure: limited
- Vocabulary in context: inadequate for most white collar jobs

Learner 3 does not seem to have any problems in decoding, basic numeracy, language and grammar of spatial relations and reading comprehension. He also does not have a problem in the sounding of the language. Further, he is numerate and shows good spatial relations (cf.4.6.3). The latter will definitely help him in studies in Graphics and Engineering Design (Hough & Horne, 2006b:1).

However, he seems to have some limitations in dictation and cloze procedure. This means he does not "hear" English that well (cf. 4.6.3). His spelling is between 80 – 90% which is regarded as being below par where 100% is expected (Hough & Horne, 2006b:1). His lower score for the cloze procedure shows that he is "not quite at home" with English and he uses his mother tongue Afrikaans as a mediator. An alarming result is the 30% and below of the vocabulary in context. He seems to process 100 words per minute with great difficulty, has low comprehension and very poor vocabulary. He definitely needs support in this regard.

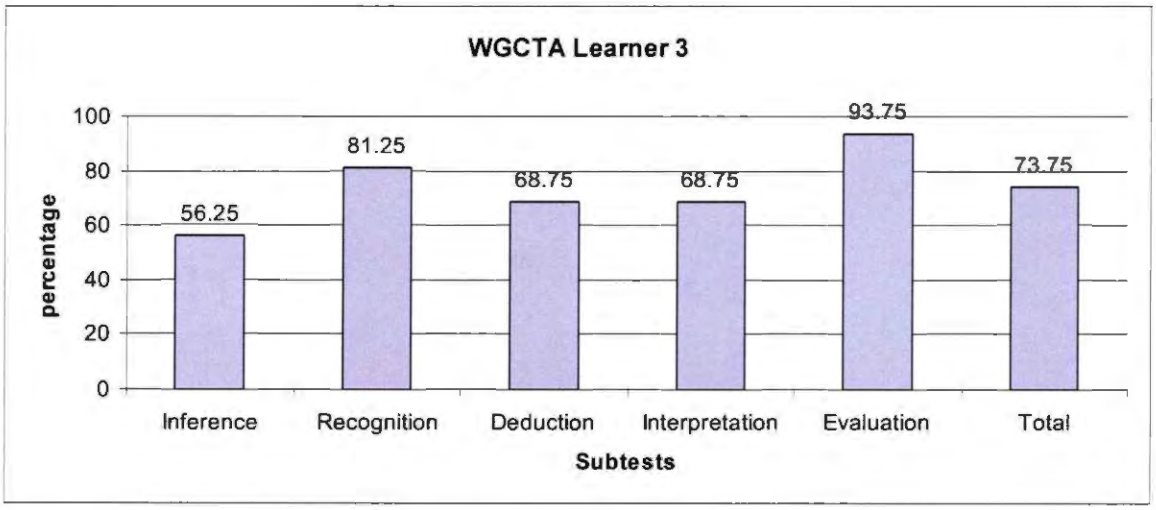
Overall the results of the ELSA show that he operates on a Grade 10 English language proficiency level, which is acceptable for an ESL learner. However, this could limit his academic performance, since he has to learn in this second language and is already in Grade 11 (cf.2.7.3).

5.4.1.3 WGCTA results:

Table 5.2: Learner 3 WGCTA results

Respondent 3	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
Raw score (16)	9	13	11	11	15	59
%	56.25	81.25	68.75	68.75	93.75	73.75

Graph 5.1: Results of the WGCTA of Learner 3



Learner 3 achieved 9 out of 16 (56.25%) raw score for inferences; i.e. 56.25% of the time the learner can draw inferences from a series of factual statements. However, in recognition he reached 13 out of 16 (81.25%) raw score. He knows how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1), e.g. he could assume that when he passes the necessary examinations he is finished with Grade 12 at the end of the year. He achieved 11 out of 16 (68.75%) raw score for deductions which means 68.75% of the time he can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, he achieved 11 out of 16 (68.75%) raw score in interpretation and 15 out of 16 (93.75%) raw score in evaluation.

This learner's weakest critical thinking ability is inference with 56.25% compared to deduction and interpretation, each 68.75%, followed by recognition with 81.25 % and the strongest – evaluation with 93.75%. His total raw score is 59 out of 80 (73.75%).

Although the ELSA results of this ESL learner were estimated to be on a Grade 10 level, his WGCTA results showed to be 73.75%. The WGCTA does mention that ESL learners' scores on the WGCTA can be expected to be lower compared to English mother-tongue speakers which is not the case here. The reason for this contradiction could be that as a bilingual or multilingual learner, he must have reached a level of CALP in both languages which could have contributed towards better abstract thinking which may have influenced his critical thinking skills in a positive way (Cummins &

Swain, 1986:156; cf. 3.4). As mentioned in chapter 3.4, proficient bilingual or multilingual learners seem to be more capable of abstract thinking, because they go through different processes of language control (De Klerk, 1995: 54). One can only assume that if this learner was more proficient in English, he would excel even more in his critical thinking skills (Watson & Glaser, 2002:6.1-6.6). Therefore, it seems that there is no obvious link between language proficiency and critical thinking with this learner: although language proficiency in English is low, his critical thinking abilities seem to be well developed.

5.4.2 Learner 4:

5.4.2.1 Biographical detail:

Gender: Male

Age: 17

Mother tongue: Afrikaans

Grade: 11

5.4.2.2 ELSA results:

- Grade profile: 9
- Literate: YES
- Phonic Skills: below par
- Dictation Skills: below par
- Basic Numeracy: adequate
- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with the educational level claimed: on par
- Cloze procedure: limited
- Vocabulary in context: inadequate for most white collar jobs

Learner 4 does not seem to have a problem with basic numeracy, language and grammar of spatial relations. His comprehension in reading is on par. His spatial orientation skills should help him in studies of Graphic and Engineering Design (Hough & Horne,

2006b:1). His reading comprehension shows that he has no problem in reading narrative texts for his Grade level.

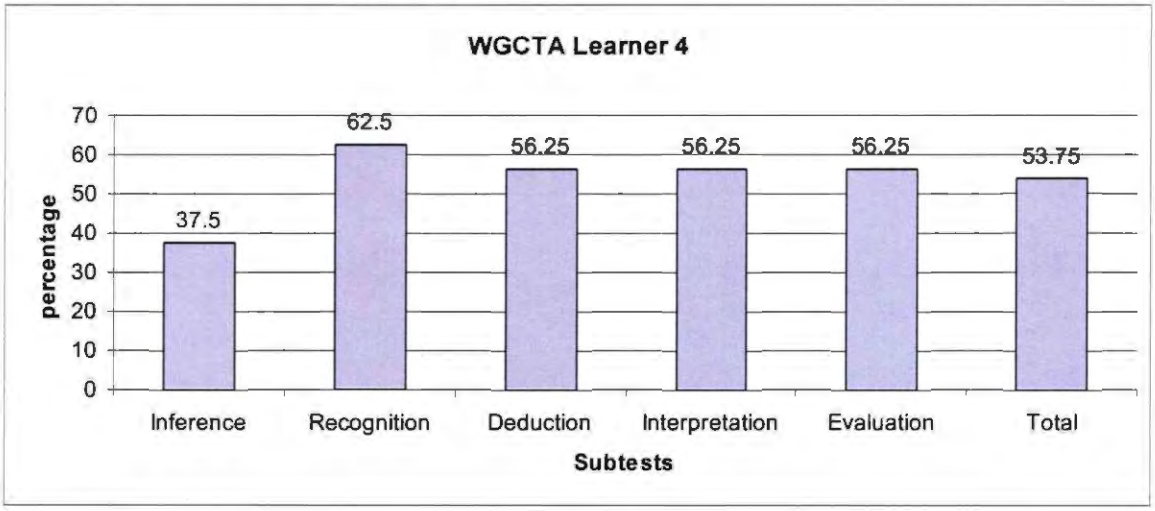
He achieved 80-90% in his phonic skills and his dictation skills. However, this still indicates that he is below par according to the ELSA where 100% is expected. This means he does not "hear" English that well (cf 2.3.1). His spelling is between 80 – 90% which is also regarded as being below par. His cloze procedure was limited which again can indicate that he is a rote learner and uses his mother tongue as mediator. His vocabulary in context is extremely poor and he should get support in this area. All of these results could also be the result of this learner being an ESL learner who was previously in an Afrikaans medium school during his primary school years. This low grade level in language proficiency could therefore contribute to low learning levels and low academic performance. Overall, the results of the ELSA show that he operates on a Grade 9 English language proficiency level, which is acceptable for an ESL learner. However, this could limit his academic performance, since he has to learn in this second language and is already in Grade 11 (cf.2.7.3).

5.4.2.3 WGCTA results:

Table 5.3: Learner 4 WGCTA results

Respondent 4	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	6	10	9	9	9	43
%	37.5	62.5	56.25	56.25	56.25	53.75

Graph 5.2: Results of the WGCTA of Learner 4



Learner 4 achieved 6 out of 16 (37.5%) raw score for inferences; i.e.37.5% of the time the learner can draw inferences from a series of factual statements. However, in recognition he reached 10 out of 16 (62.5%) raw score. He knows 62.5% of the time how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. he could assume that when he passes the necessary examinations he is finished with Grade 12 at the end of the year. He achieved 9 out of 16 (56.25%) raw score for deductions which means 56.25% of the time he can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, he achieved 9 out of 16 (56.25%) raw score in interpretation and 9 out of 16 (56.25%) raw score in evaluation.

The weakest critical thinking ability of this learner is inference with 37.5% compared to deduction, interpretation and evaluation, with each 56.25%, followed by recognition with 62.5%. His total raw score is 53 out of 80 (53.75%).

The ELSA results of this ESL learner were estimated to be on a Grade 9 level, and his WGCTA total raw score showed to be 53.25%. The WGCTA does mention that ESL learners' scores on the WGCTA can be expected to be lower compared to English mother-tongue speakers. One could assume that if this learner were more proficient in English, his level of critical thinking could be higher (Watson & Glaser, 2002:6.1-6.6). A positive link between language proficiency and critical thinking skills seem apparent with this learner: both language proficiency and critical thinking skills seem low. Compared to learner 3, who had better results in the ELSA and WGCTA, learner 4

doesn't seem to have reached the CALP level that is acceptable in English and, therefore, might not have high analytical awareness as De Klerk (in Heugh et.al. 1995: 54; cf. 3.4) mentions.

5.4.3 Learner 5:

5.4.3.1 Biographical detail:

Gender: Male

Age: 15

Mother tongue: English

Grade: 11

5.4.3.2 ELSA results:

- Grade profile: 10
- Literate: YES
- Phonic Skills: adequate
- Dictation Skills: below par
- Basic Numeracy: adequate
- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (e.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with the educational level claimed: poorly developed.
- Cloze procedure: limited
- Vocabulary in context: poorly developed

His phonic skills, basic numeracy and language and grammar of spatial relations are adequately developed. He can sound English, is numerate and can distinguish between directions. However, he cannot "hear" or rather listen (cf 2.3.1) to English that well and his spelling is between 80 – 90% which is regarded as being below par, since 100% is expected. The reason could be that the ACE curriculum is American based and words are spelled differently. His reading comprehension is below 80% and therefore would be classified as a learner who cannot cope with narrative and expository text. His cloze procedure is limited and his vocabulary is poorly developed.

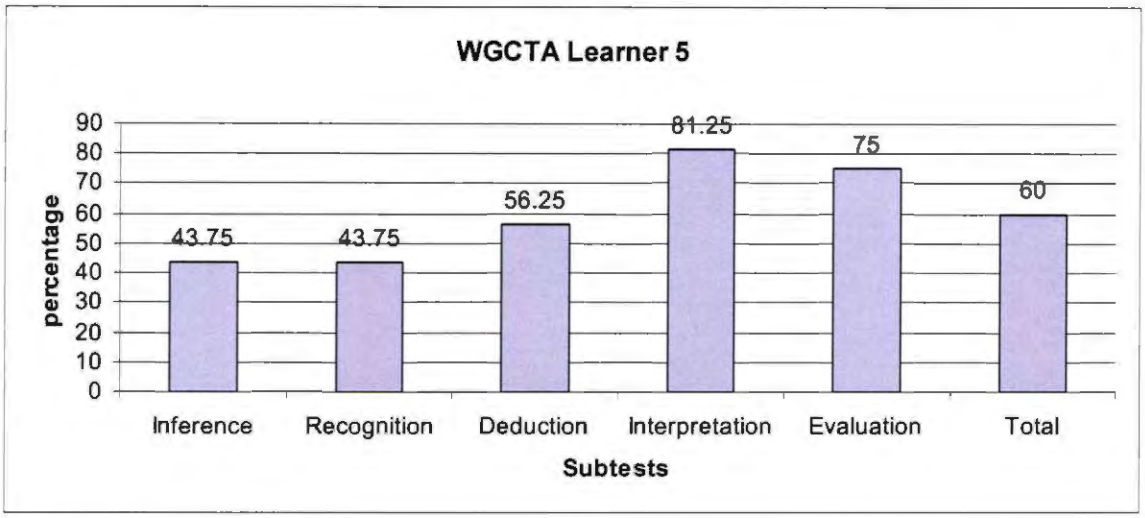
Apart from that, a limited reading proficiency seems to be the cause of the results, which in turn could hinder his academic performance.

5.4.3.3 WGCTA RESULTS:

Table 5.4: Learner 5 WGCTA results

Respondent 5	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	7	7	9	13	12	48
%	43.75	43.75	56.25	81.25	75	60

Graph 5.3: Results of the WGCTA of Learner 5



Learner 5 achieved 7 out of 16 (43.75%) raw score for inferences; i.e. 43.75% of the time the learner can draw inferences from a series of factual statements. However, in recognition he reached 7 out of 16 (43.75%) raw score. He struggles to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. he could not necessarily assume that when he passes the necessary examinations he is finished with Grade 12 at the end of the year. He achieved 9 out of 16 (56.25%) raw score for deductions which means 56.25% of the time he can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, he achieved 13 out of 16 (81.25%) raw score in interpretation and 12 out of 16 (75%) raw score in evaluation.

This learner's weakest critical thinking ability is inference and recognition with 43.75% followed by deduction with 56.25%, evaluation with 75% and interpretation with 81.25% being the strongest. This learner's total score is 60%.

The ELSA results of this English mother tongue learner were estimated to be on a Grade 10 level, his WGCTA total raw score was 48 out of 80 (60%) raw score. Both variables i.e. language proficiency and critical thinking seem to have a possible link. As language proficiency is low, so seem the critical thinking skills. This might cause low academic achievement (Donald et al., 2005:19).

5.4.4 Learner 6:

5.4.4.1 Biographical detail:

Gender: Female

Age: 18

Mother tongue: English

Grade: 11

5.4.4.2 ELSA results:

- Grade profile:8
- Literate: YES
- Phonic Skills: below par
- Dictation Skills: below par
- Basic Numeracy: below par
- Language and Grammar of spatial relations: satisfactory
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with the educational level claimed: on par
- Cloze procedure: rare - lacking
- Vocabulary in context: inadequate for most white collar jobs

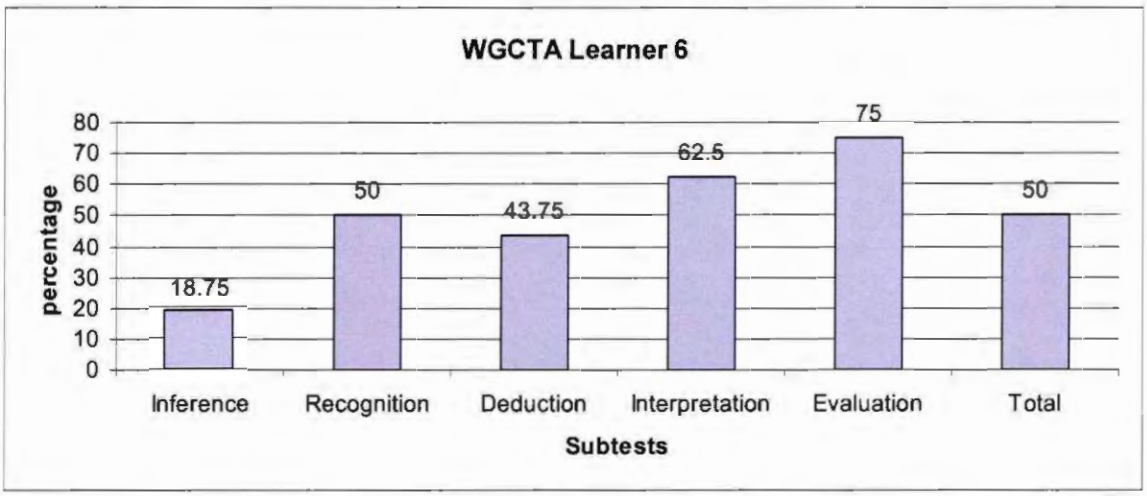
Learner 6 showed major weaknesses in all ELSA subtests. She was evaluated as only being proficient on a Grade 8 level even though English is her mother tongue. She doesn't seem to sound nor "hear" or rather listen (cf 2.3.1) to English that well and her spelling is between 80 – 90% which is regarded as being below par, since 100% is expected. Even her basic numeracy is below par. Her language and grammar of spatial relations is satisfactory. Her cloze procedure is rare to lacking. Also, her vocabulary is below 30%. The only reasonable result is her reading comprehension. Her low language proficiency could lead to low academic performance (Donald et al. 2004: 223-225).

