AN INTERACTIVE, MULTIMEDIA, WEB-BASED PROGRAM TO DEVELOP PROFICIENCY IN SPECIFIC READING SKILLS FOR ENGLISH FIRST-YEAR UNIVERSITY STUDENTS: AN EMPIRICAL STUDY

Nelia Buys

Thesis presented in partial fulfilment of the requirements for the degree of MPhil in Hypermedia for Language Learning at the University of Stellenbosch
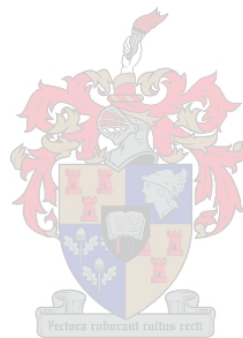

Supervisor: Mrs. R.O. du Toit   December 2004

Declaration

I, the undersigned, hereby declare that the work contained in this thesis is my own original work and that I have not previously in its entirety or in part submitted it at any university for a degree.

Signature: (Nelia Buys)

Date: 07 Oktober 2004

Summary

This empirical study is another addition to the expanding body of research on the effect of computer-based reading instruction on tertiary students within the South African context. Grounded in a sound theoretical framework and informed by practice, it identifies the importance of reading as a skill and the potential of new technology to enhance reading skills.
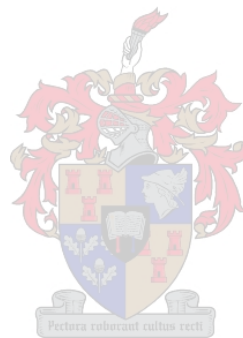
Opsomming

Hierdie empiriese studie maak 'n bydrae tot die groeinde navorsing oor die effek van rekenaargesteunde lees-onderrig op tersiêre studente binne die Suid-Afrikaanse konteks. Die studie se teoretiese basis word aangevul deur die praktiese toepassing daarvan. Die belangrikheid van lees as 'n vaardigheid en die potensiaal van nuwe tegnologie om leesvaardighede te verbeter, word bespreek.
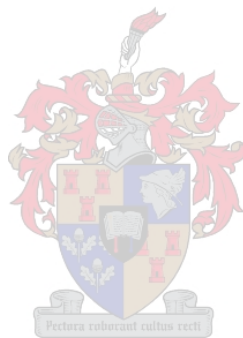
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TABLE OF CONTENT

CHAPTER 1

INTRODUCTION

1. Perceived Needs

The introductory chapter of this study presents a description of three perceived needs that are interrelated. The interrelated needs are the following: the need for an interactive multimedia, web-based program; the need to improve proficiency in specific reading skills for English, first-year university students; and the need for empirical studies to offer scientific explorations of the identified needs. The needs analysis of the three identified needs informs the structure of this study.

1.1   The need for an interactive, multimedia, web-based program

The face of education is changing on a global scale. Information and Communication Technology (ICT) is at the core of this metamorphosis (Department of Education, 2003a). The National Department of Education has published a Draft White Paper on e-Education in August 2003 subtitled "Transforming Learning and Teaching through Information and Communication Technologies", in recognition of this global trend. The draft policy heralds the use of ICTs as "a key for teaching and learning in the 21st century" (Department of Education, 2003a).
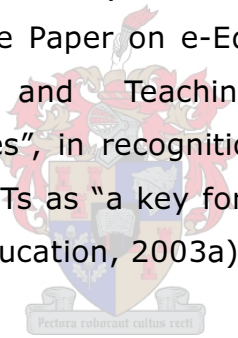
This enthusiastic approach to the integration of computers in education should indeed be welcomed. However, the inherent risk is to shift the main focus to the technological challenge, instead of remaining focused on the true goal: enhanced education. Developers of computer-assisted instructional material should have a sound theoretical foundation of education on which to build. This theoretical foundation should take into account the interdisciplinary nature of computer-assisted learning, incorporating theories of language learning and teaching with theories of instructional design and psychology (Levy, 1997:7).

Chapter 2 presents the theoretical framework of the interactive, multimedia, web-based program designed for this study entitled "PowerPlay – Reading the interactive way". This chapter is informed by a review of literature on relevant theories. This chapter aims to clarify the extent to which contributing theories are interlinked. The foundation of this framework is the

Communicative Approach in general and the Communicative Language Teaching in particular. Various aspects of Constructivist and Cognitive Learning Theories are also included. In addition, the field of Computer Assisted Language Learning (CALL) contributes an essential ingredient to the program by means of the Tutor-Tool framework (Levy, 1997:178). The field of Instructional Design plays an important role in incorporating the various theories of language learning and teaching into a workable plan for the actual development of this program.

1.2   The need to develop proficiency in specific reading skills for English, first-year university students

One of the key factors on which academic success is based, is reading skills (Strydom, 1997; Pretorius, 2001, cited in Nel, Dreyer, Kopper, 2004:95). South Africa's Department of Education echoes this view in Outcome 2 of the National Curriculum Statement (grades 10-12) on Languages: "The learner is able to read and view for understanding and to evaluate critically and respond to a wide range of texts." However, recent research has shown that many first-year university students begin their tertiary education with sub standard reading comprehension abilities (Perkins, 1991; Strydom, 1997; Dreyer, 1998; Van Wyk, 2001 cited in Nel *et al*., 2004:95). This implies that Outcome 2 of the National Curriculum Statement (b. Department of Education,13), is currently not reached. Therefore, if the secondary school context has failed to produce skilled readers, the onus lies with universities to develop and implement instructional programs that facilitate reading comprehension through the explicit instruction of reading skills (*cf.* Pretorius, 2000).

In order to develop instructional programs that are able to effectively teach reading skills, a sound theoretical knowledge is paramount. A model of reading forms an integral part of the theoretical framework of this program, and is incorporated into Chapter 2.

1.2.1   An interactive, multimedia, web-based program to develop proficiency in specific reading skills

The program developed by the researcher endeavours to combine the enormous potential of ICTs in learning and teaching, and the need to develop

proficiency in specific reading skills. Chapter 3 describes how the theoretical framework outlined in Chapter 2 informs the practical component of developing an interactive, multimedia, web-based program. More specifically, this chapter describes the extent to which the theoretical framework influences the actual program design, as well as program content. Issues of design include the characteristics of the user-interface; the choice of multimedia and the basic structure of the program; whereas content issues deal with the choice and development of instructional materials, such as texts and activities.

1.3   The need for empirical studies to address the identified needs

There seems to be international consensus that "[t]here is relatively little research on the effect of computer-assisted instruction on reading improvement" (Peterson, Burke & Segura, 1999:12). Moreover, very little research seems to have been done in this field in the South African context. A study conducted at the North West University entitled "Teaching reading strategies and reading comprehension within a technology-enhanced learning environment" (Dreyer & Nel, 2003:349) appears to be the only completed research relevant to this study.

The need for specific research in this field has also been recognized by the National Research Foundation (NRF). The NRF website states that "[t]he successful acquisition of language and literacy in a multilingual, multicultural and increasingly globalized, technologically driven environment is becoming more critical to educational and workplace success in South Africa" (National Research Foundation, 2004). The NRF has specified 7 Research Themes for "Education and the Challenge for Change". One of the research themes, Research Theme 6, focuses on "Language Issues and Literacy" (National Research Foundation, 2004).

1.3.1   Problem Statement

The problem to be addressed in this study is the development of reading skill proficiency of English first-year students at the University of Stellenbosch, by asking the following question:

- How does an interactive, multimedia, web-based program affect student proficiency in specific reading skills?

1.3.2   Purpose of This Study

The purpose of this study is two-fold:

Firstly, the aim is to develop an interactive, multimedia, web-based program that will develop proficiency in specific reading skills for English first-year university students. Secondly, this study will aim to determine if this program has succeeded in improving the students' proficiency in the targeted reading skills in a statistically, as well as practically significant way.

1.3.3   Hypothesis

An interactive, multimedia, web-based program improves students' proficiency in specific reading skills in a statistically, as well as practically, significant way.

1.3.4   Research Methodology and Design

The Mixed Methods Approach was chosen for this study because it provides the researcher with the structure of quantitative research and the flexibility of qualitative enquiry. This approach is based on pragmatic assumptions that employ a mixed methods design as strategy of inquiry (Creswell, 2003:18).

The quantitative component of this empirical study will follow a quasi-experimental, non-equivalent, repeated measures (pre- and post-test), experimental/control-group design. This type of study allows for the investigation of the language behaviour of groups under controlled conditions (Brown, 1988:3). The participants in this study were part of 2 existing English 178 tutorial groups, taught by the researcher. This called for a quasi-experimental design, also termed "a naturally occurring group design", which enables one to compare the mean performances of groups that normally occur (Brown, 1988:155).

The term "non-equivalent" refers to the sampling procedure of the experimental group. Due to certain specifications of the Department of English at the University of Stellenbosch, a completely random sample of students could not be obtained. The experimental group therefore selected themselves by volunteering to participate in the research project. A total of 26 students took part in the study, of which 11 volunteered to be in the

experimental group. The other 15 students constituted the control group. These students are a mixture of first-, second-, and even third-language English speakers.

The qualitative component of this study consists of questionnaires completed by the experimental group. The questionnaire consists of open-ended questions. These questions enquired about the following topics: the students' attitude towards the program; the suitability of content; ease of navigation; pedagogical value of information; etc.

Chapter 4 aims to give a detailed description of the research method, quantitative and qualitative instrumentation and data-collection procedures. In Chapter 5, the results of the study are provided, analyzed and discussed. The discussion of the data analysis will be aimed at exploring the implications of this study on the teaching of reading skills through ICTs. Chapter 6 contains a brief conclusion and recommendations for further research.
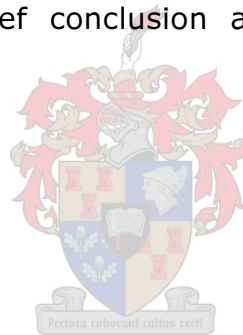
CHAPTER 2
THEORETICAL FRAMEWORK

2.1 Introduction

The review of literature discussed in this chapter includes general reading on theories of learning, teaching and reading, as well as specific readings on the role of the computer in education. Each theory constitutes an important building block in the theoretical framework as presented in Figure 1. The pillars represent the theories which culminate in the program.

Program:
PowerPlay – reading the interactive way!

| Cognitive and Constructivist Learning Theories | Computer Assisted Language Learning (CALL) | Instructional Design | Models of reading |

THE COMMUNICATIVE APPROACH
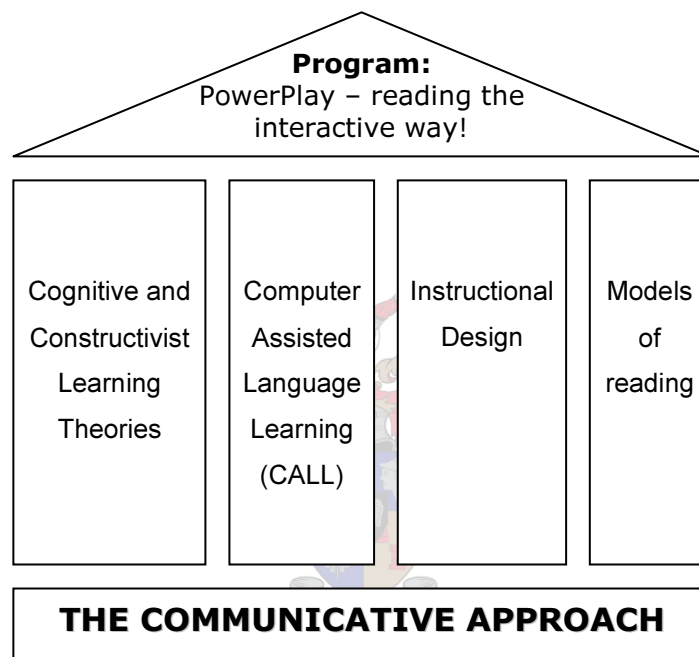
Figure 1: Components of the theoretical framework

2.2 Theories on Teaching and Learning.

2.2.1   The Communicative Approach

The base of the program's theoretical framework is the Communicative Approach. At the heart of this approach is communication: the expression, interpretation and negotiation of meaning (Lee & van Patten, 1995:148). As social beings, humans need to communicate via language for bonding purposes, as well as for informational-cognitive purposes. The "informational-cognitive purpose of communication" means that people communicate in order to obtain information, usually to perform a certain task

(Lee & van Patten, 1995:150). Communication for informational-cognitive purposes is paramount, especially at an academic level.