5.4.4.3 WGCTA results:

Table 5.5: Learner 6 WGCTA results

Respondent 6	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	3	8	7	10	12	40
%	18.75	50	43.75	62.5	75	50

Graph 5.4: Results of the WGCTA of Learner 6



Learner 6 achieved 3 out of 16 (18.75%) raw score for inferences; i.e. 18.75% of the time the learner can draw inferences from a series of factual statements. However, in recognition she reached 8 out of 16 (50%) raw score. She knows 50% of the time how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. 50% of the time she could assume that when she passes the necessary examinations

she is finished with Grade 12 at the end of the year. She achieved 7 out of 16 (43.75%) raw score for deductions which means 43.75% of the time she can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, she achieved 10 out of 16 (62.5%) raw score in interpretation and 12 out of 16 (75%) raw score in evaluation.

This learner's weakest critical thinking ability is inference with 18.75%, followed by deduction with 43.75%, recognition with 50%, interpretation with 62.5% and the strongest – evaluation with 75%. This learner's total score is 50%.

The ELSA results of this English mother tongue learner were estimated to be only on a Grade 8 level, and her WGCTA results presented a total raw score of only 40 out of 80 (50%). There seems to be a positive link between the ELSA results and the WGCTA; i.e. as language proficiency is poor, so seems the level of critical thinking. According to literature (cf. 2.3.2), if the language is not developed to CALP level, one can experience barriers to critical thinking which might be the case with this learner.

5.4.5 Learner 7:

5.4.5.1 Biographical detail:

Gender: Female

Age:17

Mother tongue: Afrikaans

Grade: 11

5.4.7.2 ELSA RESULTS:

- Grade profile: 11
- Literate: YES
- Phonic Skills: adequate
- Dictation Skills: adequate
- Basic Numeracy: adequate
- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with the educational level claimed: on par

- Cloze procedure: high degree
- Vocabulary in context: poorly developed

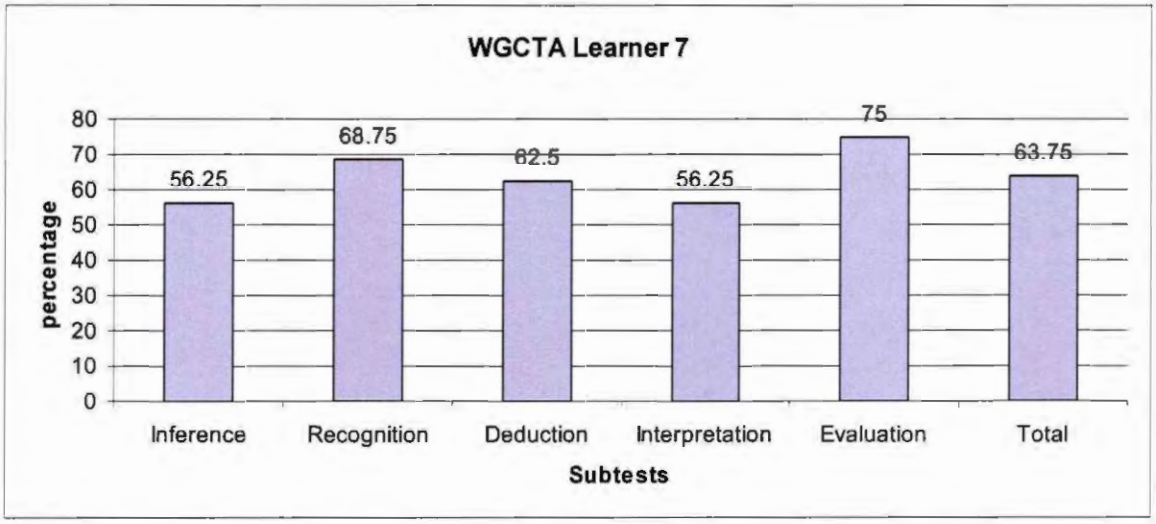
She has good test results in all of the above ELSA subtests, except her vocabulary. She can sound and "hear" or rather listen (cf 2.3.1) to English since she achieved 100% which is expected. She is numerate, has no problem with directions, reading comprehension and could be called a compound bilingual because she has learnt the symbols of English as mother tongue equivalent (Luckett, 1995:74). Her only problem is that her vocabulary is not adequately developed. It appears as if she developed CALP in both English and Afrikaans which definitely helps her in her academic work.

5.4.5.3 WGCTA results:

Table 5.6: Learner 7 WGCTA results

Respondent 7	Inference	Recognition	Deduction	Interpretation	Evaluation	*Total*
raw score (16)	9	11	10	9	12	51
%	56.25	68.75	62.5	56.25	75	63.75

Graph 5.5: Results of the WGCTA of Learner 7



Learner 7 achieved 9 out of 16 (56.25%) raw score for inferences; i.e. 56.25% of the time the learner can draw inferences from a series of factual statements. However, in recognition she reached 11 out of 16 (68.75%) raw score. She knows how to identify presuppositions in a series of assertive statements 68.75% of the time (Watson & Glaser,

2002:2.1) e.g. she could assume that when she passes the necessary examinations she is finished with Grade 12 at the end of the year. She achieved 10 out of 16 (62.5%) raw score for deductions which means 62.5% of the time she can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, she achieved 9 out of 16 (56.25%) raw score in interpretation and 12 out of 16 (75%) raw score in evaluation.

This learner's weakest critical thinking ability is inference and interpretation with 56.25% followed by deduction with 62.5% and recognition with 68.75%, and the strongest – evaluation with 75%. Her total raw score is 51 out of 80 (63.75%) raw score.

The ELSA results of this ESL learner were on a Grade 11 level. Her WGCTA results showed to be 63.75% raw score. The WGCTA does mention that ESL learners' scores on the WGCTA can be expected to be lower compared to English mother-tongue speakers. One can only assume that if this learner was English mother-tongue speaking, she would excel even more in her critical thinking (Watson & Glaser, 2002: 6.1-6.6). Again, as language proficiency appears to be adequate, so do the levels of critical thinking (cf.3.4).

5.4.6 Learner 8:

5.4.6.1 Biographical detail:

Gender: Male

Age: 16

Mother tongue: English

Grade: 11

5.4.6.2 ELSA results:

- Grade profile: 12
- Literate: YES
- Phonic Skills: adequate
- Dictation Skills: below par
- Basic Numeracy: below par

- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with the educational level claimed: on par
- Cloze procedure: limited
- Vocabulary in context: well developed

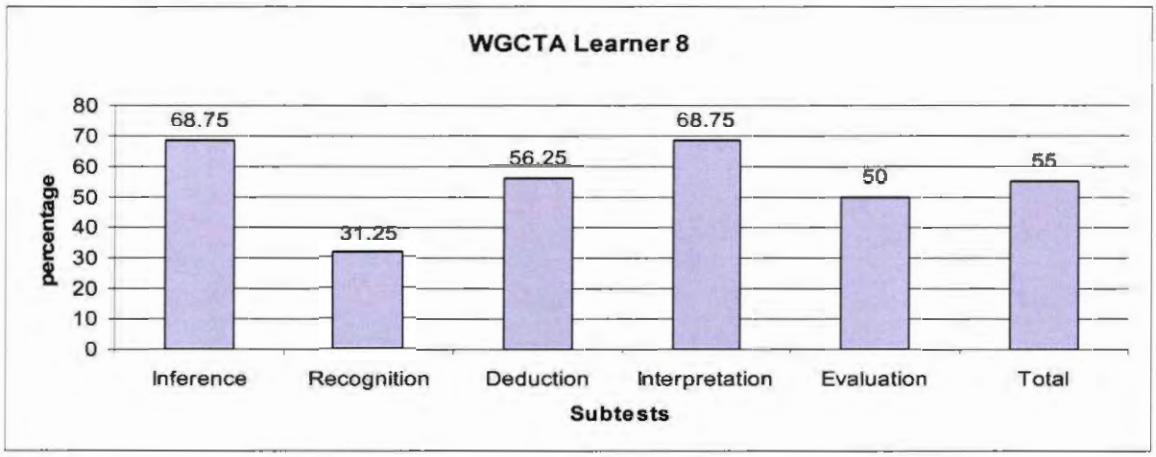
Learner 8 can sound and decode English and has no problem with the sound system of the language of learning, spatial order is intact, reading comprehension is on par and the vocabulary is well developed (cf.4.5.3). His problem seems to be dictation, meaning he cannot "hear" or rather listen to English that well (cf 2.3.1) and his spelling is between 80 – 90% which is regarded as being below par, since 100% is expected. Basic numeracy is below par and his cloze procedure is limited. Yet, he was assessed to be on Grade 12 level, which is one year higher. It seems that he reached CALP in English (cf. 2.3.2).

5.4.6.3 WGCTA results:

Table 5.7: Learner 8 WGCTA results

Respondent 8	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	11	5	9	11	8	44
%	68.75	31.25	56.25	68.75	50	55

Graph 5.6: Results of the WGCTA of Learner 8



Learner 8 achieved 11 out of 16 (68.75%) raw score for inferences; i.e. 68.75% of the time the learner can draw inferences from a series of factual statements. However, in recognition he reached 5 out of 16 (31.25%) raw score. He only knows 31.25% of the time how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. he could assume that when he passes the necessary examinations he is finished with Grade 12 at the end of the year. He achieved 9 out of 16 (56.25%) raw score for deductions which means 56.25% of the time he can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, he achieved 11 out of 16 (68.75%) raw score in interpretation and 8 out of 16 (50%) raw score in evaluation.

This learner's weakest critical thinking ability is recognition with 31.25%, followed by evaluation with 50%, deduction with 56.25%, then inference and interpretation, each 68.75%.

Although the ELSA results of this English mother tongue learner were the highest of all the learners who took part in the study, estimated on a Grade 12 level and his WGCTA total raw score of 44 out of 80 (55%) raw score, the results for the WGCTA are a bit contradictory, keeping in mind that his language proficiency is extremely good. It appears that in the case of this learner there is no evident link between the ELSA and the WGCTA results, as the language proficiency is above Grade 11, but the critical thinking skills are low compared to the language proficiency. This could imply that critical

thinking is a skill and this learner was not adequately exposed to acquiring this critical thinking skill (cf.3.2). It seems to apply in the area of the development of attitudes for effortful thinking (cf. 3.2.1). He might need to develop an attitude to challenge, disagree or accept challenges (Moon, 2008:79).

5.4.7 Learner 9:

5.4.7.1 Biographical detail:

Gender: Male

Age: 18

Mother tongue: English

Grade: 11

5.4.7.2 ELSA results:

- Grade profile: 9
- Literate: YES
- Phonic Skills: adequate
- Dictation Skills: adequate
- Basic Numeracy: below par
- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with the educational level claimed: below par
- Cloze procedure: limited
- Vocabulary in context: poorly developed

Learner 9 has adequate phonic and dictation skills and his language and grammar of spatial relations are intact. This should also be of advantage in studies of Graphic and Engineering Design (Hough & Horne, 2006b:1). He can sound and "hear" or rather listen (cf 2.3.1) to English since he achieved 100% as expected. This is probably because his mother tongue is English. However, basic numeracy levels are below par, as is reading comprehension. Also, his vocabulary is poorly developed. It seems that he somehow got stuck between reading stage III and stage IV (cf.2.7.3). Masitsa (in

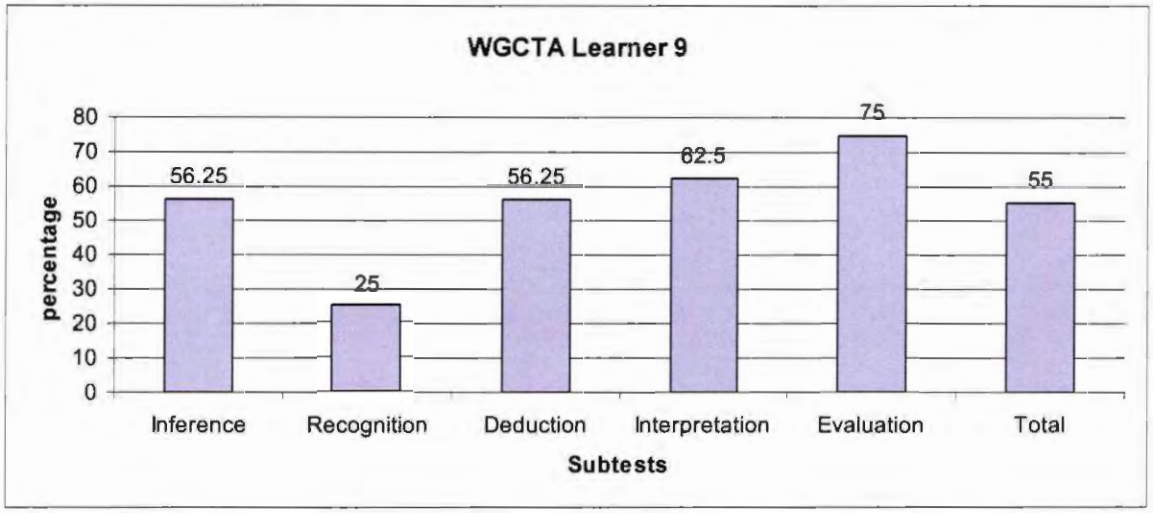
Krügel, 2005: 42) states that low levels of vocabulary lead to low levels of comprehension and therefore low levels of scholastic performance.

5.4.7.3 WGCTA results:

Table 5.8: Learner 9 WGCTA results

Respondent 9	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	9	4	9	10	12	44
%	56.25	25	56.25	62.5	75	55

Graph 5.7: Results of the WGCTA of Learner 9



Learner 9 achieved 9 out of 16 (56.25%) raw score for inferences; i.e. 56.25% of the time the learner can draw inferences from a series of factual statements. However, in recognition he reached 4 out of 16 (25%) raw score. He does not know how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. he could not assume that when he passes the necessary examinations he is finished with Grade 12 at the end of the year. He achieved 9 out of 16 (56.25%) raw score for deductions which means 56.25% of the time he can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, he achieved 10 out of 16 (62.5%) raw score in interpretation and 12 out of 16 (75%) raw score in evaluation.

This learner's weakest critical thinking ability is recognition with 25%, followed by inference with 56.25% and deduction with 56.25%, interpretation 62.5%, followed by evaluation with 75% being the strongest. His total raw score is 44 out of 80 (55%).

Although the ELSA results of this English mother tongue learner were estimated to be on a Grade 9 level, his WGCTA total raw score showed to be 55%. Here again a possible link between the ELSA and the WGCTA results seem to be apparent: if language is not proficient, critical thinking skills seem to be inadequate, too. Overall, a poor or below average academic performance might be the result of these findings (cf. 2.7.3).

5.4.8 Learner 10:

5.4.8.1 Biographical detail:

Gender: Female

Age: 18

Mother tongue: Afrikaans

Grade: 11

5.4.8.2 ELSA results:

- Grade profile: 9
- Literate: YES
- Phonic Skills: adequate
- Dictation Skills: adequate
- Basic Numeracy: below par
- Language and Grammar of spatial relations: satisfactory
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with the educational level claimed: below par
- Cloze procedure: limited
- Vocabulary in context: inadequate for most white collar jobs

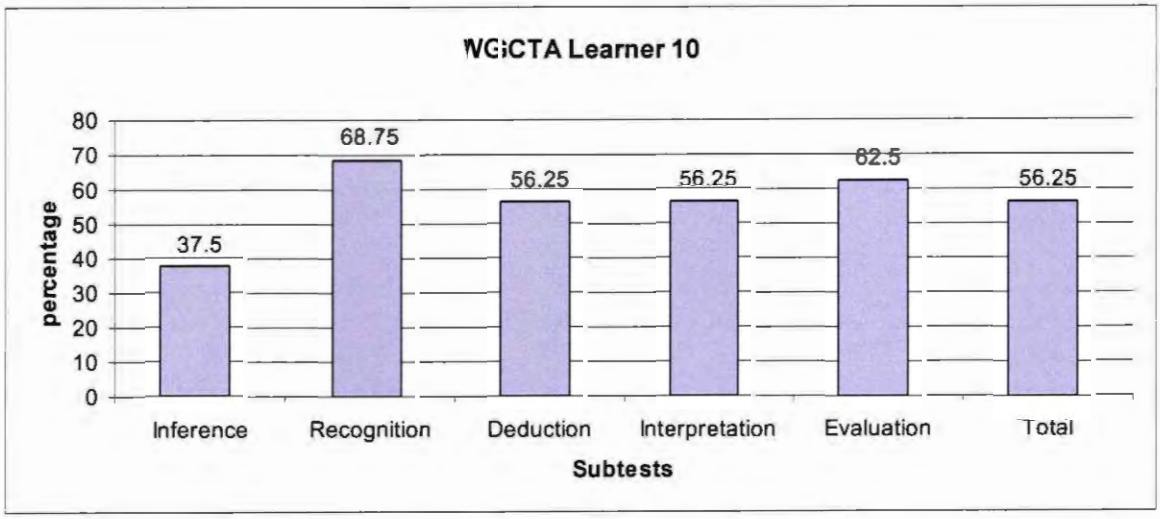
Learner 10 has adequate phonic and dictation skills, can sound and "hear" or rather listen (cf 2.3.1) to English since she achieved 100%. Her basic numeracy is below par. Language and grammar of spatial relations are satisfactory and might cause some confusion with the giving or getting of directions. Her reading comprehension is below par, her closure is limited and her vocabulary is inadequate for most white collar jobs, a term used to describe an office and clerical employee (Hayward & Sparkes, 1987:1276). Although she is on a Grade 9 level of English which is, according to Horne (2007), still acceptable for an ESL learner; she definitely has not reached a CALP level in English. Due to her low language proficiency, her academic performance could be not on par (cf. 2.3.2).

5.4.8.3 WGCTA results:

Table 5.9: Learner 10 WGCTA results

Respondent 10	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	6	11	9	9	10	45
%	37.5	68.75	56.25	56.25	62.5	56.25

Graph 5.8: Results of the WGCTA of Learner 10



Learner 10 achieved 6 out of 16 (37.5%) raw score for inferences; i.e. 37.5% of the time the learner can draw inferences from a series of factual statements. However, in

recognition she reached 11 out of 16 (68.75%) raw score. She knows how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. she could assume 68.75% of the time that when she passes the necessary examinations she is finished with Grade 12 at the end of the year. She achieved 9 out of 16 (56.25%) raw score for deductions which means 56.25% of the time she can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, she achieved 9 out of 16 (56.25%) raw score in interpretation and 10 out of 16 (62.5%) raw score in evaluation.

This learner's weakest critical thinking ability is inference with 37.5%, followed by deduction and interpretation, both 56.25; then evaluation with 62.5% and the highest result with 68.75% recognition. Her total raw score is 45 out of 80 (56.25%).

The ELSA results of this ESL learner were estimated to be on a Grade 9 level. This learner's WGCTA's results were 56.25% raw score. The WGCTA does mention that ESL learners' scores on the WGCTA can be expected to be lower compared to English mother-tongue speakers. One can only assume that if this learner was English mother-tongue speaking, she would show a better score in her critical thinking. With this learner a possible link between language proficiency and critical thinking seems to exist, meaning that since the language proficiency is low, so are the critical thinking skills.

5.4.9 Learner 11:

5.4.9.1 Biographical detail:

Gender: Female

Age: 17

Mother tongue: English

Grade: 11

5.4.9.2 ELSA results:

- Grade profile: 10
- Literate: YES
- Phonic Skills: adequate

- Dictation Skills: below par
- Basic Numeracy: below par
- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with educational level claimed: on par
- Cloze procedure: limited
- Vocabulary in context: inadequate for most white collar jobs

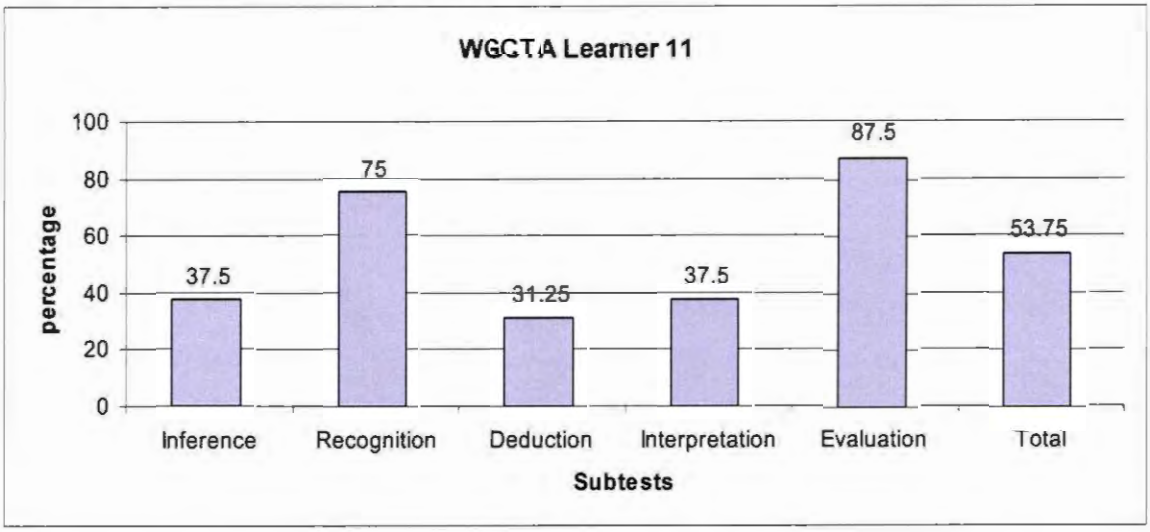
Learner 11 has adequate phonics skills, her spatial relations are intact and her reading comprehension is on par. One could assume that she can sound English, has no problems with directions and is able to comprehend narrative and expository texts. Her dictation and numeracy skills are below par, meaning that she cannot "hear" or rather listen (cf 2.3.1) to English that well and her spelling is between 80 – 90% which is regarded as being below par; as 100% is expected. She has difficulties interpreting texts that contain numbers or percentages such as the weather report. Further, her exposure or familiarity with English is limited. Her vocabulary is inadequate for most white collar jobs (cf 5.4.10.2). Next year, as a matriculant she should process 250 words per minute with 70-80% comprehension at Grade 12 level (Hough & Horne, 2007:2), yet she shows poor comprehension which will prove to be problematic to her achieving this.

5.4.9.3 WGCTA results:

Table 5.10: Learner 11 WGCTA results

Respondent 11	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	6	12	5	6	14	43
%	37.5	75	31.25	37.5	87.5	53.75

Graph 5.9: Results of the WGCTA of Learner 11



Learner 11 achieved 6 out of 16 (37.5%) raw score for inferences; i.e. 37.5% of the time the learner can draw inferences from a series of factual statements. However, in recognition she reached 12 out of 16 (75%) raw score. She knows how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. she could assume that when she passes the necessary examinations she is finished with Grade 12 at the end of the year. She achieved 5 out of 16 (31.25%) raw score for deductions which means 31.25% of the time she can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, she achieved 6 out of 16 (37.5%) raw score in interpretation and 14 out of 16 (87.5%) raw score in evaluation.

This learner's weakest critical thinking ability is deduction with 31.25%, followed by inference and interpretation, both 37.5%; then recognition with 75% and the highest result with 87.5% evaluation. Her total raw score is 43 out of 80 (53.75%).

Although the ELSA results of this English learner were estimated to be on a Grade 10 level, her WGCTA total raw score results showed 53.75%. With this learner there seems to be a positive link between the language proficiency and critical thinking skills: the language proficiency is inadequate, and so the critical thinking skills are also not well developed (cf. 2.3.2). A program to further develop critical thinking skills could be beneficial as will more exposure to co-operative learning, indirect teaching method and mediated learning (cf.3.5.2.4).

5.4.10 Learner 12:

5.4.10.1 Biographical detail:

Gender: Female

Age: 16

Mother tongue: English

Grade : 11

5.4.10.2 ELSA results:

- Grade profile: 11
- Literate: YES
- Phonic Skills: adequate
- Dictation Skills: below par
- Basic Numeracy: adequate
- Language and Grammar of spatial relations: intact
- Reading Comprehension at ABET III level (c.f.5.2), which assesses the narrative writing level at a readability index of about Grade 9, compared with educational level claimed: on par
- Cloze procedure: limited
- Vocabulary in context: poorly developed

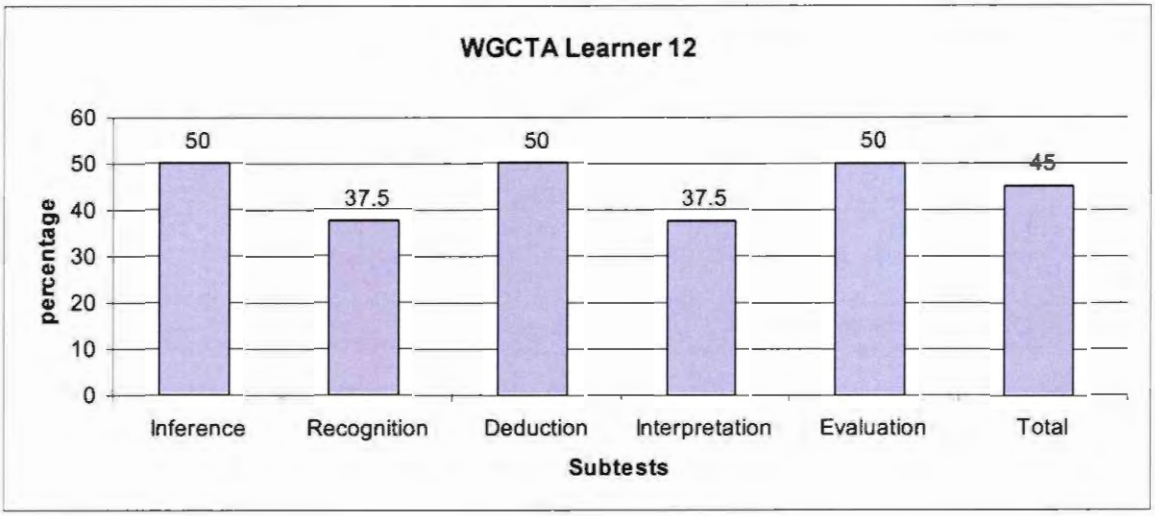
Learner 12 has adequate phonic skills, adequate numeracy skills and her language and grammar of spatial relations is intact. Her reading and comprehension is on par. However, her cloze procedure is limited and her vocabulary in context is poorly developed. This low level of vocabulary could lead to low levels of comprehension and low levels of academic performance, according to Masitsa (in Krügel, 2005:42).

5.4.10.3 WGCTA results:

Table 5.11: Learner 12 WGCTA results

Respondent 12	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
raw score (16)	8	6	8	6	8	36
%	50	37.5	50	37.5	50	45

Graph 5.10: Results of the WGCTA of Learner 12



Learner 12 achieved 8 out of 16 (50%) raw score for inferences; i.e.50% of the time the learner can draw inferences from a series of factual statements. However, in recognition she reached 6 out of 16 (37.5%) raw score. She only knows 37.5% of the time how to identify presuppositions in a series of assertive statements (Watson & Glaser, 2002:2.1) e.g. she could assume that when she passes the necessary examinations she is finished with Grade 12 at the end of the year. She achieved 8 out of 16 (50%) raw score for deductions which means 50% of the time she can determine what conclusions could follow from certain information in a statement (Watson & Glaser, 2002:2.1). Further, she achieved 6 out of 16 (37.5%) raw score in interpretation and 8 out of 16 (50%) raw score in evaluation.

This learner's weakest critical thinking ability is recognition and interpretation with 37.5%, followed by inference, deduction and evaluation, each with 50%. This learner's total score is 45%.

The ELSA results of this English learner were estimated to be on a Grade 11 level, and her WGCTA total raw score is 36 out of 80 (45%). Although she seems to have good language proficiency, her WGCTA results seem low. In this case, one cannot assume that language has a major influence on critical thinking, but rather that her critical thinking skills are not well developed (cf. 3.2.2). The link between language proficiency and critical thinking do not seem evident with this learner. Although language proficiency is well developed, the critical thinking skills of this learner seem to be the least developed out of the whole group of participants.

5.5 SUMMARISING RESULTS:

Table 5.12: Grade profile of English language proficiency of all 10 Grade 11 learners

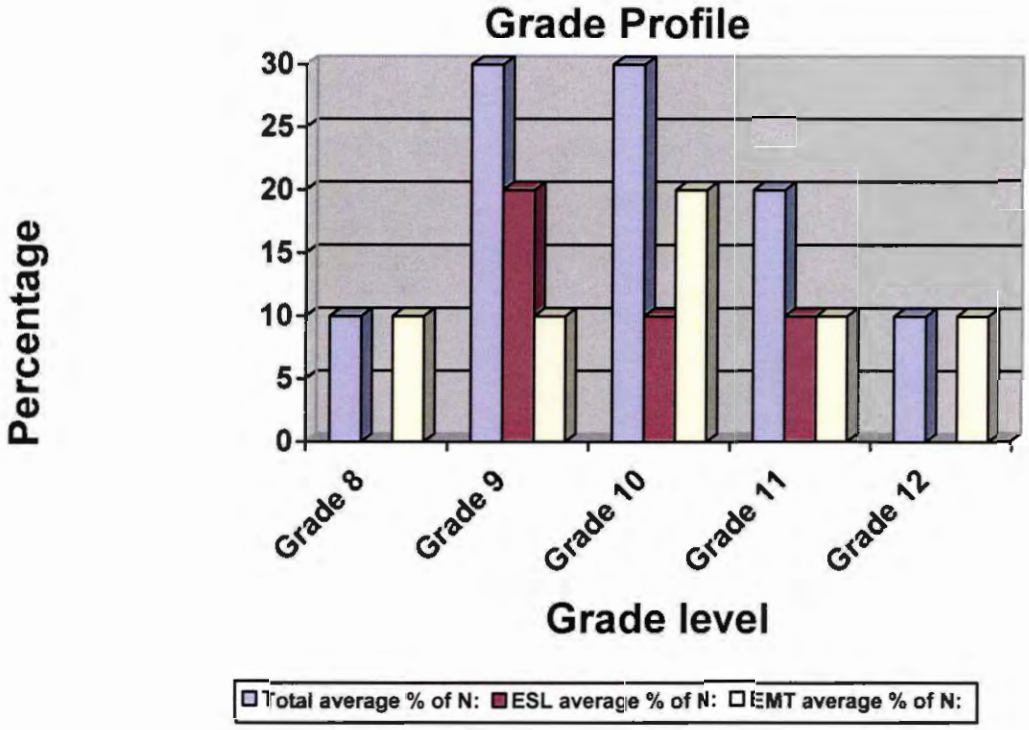
N=10 learners	**Grade 8**	**Grade 9**	**Grade 10**	**Grade 11**	**Grade 12**
Total average % of N:	10	30	30	20	10
ESL average % of N:		20	10	10	
EMT average % of N:	10	10	20	10	10

As mentioned in 5.2, the ELSA equates the functional level of a participant to that of an English mother tongue peer (Hough & Horne, 2006: 2). Table 5.12 presents the overall results of English language proficiency of all 10 Grade 11 learners that participated in the study.

- 10% of the learners are on a Grade 8 English language proficiency level and are solely represented by English mother tongue speakers;
- 30% of the learners are on a Grade 9 English language proficiency level. Of these learners 20% are ESL learners and 10%are EMT speakers;
- 30% of the learners are on a Grade 10 English language proficiency level. 10% of these learners are ESL speakers and 20% are EMT speakers;

- 20% of the learners are on a Grade 11 English language proficiency level. 10% of these learners are ESL speakers and 10% are EMT speakers;
- 10% of the learners are on a Grade 12 English language proficiency level. They are all EMT speakers.

Graph 5.11: Grade Profile of English language proficiency of all 10 Grade 11 learners.