Some of the tasks that university students have to complete include understanding the overall content of a subject; distinguishing main points from supporting details, identifying assumptions and intentions; analysing texts; synthesising responses; and evaluating a wide range of materials (Blue, 1993, cited in Nel *et al*., 2004:95). Communicative competence is needed to communicate effectively for any purpose or at any level.

The Communicative Approach focuses on the development of communicative competence, which consists of four underlying competencies:

- Grammatical competence – the knowledge of the structure and form of language;
- Discourse competence – the knowledge of the rules of cohesion and coherence across sentences and utterances;
- Sociolinguistic competence – the knowledge of the rules of interaction: appropriate greetings, taking turns, using first names appropriately etc.;
- Strategic competence – knowing how to make the most of the language that one has, especially when it is 'deficient'. (Lee & van Patten, 1995:149)

These four competencies all contribute in various degrees to the ability to communicate effectively, depending on the purpose for communication. Communicating for informational-cognitive purposes mainly requires grammatical competence, discourse competence and strategic competence. However, should the level of either grammatical or discourse competence be inadequate, a higher demand will be placed on strategic competence. In an attempt to facilitate communication for informational-cognitive purposes, the program focuses primarily on the development of strategic competence. The importance of strategic competence in language learning is also supported by both Cognitive and Constructivist Learning Theories, which view learning as a process which is driven by strategies that can also be acquired externally (*cf.* Wolff, 1996).

2.2.2 Cognitive and Constructivist Learning Theories

In addition to communicative competence, Cognitive and Constructivist learning theories also emphasise the importance of developing learning competence (*cf.* Rüschoff, 2003). In order to develop learning competence it

is necessary to take into account the multi-faceted nature of both Cognitive and Constructivist Learning Theories. The following aspects of Cognitive and Constructivist Learning Theories contribute considerably to the program design and development:

- Learning is an active and collaborative process of knowledge construction - both incoming stimuli and already available information form part of it.
- Learning is an autonomous process, to be regulated by the learners' expectations, goals, existing schema and intentions.
- Learning is a process of discovery and experimentation based on previous knowledge and experience - learning is constantly in an area of tension between formulating and testing hypotheses.
- Learning is a process which must be supported by a rich learning environment rooted in real life and authentic situations. (*cf*. Rüschoff, 2003; Wolff, 1996)

These different aspects of learning and the learning process necessitate that certain changes take place within teaching. Wollf (1996) suggests that teaching involves:

- The use of authentic material: the use of unabridged material gives the learner more opportunity to connect his/her knowledge with new knowledge.
- The development of skills and knowledge which can be used in real life.
- The creation of an autonomous and complex learning environment which corresponds with reality.
- The construction of an awareness of the own knowledge construction process.
- The independent choice and use of learning and working methods which support the learning process (promoting learner autonomy).

Rüschoff (2003) stated that there are even more challenges facing teaching since the dawn of the information and communication age. He acknowledges the fact that information is becoming more widely available and freely accessible than ever before, but information still needs to be processed and transformed into knowledge. According to Rüschoff (2003), acquiring factual knowledge and using the conventional skills of assembling and storing information will not suffice in centuries to come: "the ultimate aim of teaching and learning will be to assist learners in their need to develop strategies of knowledge retrieval, production and dissemination."

Wolff (1996) suggests that new technologies can be used in learning and teaching in the form of cognitive tools that enable learners to construct their

own representations of knowledge, rather than absorb knowledge representations preconceived by others. Cognitive tools are mostly associated with computer programs such as concordancers and word processors with added features such as dictionaries and spell-checkers. However, in the development of the computer program described in this study, the mere use of the computer as a cognitive tool is not sufficient, due to the need to instruct and evaluate students via the computer. The Tutor-Tool framework proposed by Michael Levy, an expert in the field of Computer Assisted Language Learning (CALL), is explored to give the computer a more directive role in teaching.

2.2.3   Computer Assisted Language Learning (CALL): The Tutor-Tool Framework

The introduction of computers in education seems to have generated a considerable amount of insecurity about the role of the teacher, the learner and the computer in the teaching process. One of the major concerns and misconceptions in the past was that the computer could only assume the role of a tutor. This role is characterized by "one-to-one interactions where the computer evaluates the student input and then presents the new material accordingly" (Levy, 1997: 178). This misconception may have caused some teachers to believe that they have an ever-diminishing role to play in education (Levy, 1997: 13-44,181). However, the recent drive for the integration of computers in education enables teachers to enter into a profitable partnership with CALL (Mashile & Pretorius, 2003).

According to Warschauer (1996), the world is entering a new phase of CALL, called Integrative CALL. Through technological developments such as multimedia and the internet, Integrative CALL allows the computer to be used simultaneously as a tutor and as a tool (*cf.* Warschauer, 1996).

In order to have a clearer understanding of the versatility of the computer's role, it is important to define the concepts of the computer as a "tutor" and as a "tool". The principal difference between these two roles for the computer is evaluation. As a tutor, the computer must evaluate students. The computer is programmed to make evaluative decisions, such as whether an answer is right or wrong. Based on this evaluation, the computer could

change the order or structure of the content, essentially directing the learning process. With the computer playing the role of a tutor, the role of the teacher is a very peripheral one. Comprehensive tutoring systems such as programs produced by *Rosetta Stone* is intended to be used by individuals in self-access mode, and does not even require the presence of a teacher (Levy, 1997:181; Warschauer, 2003).