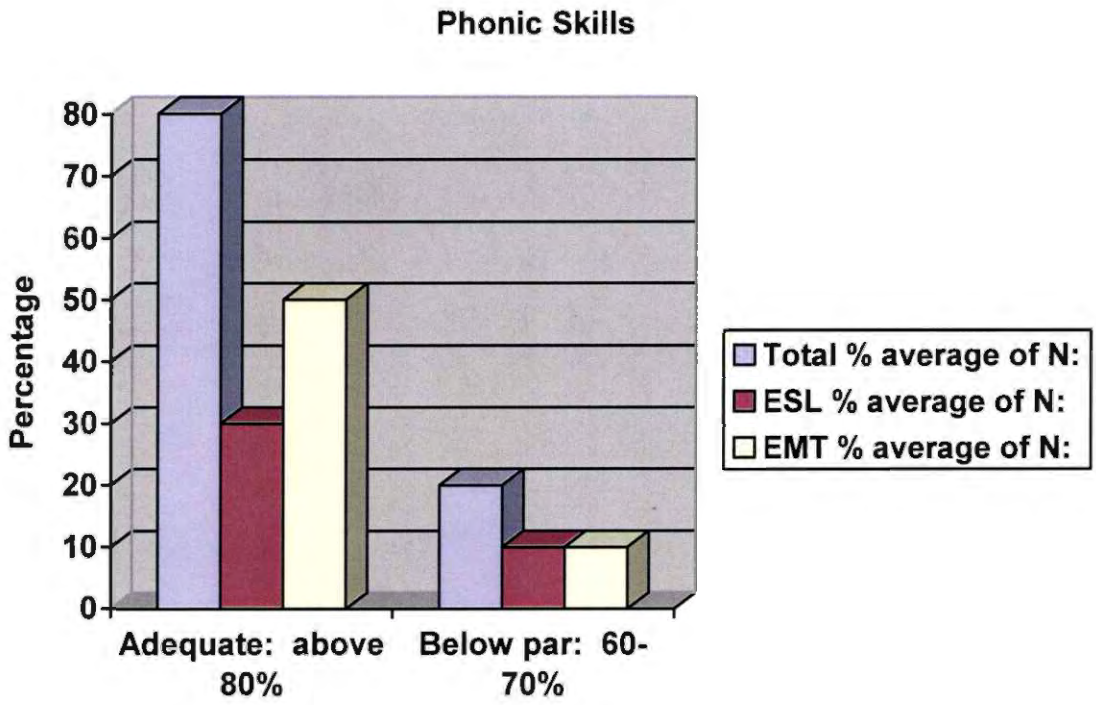


Both ESL and EMT learners are, on average, on a Grade level 10 in English according to the ELSA, which is acceptable for ESL learners according to Horne (2007). However, for EMT learners this is one year below their academic Grade level and therefore EMT learners might not perform as well academically as EMT learners that perform on a Grade 11 level (Cummins 1999:18; cf. 2.3.2). The reason for this might be that EMT learners have not developed their mother tongue to a CALP level (cf. 2.3.2), or might be influenced by certain independent learner factors, such as low language aptitude, low intelligence level and low cognitive style (cf.2.5). Also, learner dependent factors such as low motivation and high anxiety levels (cf.2.5), might be the cause.

Table 5.13: Phonic skills

N=10	Adequate: above 80%	Below par: 60-70%	Passable: 50%	Inadequate: below 50%
Total % average of N:	80	20		
ESL % average of N:	30	10		
EMT % average of N:	50	10		

Graph 5.12: Phonic Skills



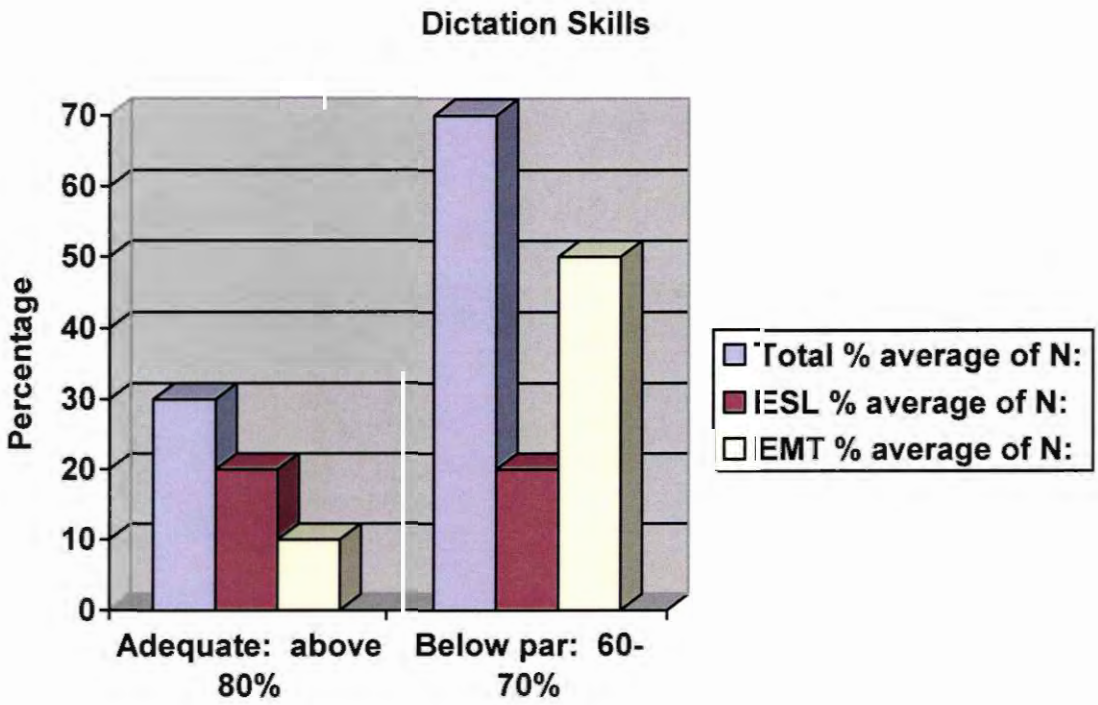
Phonic skills seem to be adequately developed within 80% of the learners. As one would expect, 50% of all learners were represented by EMT learners that reached an adequate level in English i.e. mother tongue learners. This supports the observation that EMT learners do better than ESL learners within the sound system of the language (Hough & Horne, 2006:2). As mentioned in chapter 2.7, listening skills comprise of hearing, auditory discrimination, paying attention, comprehending what is heard, being an attentive listener and listening appreciatively and reflectively (Block, 2001: 143-159).

Learners who listen well will learn more easily (Wessels & Van den Berg (1999: 115) (cf.2.7.1).

Table 5.14: Dictation skills

N=10	Adequate: above 80%	Below par: 60-70%	Passable: 50%	Inadequate: below 50%
Total % average of N:	30	70		
ESL % average of N:	20	20		
EMT % average of N:	10	50		

Graph 5.13: Dictation Skills



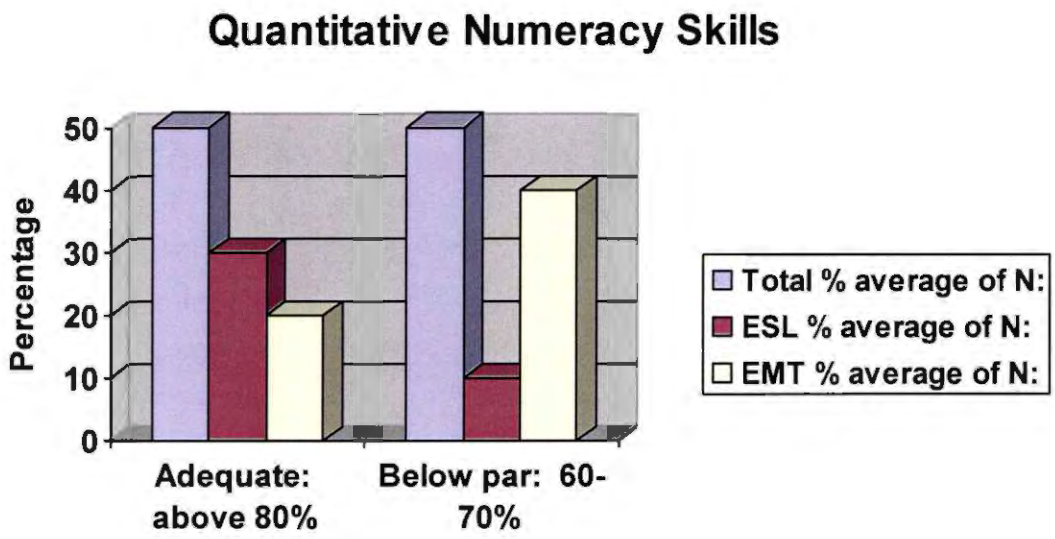
70% of the total average is below par in their dictation skills. This means that the principles of writing are lacking in their literacy and spelling skills (Hough & Horne, 2006:2). However, one should bear in mind that these learners were applying American

based English and not UK English as used in the ELSA test, and therefore were possibly put at a disadvantage.

Table 5.15: Quantitative Numeracy skills

N=10	Adequate: above 80%	Below par: 60-70%	Inadequate: 50%	Poor: below 50%
Total % average of N:	50	50		
ESL % average of N:	30	10		
EMT % average of N:	20	40		

Graph 5.14: Quantitative Numeracy Skills

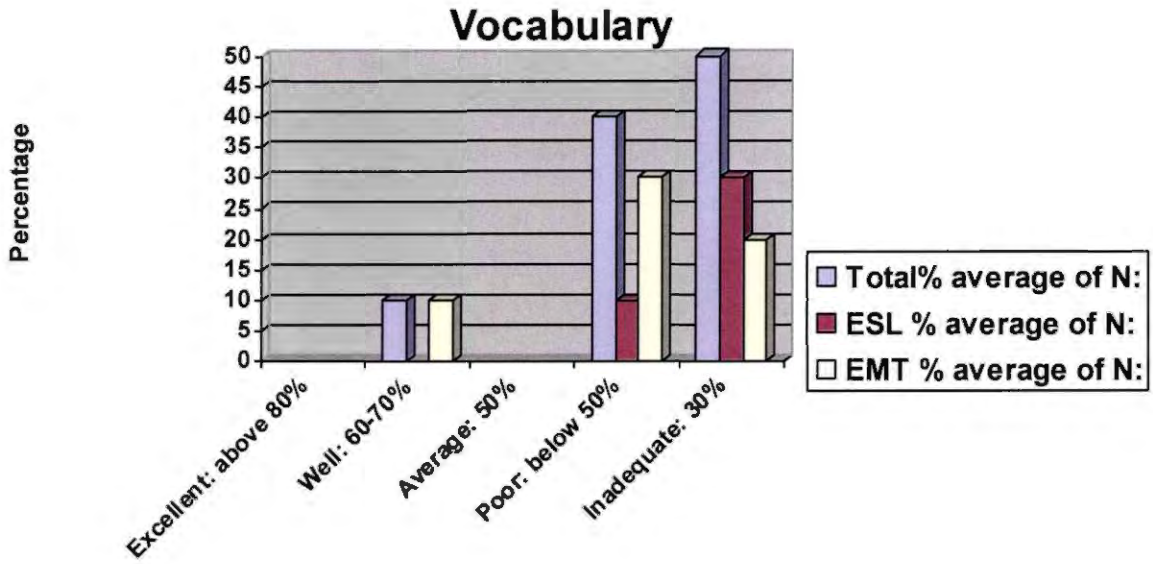


Here, 50% of the learners are on an adequate level for quantitative numeracy skills and 50% are below par. This implies that 50% know how to e.g. read a weather report or a date on a calendar. If a learner experiences problems with numeracy skills his academic performance will be adversely influenced (Howie, 2002: 40) (cf.2.5).

Table 5.16: Vocabulary

N=10	Excellent: above 80%	Well: 60-70%	Average: 50%	Poor: below 50%	Inadequate: 30%
Total% average of N:		10		40	50
ESL % average of N:				10	30
EMT % average of N:		10		30	20

Graph 5.15: Vocabulary



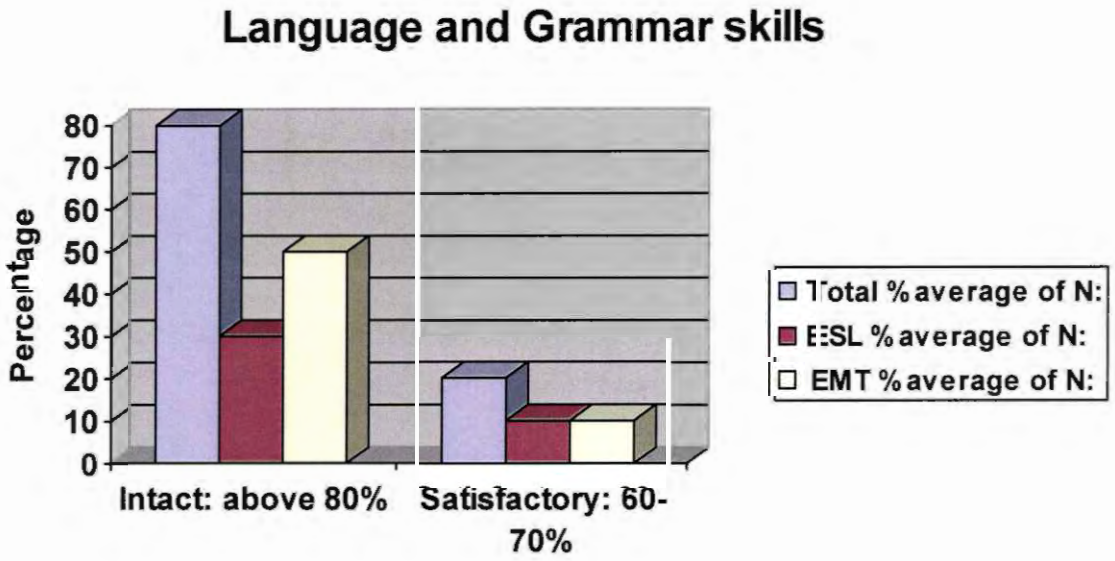
10% of learners have a well developed level of vocabulary, 40% poor and 50% inadequate. As one would expect, the EMT learners have a better vocabulary level than the ESL learners. This vocabulary refers to the context of expository writing. Here it is expected from EMT learners to process 250 words a minute with 70-80% comprehension at Grade 12 (Hough & Horne, 2006:2). According to Nation (in Scheepers, 2006:5) an independent reader needs to understand 95% of the vocabulary of the text he is reading. This may be problematic for ESL learners (cf. 2.7.3). In order for

a learner to express himself in writing he needs to have a certain amount of vocabulary. One important part in effective language learning is the development of vocabulary (Kamper et.al., 1995:175; cf. 2.7.4). As mentioned by the researcher in 2.7.4, many learners in the ACE system are tempted to just gather information from the internet instead of trying to put their deductions from gathered information on paper. This avoidance of processing of information eventually results in low levels of writing skills. Low levels in vocabulary will have an adverse effect on academic achievement (cf. 2.7.3).

Table 5.17: Language and Grammar skills

N=10	Intact: above 80%	Satisfactory: 60-70%	Inadequate: 50%	Poor developed: Below 50%
Total % average of N:	80	20		
ESL % average of N:	30	10		
EMT % average of N:	50	10		

Graph 5.16: Language and Grammar skills

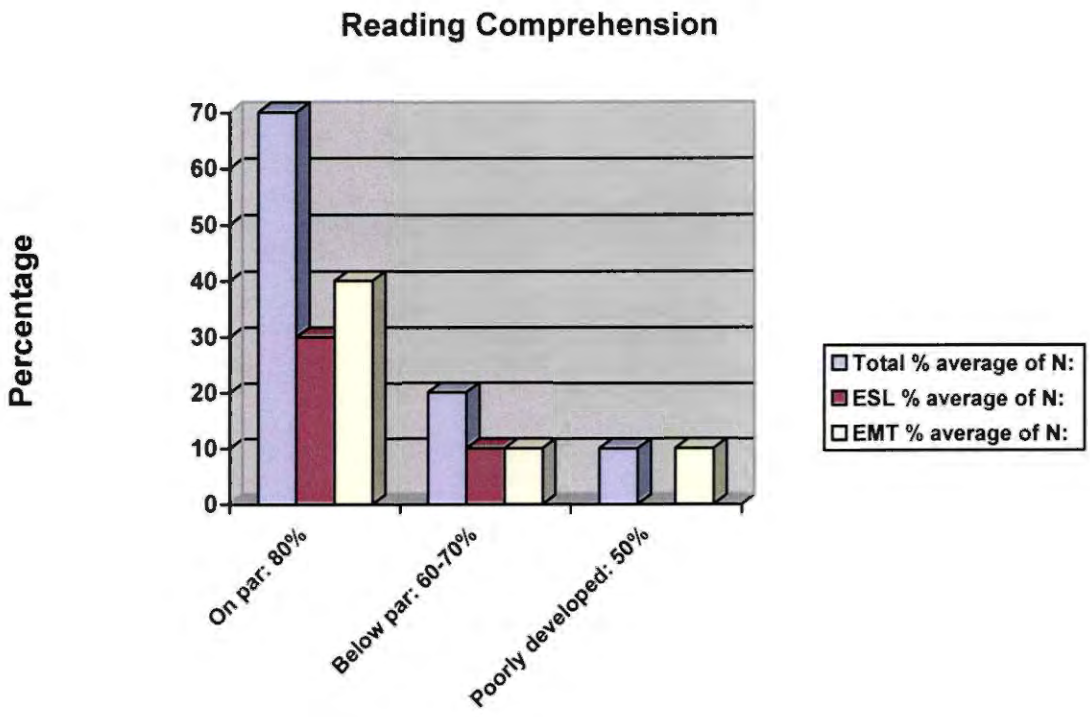


80% of learners have intact language and grammar skills and 20% are on a satisfactory level. Here EMT learners are better represented than ESL learners for grammar and language, bearing in mind that there are 6 EMT learners and only 4 ESL learners. That means their decoding skills are well developed, i.e. the learners have fewer problems in giving meaning to words when they are reading (Strydom & Du Plessis, 2000:119). When these lower levels of reading are improved, learners will be able to advance to higher reading levels (Williams & Chall, in Lerner, 2003: 407; cf.2.7.3). As they advance to higher reading levels, so will their academic performance be improved (cf.2.7.3).