Contrastingly, the tool role for the computer is profoundly neutral and non-directive. The computer functions as a tool when it augments or improves the efficiency of the student's work. Due to the fact that the computer program does not give any guidance, the teacher plays a central role in directing the students to use the program to its fullest capacity (Levy, 1997: 181). Software such as *Microsoft Word* (word processors), Oxford's *MicroConcord* (concordancer), and all e-mail programs are very popular examples of the tool role for the computer.

In combining the functionality of the two roles of the computer, a hybrid role is created. This hybrid between the tutor and tool role for the computer enables the developer of learning software packages to create programs that have directive and evaluative components, as well as neutral, non-directive components. In the program developed for this study, the computer is a tutor when the students have to complete an activity. As a tutor, the computer directs the learning process by giving certain instructions and by evaluating the student's responses to each question. The computer is used as a tool to explain difficult words and concepts throughout the program; this is similar to incorporating a dictionary into the program. Employing the hybrid tutor-tool role for computers ensures the optimal use of computers in education.

Another field that supports using the computer to maximum effect in education is instructional design (ID): "The successful application of the computer in education is directly dependent upon instructional design ingenuity backed by a solid foundation in learning theory and learner research" (Mehl,1993 cited in De Villiers, 200:120), which "aims to apply optimal methods to promote knowledge acquisition and skills in learners".

2.2.4   Instructional Design

The aim of classical Instructional Design is to implement "optimal methods to promote knowledge acquisition and skills in learners" (Mehl, 1993 cited in De Villiers, 200:120).   Moreover, it offers models and methodologies for "systematic design and development of instructional materials, aiming to make instruction more effective, efficient and relevant" (De Villiers, 200:120). One of these models that are frequently used in designing computer-based instruction is called "Instructional Systems Design (ISD)". A typical ISD model consists of a number of steps, or phases, that function together in a cyclic fashion (A Nine-step Systems Approach to Instructional Design, 2001).

Due to the eclectic nature of computer assisted learning, only certain concepts and elements of Instructional Design and Instructional Design is incorporated into this study. The field of Instructional Design was chosen to provide flexible guidelines to this project; not to establish strict parameters.

In order to focus on developing computer-based instructional material, the design process comprises ten steps that are interrelated. Although these ten steps are depicted as separate elements of the design process, they intersect, overlap and interact with each other. A constant evaluation and revision of ideas, concepts and materials also takes place, making the whole design process non-linear. Figure 2 displays these ten steps involved in designing computer-based instructional materials. A detailed description of each of these steps is given in Alessi and Trollip's book: Computer-based instruction – Methods and Development (1991:245-248).

Step 1: Determine needs of students and goals of lesson	Step 2: Collect resource materials	Step 3: Learn the content

| Step 10: Evaluate and revise | | Step 4: Generate ideas |

| Step 9: Produce supporting materials | | Step 5: Design instruction |

| Step 8: Program lesson | Step 7: Storyboard screen displays on paper | Step 6: Flowchart the lesson to determine sequence of events |
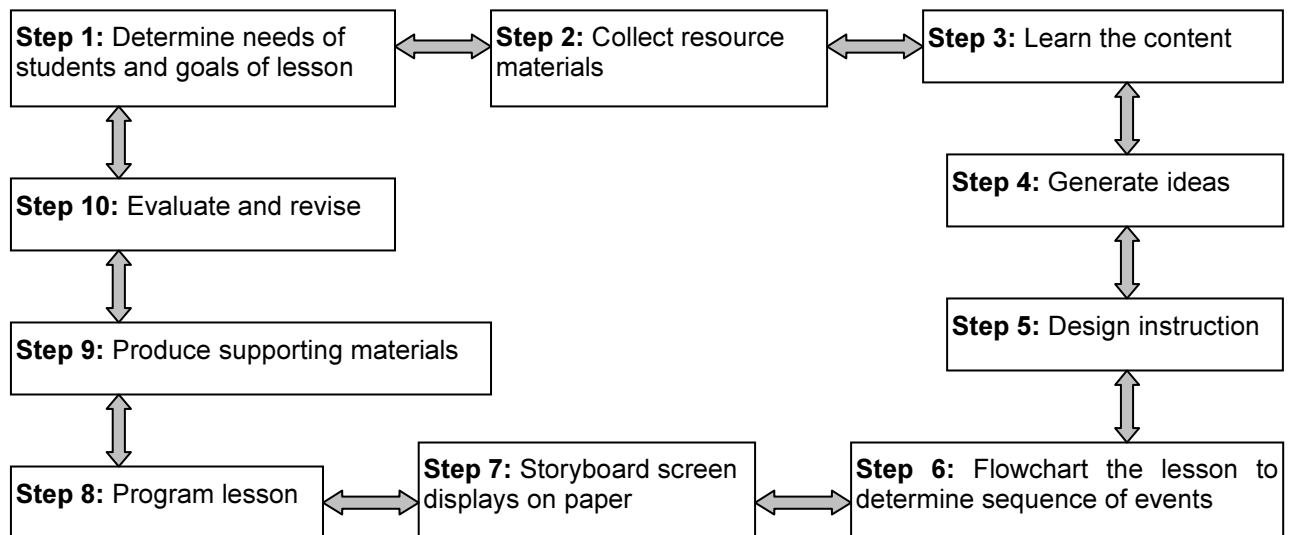
Figure 2: A 10-step model for the development of computer-based instructional materials

The fifth step, designing the actual instruction, is a crucial factor. The developer has to decide on the appropriate teaching methodology, the amount of user control, the elements of the user interface, etc. A detailed discussion of these aspects of the computer program developed for the study will be discussed in Chapter 3. Step three requires the developer to learn the content on which the instructional material will be based, because "[y]ou cannot develop effective instruction which challenges the student in creative ways unless you become thoroughly familiar with the content" (Alessi & Trollip 1991:246). However, this study features the ideal scenario, where the designer and developer is also the content expert. The developer is already thoroughly familiar with the content of the program, namely reading skills. A discussion of models and methodologies associated with reading skills will follow in the final section of this chapter.