Table 5.18: Reading Comprehension

N=10	On par: 80%	Below par: 60-70%	Poorly developed: 50%	Inadequate: Below 50%
Total % average of N:	70	20	10	
ESL % average of N:	30	10		
EMT % average of N:	40	10	10	

Graph 5. 17: Reading Comprehension

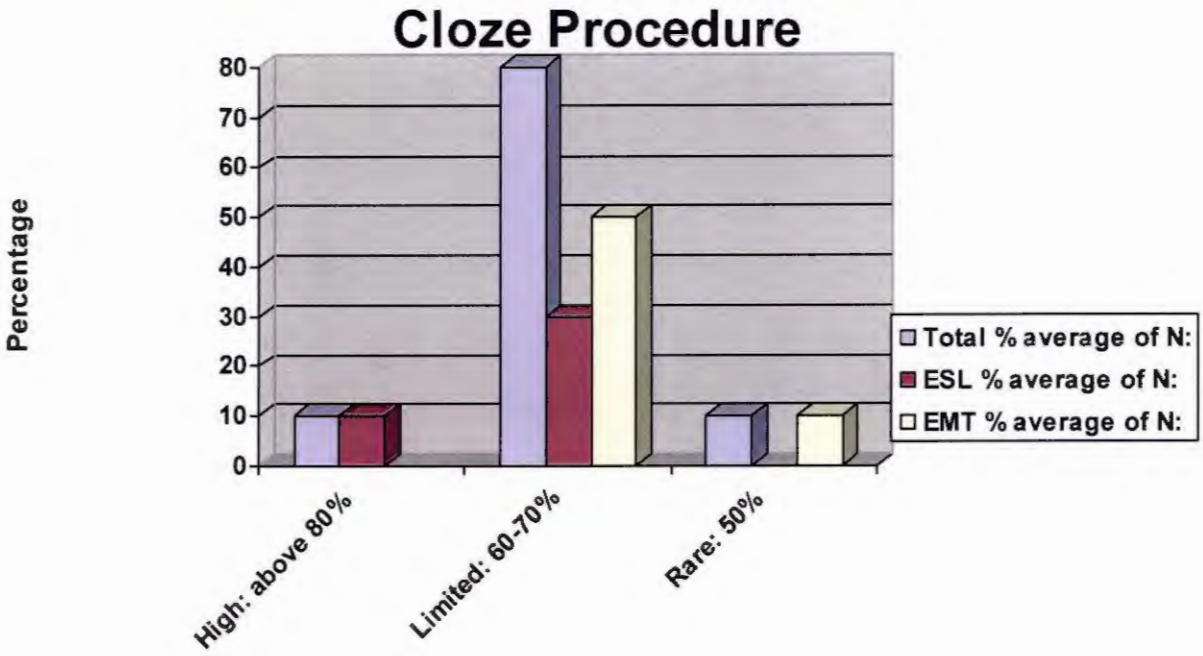


70% of the learners are on par with their reading comprehension, 20% below par and 10% are poorly developed. Keeping in mind that there are only 4 ESL learners and 6 EMT learners, 3 out of 4 ESL learners are on par, compared to 4 out of 6 EMT learners. Learners mainly had to deal with narrative writing and don't seem to have a problem with reading comprehension. Fleisch (in Rademeyer, 2007d) confirms that low reading ability will eventually lead to low academic performance and one could predict that high reading ability will lead to high academic performance (cf. 2.7.3).

Table 5.19: Cloze Procedure

N=10	High: above 80%	Limited: 60-70%	Rare: 50%	Very little: Below 50%
Total % average of N:	10	80	10	
ESL % average of N:	10	30		
EMT % average of N:		50	10	

Graph 5. 18: Cloze Procedure

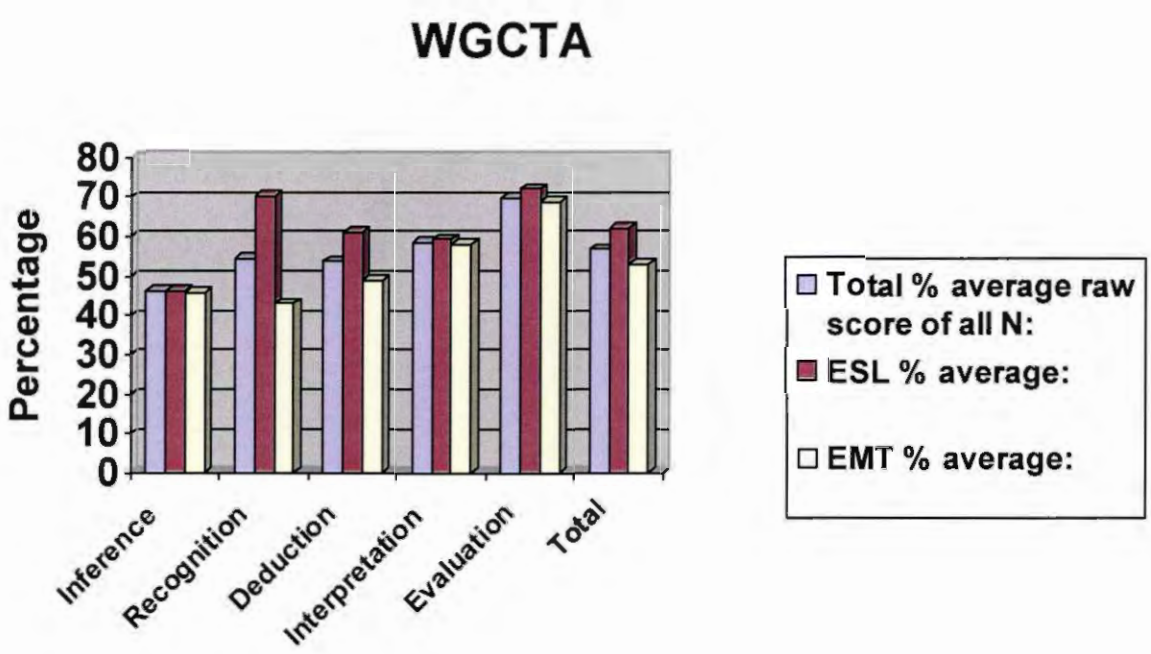


80% of the learners experience limited cloze procedure, with 10% of the learners being on a high level and 10% on a rare level of the cloze procedure. Here, the Gestalt idea of closure is assessed and the ability to complete a structure in order to make it whole again (Lerner, 2003:438). The cloze procedure helps to build comprehension and language skills (Lerner, 2003: 438) and the better the language skills the better the academic performance.

Table 5.20: WGCTA

	Inference	Recognition	Deduction	Interpretation	Evaluation	Total
Total % average raw score of all N:	46.25	54.38	53.75	58.5	69.75	56.7
ESL % average:	46.25	70.3	61	59.4	72	62
EMT % average:	45.83	43	49	58	68.75	53

Graph 5. 19: WGCTA



A comparison between the different sub-tests of the WGCTA:
Evaluation is best developed (69.75%), followed by interpretation (58.5%), recognition (54.38%), deduction (53.75%) and least developed is inference (46.25%).

Averages for the group per individual skill:

- 69.75% of the learners know to distinguish between strong and weak arguments.
- 58.5% of the learners are able to weigh evidence and to decide if the conclusions based on the data are justified.
- 54.38% of the learners are able to recognise unstated assumptions.
- 53.75% of the learners are able to decide whether certain conclusions actually follow from the given proclamation.
- 46.25% of the learners are able to evaluate inferences that are drawn from given facts.

The reason that certain critical thinking skills seem to be better developed than others within the group could be that different categories of critical thinking are better nurtured via the ACE curriculum, which mainly uses the independent teaching method (cf. 3.5.2.3). However, it would appear that, in order to further develop critical thinking

skills more co-operative learning, indirect teaching method and mediated learning (cf. 3.5.2.4) should be applied.

It is interesting to note that ESL learners seem to have higher critical thinking skills compared to EMT learners. This could possibly be attributed to the fact that as ESL learners have developed CALP in both languages, their critical thinking skills appear to be better developed. This is due to the fact that they have to constantly organise, analyse and inspect their language in order to avoid inferences between the languages (De Klerk, in Heugh, 1995:54). However, this does not mean that it is more beneficial to be taught in a second language in order to develop better critical thinking skills. It does indicate that ESL learners are forced to use critical thinking skills in order to be academically successful.

5.6 CONCLUSION:

Research was conducted with ten learners from one school using the ACE system. Of these learners 6 were English mother tongue learners and 4 ESL learners who participated in the study. The participants' results from the seven sub-tests of the ELSA and five sub-tests of the WGCTA have been discussed in detail. 10% of the learners are on Grade 12 English language proficiency, 20% of the learners are on Grade level 11, 30% on Grade 10, 30% on Grade 9 and 10% on Grade 8 for the ELSA. Although the average mean of the ELSA results are more or less on a Grade 10 level, the average WGCTA results seem adequate. This could indicate that the learners have developed a fair amount of critical thinking skills through either their curriculum or their environment. This would need to be further examined in continued research.

In this chapter an analysis and interpretation of the empirical data was presented. Much of the data does confirm the findings of the literature study done in chapter 3 and 4. It seems that there is a possible link between language proficiency and critical thinking skills in most of the cases, with the exception of two extraordinary instances. The reason for this anomaly cannot be established in this study and needs further investigation. In general, when language proficiency is poor, it is reflected in poor levels of critical thinking and where language proficiency is good, so too is critical thinking. The next

chapter will present summary, suggestions for improving language proficiency and critical thinking skills, limitations and recommendations for further research.

CHAPTER SIX

SUMMARY, FINDINGS AND RECOMMENDATIONS

6.1 INTRODUCTION

The main research question asked in this research study was to determine what is the language proficiency and critical thinking ability of Grade 11 learners and to make suggestions on how to try and address any possible deficiencies.

The summaries of the literature and empirical study findings will enable the researcher to formulate recommendations to improve the language proficiency as well as critical thinking skills of learners in Grade 11 and in Grade 12 in the ACE system, identify limitations to the study and provide recommendations for further studies.

6.2 SUMMARY OF CHAPTERS

Chapter 1 summarised the reason for this research. The researcher focused on language proficiency and critical thinking abilities of Grade 11 learners in the Accelerated Christian Education system. This may direct learners and teachers in the FET phase to enhance language proficiency and critical thinking abilities of learners.

The overall aim of the study was to investigate the language proficiency and critical thinking skills of Grade 11 learners in the ACE schools. ACE is the abbreviation for the Accelerated Christian Education or School of Tomorrow. Accelerated Christian Education is the trade name of School of Tomorrow. The School of Tomorrow program is individualised and non-graded. It allows each learner to work at his performance- and achievement level which can differ from learning area to learning area (School of Tomorrow, 1995:29).

An introductory motivation of the study was presented, aims were defined (cf.1.4) and the method of research was clarified (cf.1.5).

Chapter 2 concentrated on clarifying the concept language proficiency. The chapter specifically focused on language proficiency and academic achievement (cf. 2.3) in relation to BICS and CALP (cf. 2.3) and how important it is that a learner who wants to be successful in his academic performances has to operate on a CALP level in his LOLT. Further, the issue of mother tongue education versus education in the second language was discussed (cf. 2.4). The concept of limited language proficiency was debated which may be informed by contextual and learner factors (cf. 2.5). In this chapter (cf. 2.6) the language scenario of the South African learner was explored. The South African learner is generally exposed to a LOLT in his second or even third language in which he is not language proficient and in turn negatively effects his academic achievement.

The four language factors were examined (cf. 2.7), namely listening, speaking, reading and writing. Especially the importance of the learner's reading level according to Chall (1983) was deliberated. Lastly, some of the external factors (cf. 2.8) that could also have influenced the low language proficiency were examined: such as educators who are using English as LOLT and are themselves not language proficient in the LOLT: and, lastly, poverty and the learning environment which has an influence on the availability of resources and adequate exposure to English.

In *chapter 3* the concept of critical thinking was investigated. The scenario of South African learners' critical thinking abilities was portrayed. Although the development of critical thinking is a main focus of OBE and the NCS, our South African learners do not show the results of this key focus (cf. 3.3). The possible link between language proficiency and critical thinking was discussed (cf.3.4). Further, the four constructs that comprise critical thinking, namely the development of dispositions/attitudes for effortful thinking, cognitive skills, behavioural critical thinking habits and metacognitive skills (McGregor, 2007:167-210) were deliberated. Methods of nurturing critical thinking were presented with regards to different learning styles and teaching methods, as well as assessment strategies (cf.3.5). It seems, from the literature investigation, that the development of critical thinking skills could be linked to language proficiency, learning style and teaching methods (cf. 3.5). As an educator tunes into different learning styles of learners, using a variety of teaching methods such as the independent teaching

method, co-operative learning and mediation, learners' critical thinking can be improved (Dunn, in Fraser et al. 2004:207).

Chapter 4 specified the research questions, the objectives of the research (cf. 4.2), search engines used for the literature review (cf.4.3), the empirical research design (cf. 4.4), measuring instruments (4.5), the population, sample (cf.4.6) and statistical techniques (cf.4.7).

In *chapter 5* the data was analysed and interpreted and represented by means of tables and graphs and those results were descriptively explained (cf. 5.4).

The following section will summarise the findings in accordance with the research objectives.

6.3 SUMMATIVE FINDINGS

6.3.1. Findings from the literature study

A literature study is the departure point of any well conducted scientific study (Leedy & Ormrod, 2005:64). Since this topic of language proficiency and critical thinking skills has been investigated by well known research pioneers like De Bono, Vygotsky and Feuerstein, the researcher endeavoured to consult an extensive resource base from the early 1900's when the original works of these pioneers were published. However, because of continued research and persistent new findings more recent resources were also consulted.

The following objectives were answered through the literature study: i) what do the concepts language proficiency and critical thinking constitute?; and ii) is there a possible link between these Grade 11 learners' language proficiency and critical thinking skills?

6.3.1.1. Language proficiency

Finding 1

South Africa has a multilingual scenario which currently has a negative impact on learners' language proficiency and consequently their academic achievement (Brand, 2003:29; Rees in Krügel, 2005:1) (cf.2.1).

Finding 2

The public and private sector followed the way of least resistance by using English as the national language of politics, record, international commerce (James et al. in Nel, 2004:7) and consequently, education (cf.2.1).

Finding 3

Most learners are not learning in their mother tongue, but in their second or even third language which causes major barriers to learning since they are not proficient in this LOLT (Prusente, 2005:9; Plüddemann, 2007:14) (cf.2.1).

Finding 4

Many educators teaching ESL learners are themselves ESL speakers and this intensifies the problem of low language proficiency in learners (Scheepers, 2006:5) (cf. 2.6).

Finding 5

Mother tongue education is preferable to learning in a second or even third language (Ah-Vee & Collen, 2003:6) (cf.2.4). Learning in one's mother tongue develops more opportunities for the development of cognitive and academic abilities (Cummins, 1999:5) (cf.2.4).

Finding 6

Language is critical for cognitive development since it provides a means for expressing ideas and asking questions (Das, in Woolfolk, 2004:47) (cf.2.3).

Finding 7

ESL learners acquire first BICS (Basic Interpersonal Communication Skills) then CALP (Cognitive Academic Language Proficiency), due to interpersonal and contextual cues (Cummins, 1992:21) (cf.2.3.1).