2.3   Models of Reading

Nowadays, reading is much more than a receptive skill. It provides access to vast amounts of information and is considered to be an indispensable learning tool (Pretorius, 2000). For the purpose of this study, the emphasis will fall on reading comprehension: "Comprehension refers to the understanding process whereby meaning is assigned to the text as a whole" (Pretorius, 2000). Over the past 50 years, various models of reading have tried to explain how readers access the meaning of a whole text. In the past, there was a division between "bottom-up" and "top-down" models of

reading, which has recently been integrated into the "interactive" model of reading (Macaro, 2003:119-120). A brief description of the characteristics of each reading model follows:

a. Bottom-up model: The most important characteristic of a bottom-up model is the perception that the reader simply decodes the message/text, which the writer has encoded. This implies that there is only a single, restricted meaning of the text which is only determined by the writer. The reader can access the meaning of the text by simply decoding the message. It also implies that the decoding process is limited to the identification of letters, then words, and then sentences (Macaro, 2003:120). The reader would rely mostly on his/her grammatical- and discourse competence to negotiate meaning. The main emphasis in a bottom-up model would be the text itself.

b. Top-down model: This model of reading places the main emphasis on the meaning of a text. The reader can access this meaning by sampling words and phrases, then by predicting and inferring the underlying meaning. This can only be achieved if the reader's existing semantic, pragmatic, syntactic and discourse knowledge is activated. Sentences, phrases, discourse features and grammatical structures will activate the reader's contextual knowledge. In addition, previous experience with similar forms will lead to expectations and predictions of things that are likely to follow (Macaro, 2003:120).

c. Interactive model: The interactive model of reading is considered as the current and best explanation of how meaning is extracted from the text. It is a combination of both top-down and bottom-up strategies. In this model, reading is a process which employs various knowledge sources to access meaning. This takes into account the fact that meaning is not restricted to the text alone, but is a co-construction of the writer's text and the reader's interpretation. Accessing meaning becomes a continuous interaction between the superficial structure of the text, and the reader's knowledge of the topic. This model allows the reader to infer meaning, but also to concentrate on individual words to confirm hypotheses and connections, thereby creating different levels of interpretation. (Macaro, 2003:120-121).

Since the interactive model of reading can be seen as a combination of bottom-up and top-down models, the reading skills associated with the earlier models will also be part of the interactive model of reading. For example, word-identification would be a skill associated with a bottom-up model and would be needed for scanning the text for a specific word. This skill will also be imperative to reading a text closely. Guessing the meaning of an unfamiliar word would be an example of a skill connected with top-down models of reading. Inferring the meaning of an unknown word from the context of the text would be helpful in skimming a text to get the gist of it. This skill will be invaluable when a student is asked to critically analyse a text. Therefore, the eclectic nature of the interactive model of reading makes it the most appropriate model for this study, since it allows the purpose for reading, as well as the individual reader, to determine which skill to use in order to negotiate meaning.

2.3.1   The interrelationship of approach, strategy and skill

While conducting a study of relevant literature on reading, it came to light that there are discrepancies about the definitions of the terms 'reading skill' and 'reading strategy' (*cf*. Grellet, 1981; Goodman, 1980; Dreyer & Nel, 2003). The Communicative Approach, which serves as the underlying theoretical approach for this study, proposes the following interpretation of 'reading skill':

> Thus, reading and understanding this piece of text is an activity which the reader is able to perform because he can, inter alia, follow relationships of thought between this sentence and the preceding and following ones. Moreover, he is enabled to do this through his understanding of the cohesive function of 'thus', indicating that what follows is an explanatory apposition to the previous statement, and 'moreover', which indicates that what follows reinforces the previous statement. One may say that the reader needs to be able to 'understand relations between parts of a text through the grammatical cohesion device of logical connecters' (a language skill) in order to understand the passage (communicative activity).
>
> (Munby, 1978:116)

Therefore, the term 'reading skill' is used in this study to refer to the specific skill needed by a student to perform a certain activity, such as reading comprehension. A detailed description of these skills will be provided in

Chapter 3. The term 'reading strategy' refers to the action taken by the reader to aid in the acquisition of a certain skill. An example of a reading strategy is: "While I am reading, I try to determine the meaning of unknown words that seem critical to the meaning of the text" (Dreyer & Nel, 2003: 358)

2.3.2   Reading Strategies

According to Goodman (1980:10) the basic function of reading is to search for and develop meaning. She describes the process of reading in the following way:

> Reading begins when we interact with an author through the medium of printed material. We select the appropriate language cues needed to *predict*. Then based upon our language knowledge and background experience, that is, our schema system, we *confirm* our predictions by checking the syntactic and semantic acceptability of what we think we are reading against our knowledge of language and of the world. We *integrate* what we believe to be significant into our established meaning system. This process of predicting, confirming, and integrating proceeds continuously and interactively.

This process outlines the 3 strategies needed for comprehension to take place: predict, confirm, and integrate. Goodman (1980:10-12) goes a step further by outlining 3 language systems that are necessary for the development of the 3 strategies. These language systems are:

- The Graphophonic system – the relationship between the sounds of the language and its written form.
- The Syntactic system – the interrelationship of words, sentences, and paragraphs. It also includes the interrelationships of word order, tense, number and gender.
- The Symantic system – the relationships within language that establish meaning for the person. This involves all previous learning experiences, thoughts and knowledge about the world.

The relationship between the 3 strategies and language systems is indeed an intricate one. If all 3 language systems are available to a reader, he/she can predict and confirm language experiences based on graphophonic and syntactic information. The reader can then go on to make intelligent predictions and confirmations, because he/she has access to the necessary

semantic information. Finally, the reader can integrate what he/she is reading with what he/she already knows in order to fully comprehend (Goodman 1980:12).

Echoing the belief that "[r]eading comprehension has come to be the 'essence of reading' " (Dreyer & Nel, 2003:350), it has become essential that educators in the 21st century must develop "effective instructional means for teaching reading comprehension and reading strategy use" (Dreyer & Nel, 2003:350). The purpose of reading strategy instruction should be to "make students consciously aware of the language and thought cues available to them as readers" (Goodman, 1980:27). Due to the high level of comprehension that is required of university students, this study only focuses on the semantic language system and integration reading strategies.

2.4 Conclusion

Discussions in this chapter clearly indicate that the Communicative Approach forms the foundation of the theoretical framework. The other fields that contribute greatly to the theoretical framework are: Cognitive and Constructivist Learning Theories, Computer Assisted Language Learning, Instructional Design and Models of Reading. All the fields in the theoretical framework inform the practical design of the program, which will be discussed in detail in Chapter 3.

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CHAPTER 3
PROGRAM CONTENT AND TECHNICAL DESIGN

</div>

3.1   Introduction

The previous chapter has described the theoretical framework which forms the base of this study. The role of a theoretical framework in a practical program can never be underestimated. Theoretical principles act as practical guidelines to the developer, ensuring that he/she is not "blindly led by the latest technological innovation" (Levy, 1997:216). However, one cannot simply take any random theory and hope to achieve success in the practical application. For theory to be truly valuable as a guide, it must be sensitive to the context of the program (Carroll, 1991, cited in Levy, 1997:217).

The program developed for this study is set within the macro context of the University of Stellenbosch (US), a tertiary education institute in South Africa. The micro context of the program consists of first-year students in the English 178 (Fact & Fiction) course of the Department of English at the Faculty of Arts. The unique context of the program, as well as the supporting theoretical framework, strongly influences the two most important parts of the program: content and technical design. This chapter is therefore divided into two major sections, namely program content and technical design. In order to facilitate the discussion, the influence of theory and context is linked with the 10-step model for the development of computer-based instructional materials, presented in Chapter 2 (cf. 2.2.4).

3.2   Program Content

This section describes the extent to which the theoretical framework and context influenced the content of the program.

3.2.1   Step 1: Determine Needs of Students and Goals of Lesson

Institutions of higher education in South Africa such as the University of Stellenbosch attract first year students with various levels of skills in the area of reading, writing and communication in an academic mode. This is due to the fact that prospective first-year students have different social, economical, cultural and educational backgrounds. However, at university level a student's understanding of material and the manner in which he/she

performs certain tasks, are evaluated without considering their differing levels of skills (Nel *et al.*, 2004: 95).

During the researcher's tutorial sessions with students, it became clear that most students did not understand what they read; nor did they know how to read effectively. This finding has been supported by various studies, which found that a significant number of university students commence their studies with less than adequate reading comprehension abilities and reading strategy use (Perkins, 1991; Strydom, 1997; Dreyer, 1998; Van Wyk, 2001 cited in Nel *et al*., 2004:95). This deficiency is truly problematic, since most tasks at tertiary level are outputs of the reading process, such as writing analytical papers, or understanding the content of a subject for examination purposes.

Numerous studies have shown that the explicit teaching of reading strategies can benefit reading comprehension (*cf*. Dreyer, Nel, 2003; Pretorius, 2000; Nel, Dreyer & Kopper, 2004). This finding is in step with Cognitive and Constructivist Learning Theories. These theories recognize that "the learning process is driven by strategies that can be acquired externally" and aim to raise students' awareness on communicative, linguistic and strategic levels (*cf.* Wolff, 1996; Rüschoff, 2003). Therefore, the students need 'something' that explicitly makes them aware of reading strategies. The goal of the program developed for this study is to be that 'something' which will make students aware of reading strategies, and improve their proficiency in reading strategies and skills.

For the purpose of this study, the focus will be on promoting integration, which utilizes the semantic language system, as a reading strategy (*cf*. 2.3.2). The specific reading skills targeted in each genre of text were identified by using Munby's "Language Skill Selector" (1978:116-132). These reading skills formed the core of the 'outcomes' that were defined at the beginning of each section of the computer program. The relationship between the preferred reading strategy, the genre of text, the targeted reading skill and the specific outcomes of the section is summarized in Table 1.

Table 1: The relationship between preferred reading strategy, genre, targeted reading skill and specific outcomes

Preferred Reading Strategy	Genre of text	Targeted Reading Skill	Specific Outcomes
The semantic language system should support integration as a reading strategy throughout the program. Semantic language system: Readers should use the semantic language system to predict and confirm hypotheses. Integration Strategy: Readers integrate what they read with their existing world knowledge in order to fully comprehend. (Goodman 1980:12)	News Media	Scanning to locate specifically required information on a single point, involving a simple search (Munby, 1978:130)	1. A working knowledge of the reading skill: Scanning.
		Recognizing indicators in discourse for anticipating an objection or contrary view (Munby 1978:129)	2. Able to distinguish fact from opinion in news media articles.
	Short Stories	Selective extraction of relevant points from a text, involving the tabulation of information for comparison and contrast (Munby, 1978:129)	1. Have a better understanding of how to *selectively* extract information from a text. 2. Relate the selectively extracted information to a certain question / idea / concept. 3. Identify different perspectives within a text. 4. Identify different attitudes expressed in a text.
	Poetry	Distinguishing the main idea from supporting details, by differentiating the whole from its parts (Munby, 1978:129)	1. Distinguish between the main idea and its supporting details more easily.
		Understanding the communicative value (function) of sentences and utterances with explicit indicators (Munby, 1978:127)	2. Comment on the tone of a poem more accurately.
	The Novel	Understanding conceptual meaning, especially result, purpose and contrast (Munby, 1978:126)	1. Have a clearer understanding of the term "plot".
		Understanding the communicative value (function) of sentences and utterances without explicit indicators (Munby, 1978:127)	2. Be able to identify, analyze and comment on various types of argumentative dialogues.