Finding 8

CALP is the cognitive academic language proficiency, which is the formal, more superior command used at schools and needed for academic success (Cummins, 1992:17) (cf.2.3.2). ESL learners who are not language proficient will therefore struggle academically if their LOLT is not on a CALP level (Cummins, 2001:37) (cf.2.3).

Finding 9

Language proficiency in a second language is also influenced by a multitude of other factors, such as: time, nature of instruction, age, cognitive abilities, mother tongue literacy, personality, personal confidence and motivation (Cummins, 2001: 100)(cf.2.5).

Finding 10

Language and thinking are interwoven (Donald et al., 2005:219) (cf.2.4). Therefore, a learner should be taught in his mother tongue to a threshold level of proficiency in order to transfer the knowledge to the other language and ensure positive cognitive growth (Cummins, 1999:5) (cf.2.4).

Finding 11

Low language proficiency does not only negatively influence literacy skills but also numeracy skills (Howie, 2002:40) (cf.2.5).

Finding 12

Contextual and learner factors influence language proficiency (Mahlobo, 1999:83) (cf.2.5).

Finding 13

Any primary language is obtained mainly through listening, and a learner who listens will learn more easily and therefore be more successful in his academics (Wessels & Van den Berg, 1999:115) (cf.2.7.1).

Finding 14

Reading is a vital part of language proficiency. Reading speed, comprehension and insight will contribute to scholastic achievement (Mucelli, 1997:2) (cf.2.7.3).

Finding 15

Good writing skills will enhance higher order thinking skills (Bermudez & Prater, in Spangenberg-Urbschat & Pritchard, 1997) (cf.2.7.4).

Finding 16

Learners from less privileged areas experience problems in language proficiency simply due to a lack of reading material and textbooks because of a lack of finances (Mahlobo, 1995:28) (cf.2.8.2).

6.3.1.2. Critical Thinking

Finding 1

Critical thinking is necessary for everyday decision making (Paul & Elder, 2002: xiii) (cf.3.1).

Finding 2

Having intellectual resources available for critical thinking does not automatically produce a critical thinker (Lombard & Grösser, 2008:564) (cf.3.2.1). One needs to have certain attitudes, habits and commitments in using these resources to become a critical thinker (cf.3.2.1).

Finding 3

No critical thinking can take place without knowledge acquisition (McPeck, 1990:28; Halpern, 2007:2) (cf.3.5).

Finding 4

Educators themselves need to be critical thinkers in order to teach learners to become critical thinkers (Lombard & Grösser, 2008:576) (cf.3.5).

Finding 5

One needs to be language proficient in order to implement critical thinking skills (Lombard & Grösser, 2004:215) (cf.3.4).

Finding 6

OBE forms the foundation for the curriculum in South Africa and encourages the development of critical thinking skills through the critical and learning outcomes as well as the assessment standards (Department of Education, 2006:2) (cf.3.3).

Finding 7

Many South African learners have low critical thinking abilities (HESA, 2009:9) (cf.3.3).

Finding 8

Each learner has a preferred category of thinking skills and as these thinking skills match the learning and teaching style, the learner's learning is improved and increased (Dunn, in Fraser et al. 2004:207) (cf.3.5.1).

Finding 9

Multilingual speakers will improve their critical thinking skills provided they have been exposed to or learnt multilingual languages that are running parallel to each other and CALP has been reached in both (Cummins & Swain, 1986:156) (cf.3.3).

Finding 10

In order to improve critical thinking skills, skills of reading, listening, and observing need to be emphasised (Pienaar, 1999:126) (cf. 3.3).

Finding 11

Critical thinking does not come by itself; learners have to be nurtured in how to engage in critical thinking through appropriate teaching methods such as the independent method, co-operative teaching and mediation (Moon, 2008:21) (cf. 3.5).

The direct instruction model emphasises rote learning and therefore low critical thinking levels. The interactive learning model stresses group work and therefore high critical thinking levels. In addition, the mediated learning method teaches skills in how to think critically (Gunter, Estes & Schwab, 2003:63) (cf.3.5).

Finding 12

Educators need to be role models of good critical thinkers themselves so that the learners can internalise critical thinking skills (Lombard & Grosser, 2008:576) (cf. 3.5).

6.3.2. Findings from the empirical research analysis and interpretation.

For a learner to achieve his full academic potential, a good language proficiency in addition to well developed critical thinking skills are essential (Donald et al., 2005:19). The ELSA (cf 4.6.3) test was used for evaluating the learners' English language proficiency and the WGCTA test to assess the learners' critical thinking abilities (cf 4.6.4). Summative findings will be discussed next.

The following objectives were answered through the empirical research: i) what is the language proficiency level of Grade 11 learners in schools, using the ACE system?; ii) what critical thinking skills do Grade 11 learners in schools using the ACE system, possess?; iii) is there a possible link between these Grade 11 learners' language proficiency and critical thinking skills?; and iv) what suggestions can be made in order to enhance the language proficiency and critical thinking skills of Grade 11 learners in schools using the ACE system?

6.3.2.1. Language proficiency

With regards to the ELSA language proficiency test both the ESL and EMT learners are, on average, on a Grade level 10 in English, which is acceptable for ESL learners according to Horne (2007). However, for EMT learners this is one year below their academic Grade level and, as a result, these learners might not perform academically as well as they should (Cummins 1999:18) (cf.5.5). Areas that could be identified as problem areas in language proficiency with most of the learners and need additional as

well as more intensive attention and support are dictation skills, quantitative numeracy, expository writing, vocabulary level and the cloze procedure. The educators of these learners should be encouraged to follow the suggestions made in 6.3.2.2. to ensure these learners' optimal academic achievement. Areas that were identified as satisfactory were listening skills, language and grammar of spatial relation and, interesting enough, reading comprehension. These stronger areas could be used as strengthening measures when support strategies are employed to improve the language proficiency of the learners.

6.3.2.2. Suggestions for improving language proficiency in Grade 11

Suggestion 1

A broad well developed vocabulary is an essential part of language proficiency (Cummins, 2000:67) (cf.2.3.2). This could be acquired through additional lessons exposing learners to SAT I vocabulary i.e. the "Hit Parade" which is available through the internet or SAT I study material. The "Hit Parade" consists of vocabulary words that most often appear in the SAT I, gives the definition, pronunciation and a sentence in which the word is used as an example (Robinson, Katzman & Staff, 2009:112). Learners should also be encouraged to read additionally and keep dictionaries at hand to look up meanings of new vocabulary. A classroom atmosphere of interaction should also be created by the teacher to encourage learners to ask when they don't know or understand new vocabulary and concepts.

Suggestion 2

Metacognitive language learning strategies could be taught to learners (Hong-Nam & Leavell, 2006:405) (cf 2.3.2). Such Metacognitive language learning strategies would include paying attention when someone is speaking English, asking oneself the question on how to improve one's English, noticing one's English mistakes, planning a schedule for the study of English and setting a specific goal within the area of English language proficiency (Hong-Nam & Leavell, 2006:405) (cf.2.3.2).

Suggestion 3

Only qualified educators who themselves are proficient English speakers should instruct learners in English (Kamper, Mahlobo & Lemmer, 1995:176) (cf.2.8.1).

Suggestion 4

Better motivation and parental support should be provided (Donald et al., 2004:30) (cf. 2.5). This could be achieved by setting specific goals to reach language proficiency via a reward system and encouraging parents to get directly involved in their children's learning by reading to and with them. Parents should monitor their children's reading at home and encourage the taking out of additional literature from the library, making sure children read from Grade level 1, as soon as they are exposed to formal reading. This will help the learner to develop a better attitude towards learning a language (Kamper et al., 1995:166).

Suggestion 5

Additional support and opportunities should be provided by educators in listening, speaking, reading and writing skills (Lerner, 2003:351) (cf.2.7).

Suggestion 6

More oral presentation by learners should be encouraged (DoE, 2005:24) (cf. 2.7.1). Oral presentations develop language skills such as listening and speaking. This will help the learner to decode the sound into an idea (Lerner, 2003:358) (cf.2.7.1) and to speak with the correct intonation and rhythm (DoE, 2002:59) (cf.2.7.1).

Suggestion 7

Reading is a vital part in developing language proficiency. Learners who are proficient in reading, comprehend quickly and retain subject matter (Mucelli, 1997:2) (cf.2.7.3). Additional reading time under supervision of educators or reading to a buddy (cf. 2.3.2)

should improve comprehension as well as fluency and speed of reading (Mucelli, 1997:2) (cf. 2.3.2).

Suggestion 8

Extensive writing practice is necessary. To write well means to master the structure of spelling, punctuation and vocabulary (Lerner, 2003:457) (cf. 2.7.4).

Suggestion 9

Including co-operative learning as a teaching strategy to encourage interaction between EMT learners and ESL learners. The latter will then be more exposed to their second language and will consequently become more language proficient (Gunter et al., 2003:258) (cf.3.5.2.4).

6.3.2.3. Critical Thinking Skills

Results concerning the WGCTA were as follows: Evaluation was the best developed skill, followed by interpretation, recognition, deduction and the least developed was inference (cf.5.5). ESL learners' critical thinking skills appear to be better developed than the EMT learners' critical thinking skills. The reason could possibly be that ESL learners constantly have to organise, analyse and inspect their language (De Klerk, in Heugh et al., 1995:54) (cf.5.5).

As mentioned above, evaluation has the highest outcome of all sub-tests of the WGCTA (cf.5.5). It seems that both the EMT and ESL learners can distinguish between relevant and irrelevant arguments. Concerning interpretation, it seems that more than half of the learners are able to decide if generalisations and conclusions on given data can be drawn (cf.5.5). Recognition and deductions are very close in value. It appears that more than half of the learners can identify presuppositions and can draw conclusions following on from given information (cf.5.5). Interesting to note is that ESL learners appear to do far better than EMT learners in both recognition and deduction. Inference is the least developed skill in both ESL and EMT learners. These results suggest that the learners have problems in evaluating inferences that are drawn from a series of factual statements

(5.5). In order to nurture critical thinking skills and enhance academic achievement the suggestions provided in 6.3.2.4. should be followed.

If an overarching view is taken from the results there seems to be a possible link between language proficiency and critical thinking (cf.5.4.13) since 8 of the 10 learners' language proficiency and critical thinking results were either equally good or equally poor.

6.3.2.4. Suggestions for improving critical thinking skills in Grade 11 and Grade 12

Suggestion 1

Learners must be taught "academic assertiveness." Such critical thinkers don't just accept any statement but question it (Moon: 2008:79) (cf.3.2.1).

Suggestion 2

Learners should be taught integrity (Chabeli, 2007:69), which will encourage them to stand up for the truth (cf.3.2.1), as well as curiosity, analytical thinking, flexibility, self-assurance and methodically thinking (De Bono, 2004:204) (cf.3.2.1). Curious persons ask questions and want to learn more about a new idea (De Bono, 2004:210) which will develop their critical thinking skills.

Suggestion 3

Purposely teaching learners analytical thinking, reasoning, decision making, and problem solving skills is important to ensure optimal academic achievement. This entails breaking down a whole into its segments, drawing deductively valid conclusions, arriving at a conclusion and, learning how to monitor a strategy (Halpern, 2007:8) (cf. 3.2.2).

Suggestion 4

The development of behavioural critical thinking habits such as persistence, questioning, listening to others with empathy, gathering data through all senses and checking the outcome, should be encouraged through real life situations e.g. a promotional speech on cell phones, which network provider offers the best options. In this example, learners have to go and gather information about the network providers, compare with other learners and hold a discussion. The best "sales person" wins a prize (McGregor, 2007:302) (cf. 3.2.3).

Suggestion 5

The development of metacognitive skills should be enforced, encouraging the learner to rethink his process (Nieuwoudt & Beckley, 2004:346) (cf.3.2.4).

Suggestion 6

Teaching methods that encourage critical thinking should be used, such as interactive teaching, the co-operative learning method and mediated learning (Moon, 2008:21) (cf.3.5.2.4).

Suggestion 7

Assessment for learning should be applied, which takes place during the learning process. This implies that the educator gives feedback to the learner about the learner's learning (Eggen & Kauchak, 2006:242) (cf. 3.5.3.1) and that continuous reflective thinking is promoted.

6.4 RECOMMENDATIONS

The aim of this research was to investigate the language proficiency and critical thinking abilities of Grade 11 learners in the ACE system. In order to achieve this aim, a literacy study was conducted which functioned as a base for the empirical research. Based on the findings of this research the following is recommended:

Recommendation 1

Schools using the ACE system should encourage learners to read. Reading should be made compulsory during set time periods during or after school under supervision. Reading programmes should be encouraged on a daily level. Such reading programmes could consist of Readmaster, which is the computerised reading program of School of Tomorrow. This should help learners to improve their reading rate, comprehension and vocabulary (School of Tomorrow, 1995:6). Schools could incorporate learners reading to a 'reading buddy.'

Further, learners could be encouraged to read additional literature books which would expose them to reading of more mature fiction, books that give more than one set of facts and expose readers to multiple viewpoints (cf.2.7.3). This could be accomplished by giving them Literature I and II which is an additional elective within the ACE system, in which learners are required to read and work through further literature books that complement their Grade level. High reading ability will eventually lead to high academic performance and language proficiency (cf.2.7.3). Good language proficiency is essential to execute critical thinking (cf. 3.4).

Recommendation 2

Since a rich verbal background is necessary for language comprehension and decoding (cf.2.3.2), further Etymology PACEs should be developed for the FET phase that correspond with the English PACEs in order to improve the level of vocabulary in every subject context. Viljoen (2002:35) states that a rich verbal background is necessary for language proficiency and effective learning only takes place if a learner can relate previous experiences with the present background. Through this, critical thinking is nurtured.

Recommendation 3

Specific expository writing periods should be introduced approximately twice a week through co-operative teaching, indirect teaching methods and mediated learning which would encourage ESL learners to communicate more with EMT learners and so familiarize themselves more with the English language. At the same time the learners

can improve their expository writing skills. Since writing is expressed through clear thought, in logical, well constructed sentences, writing therefore will lead to higher order thinking skills (cf. 2.7.4).

Recommendation 4

In order to improve specific critical thinking skills, especially inference in which the learners performed poorly, the mediated learning method of Feuerstein (cf. 3.5.2.4) could be introduced at least once a week for a 45 minute period. However, more periods can be encouraged. The educator should evaluate the impact on a continuous basis. Although it is important to develop critical thinking with specific teaching methods these skills should, however, be incorporated and encouraged in every subject.

6.5 LIMITATIONS AND POSSIBLE SHORTCOMINGS OF THE STUDY

- This study was only carried out on only 10 Grade 11 learners who are enrolled at one school using the ACE system and no other schools participated in the study. This definitely carries a bias and therefore no generalisations can be made from the results.

- It would definitely be of more value for generalisation if this testing had been carried out at a national level involving all schools and their Grade 11 learners that are using the ACE system.

- It would also have been more informative if the learners' biographical information and academic achievements had been investigated so that all possible variables that might have influenced language proficiency and critical thinking skills could have been explored.

- Investigations into the link between language proficiency and critical thinking skills should start in the primary school years so that possible barriers to learning can be identified early, basic foundational skills can be established and optimal development of language proficiency and critical thinking skills can be ensured.

- The sample was too small to determine statistical correlations between language proficiency and critical thinking. The study only focused on one construct of critical thinking namely the interrelated cognitive skills

6.6 SUGGESTIONS FOR FURTHER STUDY

Keeping the above mentioned limitations in mind, the following suggestions for further research are made:

- The same kind of research should be done on a larger scale to support generalisations.
- Further investigations into the link between language proficiency and critical thinking skills with learners in all grades could strengthen the assumption that a good language proficiency and well developed critical thinking skills in a learning situation are inseparable.
- Research to investigate if there is a link between language proficiency, critical thinking skills and academic achievement.
- A correlation between intelligence (IQ) levels and critical thinking would ensure that all different variables are researched.
- Research should be done to investigate a possible link between the educators' critical thinking levels and learners' critical thinking levels, to determine if they influence each other.
- Impact studies to determine the impact of culture and socio-economic environment on the critical thinking activity of learners.
- Studies to determine learners' disparities towards critical thinking.

6.7 CONCLUSION

This research investigated, by means of a literature review and empirical research, the language proficiency and critical thinking abilities of Grade 11 learners in schools using the ACE system. Various findings were emphasised and recommendations were made in order to improve English language proficiency and critical thinking skills.

Vygotsky (McGregor, 2007:10) asked the question: "*Does language mirror thought or thought language or both?*"

The researcher came to the conclusion that thought and language form a unit; they are interdependent on each other and if this interdependency is developed and promoted optimal academic achievement will be ensured.

BIBLIOGRAPHY

ACE (ACCELERATED CHRISTIAN EDUCATION), 1993. Geometry-2, PACE 1110, Methods of reasoning. USA : ACE School of Tomorrow. 42 p.