3.2.2 Step 2: Collect Resource Materials

This process entails collecting materials "relevant to subject matter, instructional development and the instructional delivery system" (Alessi & Trollip, 1991:246). Considering the fact that this section deals mainly with the content of the program, this discussion will be limited to a description of the subject matter resource materials. Resource materials pertaining to instructional development and the instructional delivery system will be discussed in section 3.3.2 on technical design.

The choice of materials used in the program was strongly influenced by the Communicative Approach, Cognitive and Constructivist Learning Theories, and Models of Reading. All these theories require that learning be purposeful and meaningful. Learning could either take place to perform a certain task in a real-life situation, or to comprehend the meaning of an academic article (*cf.* 2.2.1, 2.2.2). Learning can only be purposeful and meaningful if it takes place within a certain context. Life provides the situational contexts which enables people to build on and expand the structures that organize their experiences (Goodman 1980:31).

Combining the importance of context with the constructivist notion that only that which can be connected with available knowledge can be understood and learnt (*cf.* Wolff, 1996); providing students with a certain context will enhance the student's learning process. A specific context is provided which should trigger the student's existing world knowledge. The program uses a central theme, 'power play' to provide an appropriate, coherent learning context. The theme, as well as the genre of text, determined the choice of material.

The English 178 (Fact & Fiction) course deals with four genres of text within the tutorial groups throughout the course of the year: a) News Media b) Short Stories c) Poetry and d) The Novel. The texts chosen for each of these genres are thematically linked either to the entire phrase 'power play', or to the separate words 'power' and 'play'. In keeping with the constructivist call for "authentic material", all the texts used in the program are complete and unabridged (*cf.* Wolff, 1996). All the photographs and other visual materials

were also chosen to act as contextual clues to trigger the reader's existing knowledge about the subject.

3.2.3   Step 3: Learn the Content

In their book, Computer-Based Instruction – Methods and Development, Alessi and Trollip (1991:262) state that it "is rare for the designer of a lesson to be completely familiar with the content to be taught." This statement is only partially applicable to the developer of this program. Before starting this research project, the researcher/developer had a fair amount of knowledge about reading, but was completely ignorant on the subject of reading instruction. The process of "learning the content" needed by the developer to effectively design this program, was indeed a rewarding one.

3.2.4   Step 4: Generate Ideas

In the case of this program the generation of creative ideas occurred more or less simultaneously with Step 2 (collecting resource materials). It was necessary to identify the central theme, 'power play' first, before any materials could be selected. The central theme, in conjunction with the chosen texts and other materials, guided further creative thoughts. The process of generating creative ideas culminated in different sub themes for each genre of text, which is presented in Table 2:
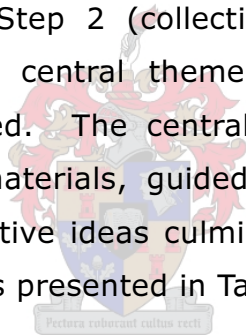
Table 2: A description of central theme and sub themes within the program

Element	Theme	Description
Program (As a whole)	Power Play (central theme) Definition: An aggressive attempt to compel acceptance/ agreement by the concentration/manipulation of power. (WordWeb,2001)	There is a continuous power play between the reader and the text. The reader aims to understand the text fully; while the text has the power to withhold the reader from reaching his/her goal. The reader should strive to increase his power of comprehension through improving his/her proficiency in reading skills.
News Media	The Olympic Games	The word 'games' is linked with 'play', and there is certainly some 'power play' among 'powerful' athletes.
Short Stories	Context of the chosen short story, entitled "Power", by Jack Cope.	The story takes place during the autumn months on a farm in South Africa. The title refers to 'electrical power' on a literal level, and to the 'power' of the main character on a figurative level.
Poetry	War Poetry	War constitutes a very obvious power play between the fighting factions. It also evokes powerful emotions in people.
The Novel	Context of novel "The Lord of The Rings – The Two Towers", by J.R.R. Tolkien.	The extract taken from the novel features a verbal 'power play' between two of the main characters in the book.

3.2.5   Step 5: Design Instruction

One of the important decisions in this step of the design process is the instructional methodology that the program is going to utilize. Alessi and Trollip (1991:9-10) identify five main methods of computer-based instruction: tutorials, drills, simulations, games and tests.   These methodologies all target different phases of the instructional process, but can be used concurrently for maximum effect.   The program developed in this study is intended to provide an opportunity for practice. A mixture of the features of two instructional methodologies is present in the program: tutorials and drills.

3.2.5.1   Tutorials

A Tutorial is an instructional methodology especially suited to the presentation of factual information, the learning of rules and principles, and the learning of problem-solving strategies (Gagne, Wager & Rojas, 1981 quoted in Alessi & Trollip, 1991:17). The majority of effective tutorials share