ACE (ACCELERATED CHRISTIAN EDUCATION), 1995. A Philosophy For Educational Reform. Part 2. USA : ACE School of Tomorrow. 22 p.

ACE (ACCELERATED CHRISTIAN EDUCATION), 2006. All African Student Convention: Student Handbook. [Web:] http://www.aceministries.com [date of access: 21 Nov. 2006]. 45 p.

AH-VEE, A. & COLLEN, L. 2003. Children Rights include their language rights. *LEAP NEWS* : 6, October. 6 p.

ALEXANDER, N. 2003. Multilingual Education- A Training of Trainer Programme. *LEAP NEWS* : 5, March 2003. 3-4 p.

ALEXANDER, N. 2004. African Renaissance and the African Academy of Languages (ACALAN). *LEAP NEWS* : 6, October 2004. 3-4 p.

ALEXANDER, N. 2007. Some thoughts on the language issue. *Leap News* : 7. August. 15 p.

ANDERSON, P. 1988. Verbal communication with the author. Jane Furse.

ARMSTRONG, D.G., HENSON, K.T. & SAVAGE, T.V. 2001. Teaching Today: an introduction to education. 6th ed. Upper Saddle River, New Jersey : Merrill Prentice Hall. 472 p.

AUKERMAN, M. 2007. A culpable CALP: Rethinking the conversational/ academic language proficiency distinction in early literacy instruction. *The Reading Teacher*, 60(7) : 626-635, April.

BAKER, C. 1993. Foundations of bilingual education and bilingualism. Clevedon; Philadelphia : Multilingual Matters. 318 p.

BALFOUR, R.J. 1999. Naming the Father: re-examining the role of English as a Medium of Instruction in South African education. *Changing English,* 6(1):103-113. Available: Academic Search Premier.

BAUMGARDT, J. 2007. Verbal communication with the author. Vereeniging.

BEHR, A.L. 1983. Empirical Research Methods for the human sciences: an introductory text for students of education, psychology and the social sciences. Durban; Pretoria : Butterworths. 193 p.

BERRY, D. 2005. Language Equity and Assessment in South Africa. *Journal for Language Teaching,* 36 no. 1+2.

BIRCH, B.M. 2007. English L2 Reading: Getting to the bottom. 2nd ed. Mawah, New Jersey : Lawrence Erlbaum Associates, Inc. 236 p.

BLOCK, C.C. 2001. Teaching the language arts: expanding thinking through student-centred instruction. 3rd ed. Boston : Allyn and Bacon. 674 p.

BLUNT, S.V. 2005. Critical thinking education, *South African Journal for Higher Education,* 19 Special issue. 1368-1378 p. Port Elizabeth : UNISA Press.

BRAND, G. 2003. Imagining a multilingual academy: rethinking language in higher education. *South African Journal of Higher Education /Suid AfrikaanseTydskrif virHoer Onderwys,* 17(3):26-35.

BURKE, L.A., WILLIAMS, J.M., SKINNER, D. 2007. Teacher's perceptions of thinking skills in the primary curriculum. *Research in Education,* No.77 16:32 1-13 p.

CAREY, S. 1995. Continuity and Discontinuity in Cognitive Development. (*In* SMITH,E.E. & OSHERSON, D.N. 1995. eds. Thinking; An invitation to cognitive science, 2ed. Vol.3).

CARTER, D. 2007. Thinking ahead. *Training Journal. The Publication for Learning & Development,* June 2007.

CELE, N. 2001. Oppressing the Oppressed through Language Liberation: Repositioning English for Meaningful English. *Perspectives in Education,* 19(1):181-193, March.

CHABELI, M.M. 2007. Facilitating Critical Thinking Within the Nursing Process Framework: A Literature Review. *Health SA Gesondheid* 12(4). 69-89 p.

CHALL, J.S. 1983. Stages of Reading Development. New York: McGraw-Hill Book Company. 9-26 p.

COLLIER, V.P. 1995. Acquiring a second language for school. *Diretions in language & Education. National Clearing House for Bilingual Education.* 1(4):1-10.

COLLINS. 1990. Pocket reference Thesaurus in A-Z Form. Glasgow : William Collins Sons & Co. Ltd. 565p.

CUMMINS, J. 1992. Bilingualism and Second Language Learning. *Annual Review of Applied Linguistics.* 13. 51 – 70 p.

CUMMINS, J. 1997. The Acquisition of English as a Second Language. (*In* SPANGENBERG – URBSCHADT, K. & PRITCHARD, R. *eds.* Kids come in all languages: Reading instruction for ESL students. Delaware, U.S.A.: International Reading Association. 36-62 p.)

CUMMINS, J. 1999. BICS and CALP: Clarifying the Distinction. (Abstract in the U.S. Department of Education. Educational Resource Information Center. ERIC, reference number ED 438 551.)

CUMMINS, J. 2001. Language, Power and Pedagogy: Bilingual Children in the Crossfire. Great Britain: Cambrian Printers Ltd. 309 p.

CUMMINS, J. & SWAIN, M. 1986. Bilingualism in Education: aspects of theory, research, and practice. England : Longman. 233 p.

DE BONO, E. 1969. Lateral Thinking. Cape: Ward Lock Educational. 300 p.

DE BONO, E. 1970. Lateral Thinking: creativity step by step. New York : Harper & Row.

DE BONO, E. 1979. Practical thinking: 4 ways to be right, 5 ways to be wrong, 5 ways to understand. NY: Pelican books. 189 p.

DE BONO, E. 1982. Lateral thinking for management. Harmondsworth : Penguin. 225 p.

DE BONO, E. 2004. How to have a beautiful mind. London : Vermilion. 232 p.

DE KLERK, G. 1995. Three languages in one school: A multilingual exploration in a primary school. (*In* Heugh, K., Siegruehn, A. & Pluddemann, P. *eds*. Multilingual education for South Africa: project for the study of alternative education in South Africa: the national language project. Isando: Heinemann. 28-33 p.).

DE OLIVEIRA, J. 2009. Verbal communication with the author. Vereeniging.

DE WET, C. 2002. Factors influencing the choice of English as Language of Learning and Teaching (LOLT) - a South African Perspective. *South African Journal of Education, EASA,* 22(2), 119-124, May.

DEPARTMENT of Education **see** SOUTH AFRICA. Department of Education

DIPPENAAR, A.J.F. 2004. The Vista University English Language Proficiency Course: An Evaluation. Potchefstroom: NWU. 202 P.

DONALD, D., LAZARUS, S., LOLWANA,P. 2005. Educational psychology in a social context. 2nd ed. Cape Town : Oxford University Press. 378 p.

EGGEN, P. & KAUCHAK, D. 2006. Educational Psychology Windows on Classrooms. 8th ed. Upper Saddle River, New Jersey: Pearson Education, Inc. 496 p.

EYSENCK, M.W. 2004. Psychology: An International Perspective. United States: Psychology Press. 960 p.

FEUERSTEIN, R. 1982. The Dynamic assessment of retarded performers: The learning potential assessment device, theory, instruments and techniques. Baltimore: University Park Press. 413 p.

FEUERSTEIN, R. 2007. Creating and Enhancing Cognitive Modifiability. The Feuerstein Instrumental Enrichment Program (FIE). Instrumental Materials: Level I Training. Jerusalem: The International Centre for the Enhancement of Learning Potential. 22 p.

FISHER, D. & FREY, N. 2007. Checking for Understanding: Formative Assessment Techniques for Your Classroom. USA: ASCD. 159 p.

FOLEY, A. 2002. South African Education and the Dilemmas of multilingualism. *The English academy review,* 19(1); 51-64, December.

FRASER, W.J., VAN EDE, D., HISLOP-ESTERHUYSEN, N. & OWEN, R. 2004. Robert Sternberg's mental self-government theory and its contribution to our understanding of first-year distance learners' multiple thinking style preferences. *South African Journal of Higher Education.* 18(2), 2004, pp.206-232.

GAMAROFF, R. 2007. Deep Language, Intelligence and Language Proficiency in (Academic) Learning. University of Fort Hare. [Full Display : http://www.und.ac.za/und/ling/archive/gama-01.html] [Date of access : 4 June 2007].

GLEITMAN & LIBERMAN ed. 1995. Language: An Invitation to Cognitive Science. 2nd ed. Massachusetts: Institute of Technology. 445 p.

GREGORY, G.H. & CHAPMAN, C. 2007. Differentiated Instructional Strategies. 2nd ed. USA: Corwin Press. 193 p.

GROSSER, M. 2007. Effective teaching: linking teaching to learning fuctions. *South African Journal of Education,* 27(1):37-52.

GUDHLANGA, E.S. & MAKAUDZE, G. 2007. Challenges faced by writers and publishers of Shona literature in Zimbabwe. *LEAP News*: Sept.- Dec. 15/16. 11 p.

GUNTER, M.A., ESTES, T.H. & SCHWAB, J. 2003. Instruction a model approach. 4th ed. Boston : Pearson Education, Inc. 373 p.

HALPERN, D.F. 2007. The Nature and Nurture of Critical Thinking. (*In* Sternberg, R.J., Roediger III, H.L. & Halpern, D.F. 2007. Critical Thinking in Psychology. Cambridge : Cambridge University Press. 1-14 p.).

HANNA, G.S. & DETTMER, P.A. 2004. Assessment For Effective Teaching: Using Context-Adaptive Planning. Boston : Pearson Education Inc. 444 p.

HARTAS, D. 2005. Language and communication difficulties. USA : Continuum international publishing group. 117 p.

HATTINGH, K. 2005. The Syntactic Development of Grade 12 ESL Learners. North-West University, Potchefstroom. (Dissertation – M.). 168 p.

HAYWARD, A.L. & SPARKES, J.J. 1987. Cassell's English Dictionary. London: Cassell Publishers Limited. 1347p.

HAYWOOD, H.C. 1993. A Mediational Teaching Style. (*In Journal of Cognitive Education 7 Mediated Learning,* 3(1):27-38 p.).

HENDRICKS, H.G. 1987. The 7 Laws of the Teacher: Applied Principals of Learning. Georgia : Walk Thru The Bible Ministries. 180 p.

HESA (Higher Education South Africa). 2009. National Benchmark Tests Project as a national service to Higher Education. Summary Report June 2009. 9 p.

HEUGH, K., 1995. From unequal education to the real thing. (*In* Heugh, K., Siegrühn, A. & Plüddemann, P., *eds.* Multilingual Education for South Africa, 1995. Johannesburg: Heinemann. 42 - 52 p.).

HEUGH, K. 2002. The case against bilingual and multilingual education in South Africa: Laying bare the myths. *Perspectives in Education.* 20(1). 2002. pp. 171-196.

HEUGH, K. 2005. Mother-tongue education is best. *HSRC. HSRC REVIEW.* Volume 3, Number 3, September 2005. 1-3 p.

HEUGH, K., SIEGRÜHN, A., PLÜDDEMANN, P. *eds.* 1995. Multilingual Education for South Africa. Johannesburg : Heinemann. 149 p.

HINDES, C. & BAKKER, K. 2004. Between destruction and systems thinking – some practicalities of incorporating non-technical skills into curricula using critical thinking as an example. *South African Journal of Higher Education,* 18(2): 76-84 p.

HONG-NAM, K. & LEAVELL, A.G. 2006. Language learning strategy use of ESL students in an intensive English learning context. *Science Direct*, System 34 (2006) p.399-415.

HOUGH & HORNE, T.J. 2006a. ELSA- FET Intermediate Assessment Administration. Unpublished.

HOUGH & HORNE, T.J. 2006a. ELSA Intermediate – "Sub-Tests". Unpublished.

HORNE, T.J. 2007. ELSA and the ELSA clones. Garden View. [Web:] http://www.tjhorne.co.za] [Date of access: 30 May 2007].

HORNE, T.J. 2008. Verbal communication with the author. Alberton.

HOWIE, S. J. 2002. English language proficiency and contextual factors influencing Mathematics achievement of secondary school pupils in South Africa. Enschede : Print Partners Ipskamp. (Dissertation- PhD. Educ.). 358 p.

JACOBS, M., VAKALISA, N. & GAWE, N. *eds.* 2004. Teaching-Learning Dynamics: A participative approach for OBE. Cape Town : Heinemann. 380 p.

JACOBSEN, D.A., EGGEN, P. and KAUCHAK, D. 2002. Methods for Teaching: Promoting Student Learning. New Jersey : Pearson Education. 352 p.

JEEVANANTHAM, L.S. 2005. Why teach critical thinking? *Africa Education Review* 2 (1) 2005, 118-129 p. UNISA Press.

KAMPER, G.D., MAHLOBO, E.B. & LEMMER, E.M. 1995. The relationship between standardised test performance and language learning strategies in English Second Language learners: A case study. *Journal for language teaching, 37, no. 2.*164-178 p.

KILFOIL, W.R. & VAN DER WALT, C. 1997. Learn 2 Teach English language teaching in a multilingual context. 3rd ed. Pretoria : Van Schaik. 342 p.

KILLEN, R. 1998. Effective Teaching Strategies: Lessons from Research and Practice. 2nd ed. Katoomba : Social Science Press. 196 p.

KOZULIN, A. 1990. Vygotsky's Psychology: A Biography of Ideas. NY : Harvester, Wheatsheaf. 286 p.

KRAMER, D. 2006. OBE Teaching Toolbox: OBE strategies, tools and techniques for implementing Revised Curriculum 2005. Florida Hills : Vivlia Education for the Nation. 181 p.

KROUSE, M.A. 1992. Communicative English: Second Language in the Primary School. Cape Town : Maskew Miller Longman. 232 p.

KRÜGEL, R. 2005. The Influence of the Language Proficiency of English Teachers who are not native speakers of English on the language skills of their learners. Vanderbijlpark : NWU. (Thesis-Med.). 215 p.

LAUBSCHER, J. 2008. Verbal communication with the author. Vereeniging.

LEEDY, P.D. & ORMROD, J.E. 2005. Practical research: planning and design. 8th ed. New Jersey : Pearson Educ. Inc. 320 p.

LEMMER, E.M. 1995. Selected linguistic realities in South African schools: problems and prospects. *Educare*, 24(2):82-96 p.

LERNER, J.W. 2003. Leaning Disabilities: Theories, Diagnosis, and Teaching Strategies. 9th ed. New York : Houghton Mifflin Company. 574 p.

LOMBARD, B.J.J. & GROSSER, M. 2004. Critical thinking abilities among prospective educators: ideals versus realities. *South African Journal of Education*, 24(3):212-216 p.

LOMBARD, B.J.J. & GROSSER, M. 2008. Critical thinking: are the ideals of OBE failing us or are we failing the ideals of OBE? *South African Journal of Education*, 28(3):561-579 p.

LOMOFSKY, L. & YOUNG, S. 2007. Applications of Feuerstein's Theory: Workbook. Instrumental Enrichment (IE). Cape Town : UCT. 28 p.

LONGMAN, 2007. South African School Dictionary: For success at school. Harlow : Pearson Educational Limited. 787 p.

LUCKETT, K. 1995. National additive bilingualism: Towards a language plan for South Africa's education. (*In* Heugh, K., Siegrühn, A. & Plüddemann, P. *eds.* Multilingual Education for South Africa. Johannesburg : Heinemann. 149 p.).

MAHLOBO, E.B. 1999. Contextual and learner factors in the development of English Second Language proficiency. Pretoria : University of South Africa. (Thesis – Ph.D.) 269 p.

MARNEWICK, L. & ROUHANI, S. 2004. Assessment (*In* Jacobs, M., Vakalisa, N. & Gawe, N. *eds.* 2004. Teaching-Learning Dynamics: A participative approach for OBE. Cape Town : Heinemann. 380 p.

MAYER, R.E. 2006. The Role of Domain Knowledge in Creative Problem Solving. (*In* Kaufman, J.C. & Baer, J. 2006. Creativity and Reason in Cognitive Development. USA : Cambridge University Press. 145-158 p.

MC MILLAN, J.H. & SCHUMACHER, S. 2006. Research in Education. 6th ed. USA : Pearson Education Inc. 517 p.

MCGREGOR, D. 2007. Developing Thinking, Developing Learning: A Guide to thinking skills in Education. Berkshire : Open University Press. 330 p.

MCKAY, S.L. unknown. Teaching English in Multilingual Setting. [Web:]http://www.und.ac.za/und/ling/archive/mcka-01.html [Date of access : 04 June 2007]

MCPECK, J.E. 1990. Teaching Critical Thinking. London : Routledge, Chapman and Hall, Inc. 136 p.

MOHLALA, T. 2008. Matric maths? Don't panic. *The Teacher*: August 2008.

MOHLALA, T. 2008. Teachers reject maths format. *The Teacher*: August 2008.

MOHLER, G. Stages of reading Development: The major qualitative characteristics and how they are acquired. [Web:] https://www.csub.edu/~gmohler/documents/stages.ppt. Date of access: 14 Sept. 2009].

MOON, J. A. 2008. Critical thinking: an exploration of theory and practice. London; New York : Routledge. 237 p.

MUCELLI, C. 1997. Reading: Start to Proficiency. Guides- Classroom- Teacher. Academic Search Elite, Available: Eric. Date of access: 19 March 2009.1-6p.

NEL,M. 2004. A story-based language enrichment programme for Grade 4 English Second Language learners with inadequate English proficiency. Vanderbijlpark : Potchefstroom University for Christian Higher Education. (Dissertation-PhD.) 331 p.

NODDINGS, N. 2006. Critical lessons: What our schools should teach. Cambridge : Cambridge University Press. 319 p.

ORMROD, J.E. 1995. Educational Psychology: Principals and Applications. New Jersey : Merrill Prentice Hall. 662 p.

ORMROD, J.E. 2008. Educational Psychology: Developing Learners. 6th ed. Upper Saddle River, New Jersey : Pearson Prentice Hall. 627 p.

PARKINSON, J. 2001. Explicit teaching of Grammar and improvement in the grammar of student writing. *Journal of Language Teaching 35(4).* Durban : Univ. of Natal. 278-293 p.

PAUL, R.W. 2004. Critical Thinking: what every person needs to survive in a rapidly changing world. California: Sonoma State University, Center for Critical Thinking. 505 p.

PAUL, R.W. & ELDER, L. 2002. Tools for taking charge of your professional and personal life. New Jersey : Pearson Hall Publisher. 358 p.

PIENAAR, G.E. 1999. Teaching critical thinking skills in the language classroom. *tydskrif vir Taalonderrig*, 35 nr. 2&3. Pretoria : UNISA 125- 137 p.

PIENAAR, M. 2002. The use of plain language – not that simple. *Journal of Language Teaching, 36, no 1+2.* 146-151 p.

PLÜDDEMANN, P. 2007. ACEing language transformation. *LEAPnews 15/16.* September – December 2007.

PIETERSEN, J. & MAREE, K. 2008. Statistical analysis I: descriptive statistics (*In* Maree, K. First steps in Research. Pretoria : Van Schaik Publishers. 183-196 p.

PRUSENTE, E.Z. 2005. 'Dual-mediumism' promotes Bantu education. Cape Town : PRAESA. 9 p.

RADEMEYER, A. 2007. SA vaar swakste in toets. Beeld : 1 Dec. B2.

RICHARD-AMATAO, P.A. & SNOW, M.A. 1992. The multicultural classroom: readings for content area teachers. *Eds.* New York : Longman. 413 p.

ROBINSON, A., KATZMAN, J. AND STAFF OF THE PRINCETON REVIEW. 2009. Cracking the SAT 2009 edition: Proven techniques from the test-prep experts. New York : Random House, Inc. 661 p.

RUDE, R.T. & OEHLKERS, W.J. 1984. Helping learners with reading problems. New Jersey : Prentice-Hall Inc. 363 p.

SA See South Africa.

SCHEEPERS, R. 2006. The effect on immersion on Grade 7 learners' vocabulary size; is incidental learning vocabulary enough? *Journal for Language Teaching, 40(2).* 1-19 p.

SCHOOL OF TOMORROW. 1994. Procedure Manual Volume 1. USA : ACE School of Tomorrow. 192 p.

SCHOOL OF TOMORROW. 1994. Procedure Manual Volume 2. USA : ACE School of Tomorrow. 370 p.

SCHROEDER, L. 2004. Mother-tongue education in schools in Kenya: some hidden beneficiaries. *Journal of Language Matters,* 35(2):376-389, December.

SCHUNK, D.H. 2004. Learning Theories: An educational perspective. 4th ed. New Jersey : Pearson Prentice Hall. 532 p.

SHARAN, S. 1990. *ed.* Cooperative Learning, Theory and Research. New York : Praeger Publisher. 314 p.

SMITH, J. 2008. Her mantra is quality, her trouble is criticism. *Saturday Star* : 15 January 10.

SMITH, E.E. & OSHERSON, D.N. 1995. *eds.* Thinking: An invitation to cognitive science. 2ed. Vol.3

SOUTH AFRICA. Department of Education. 1997. Language in Education Policy. Pretoria : Government Printer. 4 p.

SOUTH AFRICA. Department of Education. 2002. Revised National Curriculum Statement for grades R-9: overview. Pretoria : Government Printer.

SOUTH AFRICA. Department of Education. 2003. South African Language Bill. Pretoria : Government Printers.

SOUTH AFRICA. Department of Education. 2005. National Curriculum Statements Grades 10-12 (General). Learning Programme Guidelines. Languages: English. Home Language. First Additional Language. Second Additional Language. Pretoria : Government Printer. 66 p.

SOUTH AFRICA. Department of Education. 2006. National Curriculum Statements Grades 10-12 (General). Languages: English First Additional Language. Pretoria : Government Printer. 81 p.

SOUTH AFRICAN QUALIFICATION AUTHORITY. 1997. *SAQA Bulletin*, 1:7.

SPANGENBERG-URBSCHADT, K. & PRITCHARD, R. *eds.* 1997. Kids come in all languages: Reading instruction for ESL students. Delaware, U.S.A. : International Reading Association.

STEPHEN, D.F., WELMAN, J.C., & JORDAAN, W.J. 2004. English Language Proficiency as an indicator of academic performance at a tertiary institution. *SA Journal of Human Resource management*, 2(3), 42-53.

STERNBERG, R.J. 1999. Thinking styles. Cambridge : Cambridge University press. 176 p.

STERNBERG, R.J., ROEDIGER III, H.L. & HALPERN, D.F. 2007. Critical Thinking in Psychology. New York : Cambridge University Press. 340 p.

STERNBERG, R.J. & RUZGIS, P. *eds.* 1994. Personality and Intelligence. Cambridge : Cambridge University Press. 329 p.

STRYDOM, H. & PRETORIUS, L. 2000. On the directive concerning language in the new South African Constitution. (*In* Deprez, K. & Du Plessis, T. Studies in language policy in South Africa: multilingualism and Government. Pretoria : Van Schaik. p. 111-117.).

STRYDOM, J. & DU PLESSIS, S. 2000. The right to read. Pretoria : Remedium CC. 254 p.

TIMSS International Study Center – Boston College, Third International Mathematics and Science Study, TIMSS Highlights 1995, http://timss.bc.edu/timss1995.html. P.1-7.

TOBIAS, C.U. 1994. the way they learn: How to discover and teach to your child's strengths. Illinois : Tyndale House Publishers. 166 p.

UYS, A.H.C. 2006. A proposed model for training English medium of instruction teachers in South Africa. Potchefstroom : North West University, Potchefstroom Campus. (Dissertation – M.A.) 135 p.

UYS, M., VAN DER WALT, J.L., BOTHA, S.U., VAN DEN BERG, R. 2006. An integrated course for English medium of instruction teacher trainees in South Africa. *Journal for Language Teaching.* 40/2. 68-86 p.

VAKALISA, N.C.G. 2004. Participative teaching. (*In* JACOBS, M., VAKALISA, N.C.G. & GAWE, N. 2004. Teaching – Learning Dynamics: A participative approach for OBE. 3rd ed. Sandown : Heinemann Publishers (Pty.) Ltd. 380 p.)

VAN DEN BERG, G. 2004. The use of assessment in the development of higher-order thinking skills, *Africa Education Review* 1 (2) 2004. 279-294 p. UNISA Press.

VAN DEN BERG, M.E.S. 2000. Is there a need for critical thinking skills' modules at tertiary level? *South African Journal for Higher Education,* Vol.14 (1) 96-107 p.

VERSFELD, R. 1995. Language is lekker: A language activity classroom. (*In* Heugh, K. Siegrühn, A. & Plüddemann, P. *eds.* Multilingual Education for South Africa: project for the study of alternative education in South Africa: the national language project. Isando : Heinemann. 24- 29 p.

VILJOEN, M. 2002. Conceptual awareness of ESL learners at a college: An assessment. Potchefstroom : PU vir CHO. (Dissertation – M.A.) 178 p.

VON GRUENEWALDT, J.T. 1999. Achieving academic literacy in a second language: South Africa's educational predicament. *South African Journal of Higher Education/ SATHO.* Vol.13 No. 1 1999. 205-212 p.

WATSON, A. & GLASER, E.M. 2002. Watson- Glaser Critical Thinking Appraisal UK. London : Psychological Corporation Limited. 160 p.

WEIDEMAN, A. & Van RENSBURG, C. 2006. Language proficiency: Current strategies, future remedies. *Journal for Language Teaching,* 36(1&2):152 – 164 p. [Date of access: 18 August 2006]

WESSELS, M. & VAN DEN BERG, R. 1999. Practical guide to facilitating Language Learning: Methods, activities and techniques for OBE. Cape Town : Oxford University Press. 413 p.

WOOLFOLK, A. 2004. Educational Psychology. 9th ed. USA : Pearson Educ. Inc. 669 p.

ZASCAVAGE, V., MASTEN, W.G., SCROEDER-STEWARD, J. & NICHOLS, C. 2007. Comparison of critical thinking in undergraduates and graduates in special education. *International Journal of Special Education, 22(1)*:25-30 p.

ANNEXURE A

ELSA–FET INTERMEDIATE

DIAGNOSTIC/PRESCRIPTIVE REPORT

Surname:

Name:

Age:

Company No:

Date assessed:

Ed. level:

Company:

Branch/Section:

Mother Tongue:

---

1. **English Literacy Skills as measured:**

   Comparable NQF Level:

2. **Diagnosis**

   2.1 Functionally literate in English:
   No ❒ Yes ❒

   2.2 Phonics Skills:
   adequate ❒ below par ❒
   passable ❒ inadequate ❒

   2.3 Dictation Skills:
   adequate ❒ below par ❒
   passable ❒ inadequate ❒

   2.4 Basic Numeracy:
   adequate ❒ below par ❒
   inadequate ❒ poor ❒

   2.5 Language and grammar of spatial relationships:
   intact ❒ satisfactory ❒
   inadequate ❒ poorly developed ❒

   2.6 Reading comprehension at ABET III level compared with educational level claimed
   on par ❒
   below par ❒
   poorly developed ❒
   inadequate ❒

   2.7 Exposure to and familiarity with English (Cloze Procedure):
   high degree ❒ limited ❒
   rare – lacking ❒ very little ❒

   2.8 Vocabulary in context:
   excellent ❒
   well developed ❒
   average ❒
   poorly developed ❒
   inadequate for most white–collar jobs ❒

   2.9 Reading processing (i.e. cognition and proficiency) at sophisticated adult level, i.e. NQF 4:
   appears to be adequate ❒
   passable ❒
   inadequate ❒
   totally inadequate ❒

   2.10 Trainability level using English as language of learning in a formal training situation:
   very high ❒ high ❒
   fair ❒ low ❒
   very low ❒ extremely low ❒

3. **ABET HANDS–ON training required:**
   No ❒ Yes ❒

4. **Computer–based training (CBT) recommended:**
   Reading strategies
   Quantum Series

5. **Numeracy Skills Level:**
   Not applicable ❒ ABET I/II ❒
   ABET II ❒ ABET II/III ❒
   ABET III ❒ ABET III/IV ❒
   ABET IV ❒ ABET IV+ ❒

6. **ABET Numeracy training required:**
   Not applicable ❒
   No ❒
   Yes ❒

Note: ABET I = approx. Grade 3
ABET II = approx Grade 5
ABET III = approx. Grade 7
ABET IV/NQF1 = approx. Grade 9
NQF 2 = approx. Grade 10
NQF 3 = approx. Grade 11
NQF 4 = approx. Grade 12

Signed:

Date: April 25, 2006

Tel: (011) 869-2414
Fax: (011) 907-1887
e-mail: info@tjhorne.co.za

ANNEXURE B

Watson–Glaser Critical Thinking Appraisal United Kingdom (WGCTA^{UK})

Record Form

CANDIDATE

Name ..... Date of Birth Day | Mth | Year

Address .....

.....

..... Postcode .....

Gender

- ☐ Female
- ☐ Male

Ethnic Group

- ☐ White
- ☐ Black-Caribbean
- ☐ Black-African
- ☐ Black-Other

.....

- ☐ Indian
- ☐ Pakistani
- ☐ Bangladeshi
- ☐ Chinese
- ☐ Other

.....

ADMINISTRATOR

Name .....

Title .....

Organisation .....

Date of administration .....

Other information

Form	
Norm table	
Raw score	Raw score
T-score[1]	
Percentile	
Stanine	
Sten	
RANRA score[2]	

[1]T-score = WGCTA^{UK}/WGCTA standard score
[2]If administered

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INSTRUCTIONS: All answers are to be marked clearly with a pencil. If you v

Test score summary	Box 1	Box 2	Box 3	Box 4
1: Inference				
2: Recognition of Assumptions				
3: Deduction				
4: Interpretation				
5: Evaluation of Arguments				
Total raw score				

T PT ID PF
1 ○ ○ ○ ○

T PT ID PF
2 ○ ○ ○ ○

T PT ID PF
3 ○ ○ ○ ○

T PT ID PF
4 ○ ○ ○ ○

Test 2: Recognition of Assumptions

	Assumption made YES	Assumption made NO		Assumption made YES	Assumption made NO		Assumption made YES	Assumption made NO		Assumption made YES	Assumption made NO	
17	○	○	21	○	○	25	○	○	29	○	○	
18	○	○	22	○	○	26	○	○	30	○	○	
19	○	○	23	○	○	27	○	○	31	○	○	
20	○	○	24	○	○	28	○	○	32	○	○	

Test 3: Deduction

	Conclusion follows YES	Conclusion follows NO		Conclusion follows YES	Conclusion follows NO		Conclusion follows YES	Conclusion follows NO		Conclusion follows YES	Conclusion follows NO	
33	○	○	37	○	○	41	○	○	45	○	○	
34	○	○	38	○	○	42	○	○	46	○	○	
35	○	○	39	○	○	43	○	○	47	○	○	
36	○	○	40	○	○	44	○	○	48	○	○	

h to change an answer, make sure that you erase your old answer completely.

Test 1: Inference

	T	PT	ID	PF	F
5	○	○	○	○	○
6	○	○	○	○	○
7	○	○	○	○	○
8	○	○	○	○	○
9	○	○	○	○	○
10	○	○	○	○	○
11	○	○	○	○	○
12	○	○	○	○	○
13	○	○	○	○	○
14	○	○	○	○	○
15	○	○	○	○	○
16	○	○	○	○	○

Test 4: Interpretation

	Conclusion follows YES	NO
49	○	○
50	○	○
51	○	○
52	○	○
53	○	○
54	○	○
55	○	○
56	○	○
57	○	○
58	○	○
59	○	○
60	○	○
61	○	○
62	○	○
63	○	○
64	○	○

Test 5: Evaluation of Arguments

	Argument STRONG	WEAK
65	○	○
66	○	○
67	○	○
68	○	○
69	○	○
70	○	○
71	○	○
72	○	○
73	○	○
74	○	○
75	○	○
76	○	○
77	○	○
78	○	○
79	○	○
80	○	○

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ANNEXURE C

01.06.2008

PARENTAL PERMISSION TO ASSESS THE LEARNERS:

Dear parents/guardian,

I would like to ask your permission to assess your son/daughter

_____

The assessment forms part of my research in connection with the influence of English proficiency on critical thinking in Grade 11 learners.

I will use the ELSA (English Literacy Skills Assessment) and the Watson- Glaser Critical Thinking Appraisal (UK).

The learner will be out of the learning centre for about 2hours in order to do both tests, one after the other.
I will arrange with the Principal of the school what days would be most suitable.
There are no costs involved and all test results will be forwarded to you should you request so.
No names will be used nor published, everything will be absolutely confidential.
Whatever the outcome, it will be used only for the research paper and at no time held against the learner.
Should you have any queries, please feel free to contact me at phone: 0798783440 or my supervisor Dr. M.Nel at the North West University, ph. 016-910 3095.

Please would you return this form signed by tomorrow to the school office or fax it to 016 4231149, attention Mrs. U.Niekerk.
Thank you for your cooperation.

May God bless you and keep you.

In His service,

U.Niekerk
Deputy- Principal
Three Rivers Christian Academy

I, _____ herewith allow my daughter/son

_____ to be assessed by Mrs.Niekerk for

research purposes only.

Date:_____ Place:_____

Signature:_____