the structure described by Alessi and Trollip (1991: 18), which is outlined in Figure 3:
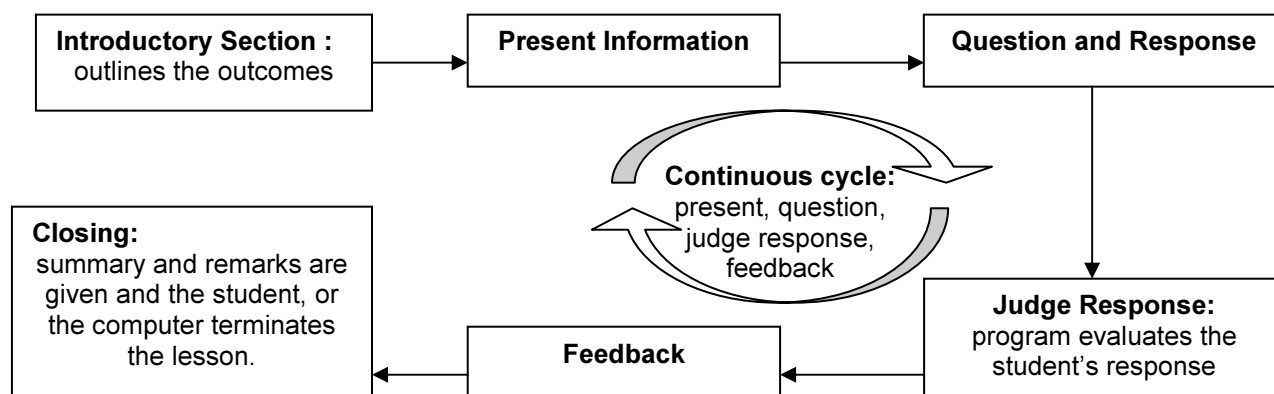
Figure 3: The general structure of an effective tutorial

3.2.5.1   a) Tutorials – Introduction and Presentation of Information

The program developed for this study generally follows this tutorial structure. Each genre of text forms a tutorial on its own. The introductory page describes the outcomes of the section and the student can choose the materials to be presented. In the tutorial, it is necessary to determine whether the mode of presentation is going to be a single medium, for example text, or a combination of different media, for example text and sound. This is largely determined by the goal of the tutorial and the subject. Due to the fact that the subject of the program is reading, which is mainly a visual activity, the mode of presentation is a combination of text and graphics (Alessi & Trollip 1991:10). The students are given a choice between various texts and a page that contains information on the targeted reading skill, which is then practiced in various activities. The choice which the students have to determine their own learning material within a section promotes learner autonomy (cf. Wolff, 1996).

Autonomous learners share one vital characteristic: intrinsic motivation. These learners are not motivated to learn by external rewards, such as prizes or money, but by things within themselves. An effective tutorial should provide "intrinsic motivators" that are "inherent to the instruction" (Lepper, 1985, 1987, cited in Alessi & Trollip, 1991:31). The main intrinsic motivator used in this program, is "[e]mbellishments (such as visual techniques) [that] increase student intensity of work and attention [and] encourage deeper cognitive processing." (Lepper, 1985, 1987 cited in Alessi & Trollip, 1991:31).

The featured embellishments in the program include: logos and headings which support the content; and visual techniques such as the use of graphics and colour to support both the central and the sub-themes (*cf.* 3.2.2; 3.2.4)

The themes used within the program also add to student motivation. According to Keller, "relevance" is a key factor in motivation (Keller & Suzuki, 1998, cited in Alessi & Trollip, 1991:32). A direct way of incorporating relevance into a tutorial is to ensure that the contents and all other materials are important and interesting to the student. The program developed for this study incorporates relevance by considering the contexts of the students. A global event that was very relevant to them was the media hype about the Athens 2004 Olympic Games. The short story appealed to them because it is written by a South-African author and is set on a typical South African farm. Images and stories of the war in Iraq are still fresh in their minds, which made 'war' an appropriate theme for the poetry section. The popularity of the films based on "The Lord of the Rings" trilogy by J.R.R. Tolkien, was taken into account when selecting a text for the novel section.

3.2.5.1   b) Tutorials – Question and Response

One of the most basic ways to ensure interactivity in a program is to ask questions which the students must answer. Asking questions about the presented information has several benefits for instruction: "They keep the student attentive to the lesson, provide practice, encourage deeper processing, and asses how well the student remembers and understands the information" (Alessi & Trollip, 1991:51). In order to provide students with enough opportunity to practice their newly acquired knowledge, certain features of the second instructional methodology, namely drills, are used in the program developed for this study.

The purpose of drills is to provide sufficient practice. In turn, practice enhances the fluency and retention of the student's new knowledge (Alessi & Trollip, 1991:10). A drill allows the student to answer multiple questions that target the same skill. The program features drills in the form of 'activities' on each genre of text. Each activity consists of numerous questions which aim to develop the student's proficiency in the use of a particular reading skill.

The word 'activity' was chosen for two main reasons. Firstly, it reinforces the idea that reading is an active process where the reader actively participates in the negotiation of meaning and construction of new knowledge. Secondly, it moves away from conventional 'educational' terms such as 'exercise', 'practice' and 'work sheet', which may affect student motivation.

Student motivation in answering questions is also influenced by how meaningful the question is. The student must be able to see that the question has a purpose; that he/she is benefiting from answering the question (Alessi & Trollip, 1991:50). Therefore, in order to develop enticing activities: "we should vary the questions and the activities according to the type of text studied and the purpose in reading it" (Grellet, 1981:7). In this program, the development of proficiency in a specific reading skill is the purpose for reading the text. The type of question posed should consequently support the development of the targeted reading skill.

The two main groups of question-types within computer-based instruction are alternate-response questions and constructed-response questions. Alternate-response questions require the student to choose the correct answer from a predefined list of options; whereas constructed-response questions ask the student to produce an answer (Alessi & Trollip, 1991:50). Section 3.2.7 on storyboarding describes the various question-types used in the program.

3.2.5.1   c) Tutorials – Judging the Response, Feedback and Closing

The manner in which the students' responses were judged in the program is closely linked with the design process and will be discussed in section 3.3.8 on technical design. The type of feedback given to the students' responses is dealt with in section 3.2.7 on storyboarding. Issues on how and when the tutorial ends are also closely linked with the design process and will also be dealt with in section 3.3.5.

3.2.6   Step 6: Flowchart the Lesson

Flowcharting is necessary to determine the sequence of events in a program (Alessi & Trollip, 1991:295). In order to do this effectively, issues of content and design should be considered in an integrated fashion. Therefore, a

description of this step in the design process will follow in section 3.3.6 on technical design.

3.2.7   Step 7: Storyboard Screen Displays on Paper

Storyboarding involves the preparation of text, graphics and any other content so that they will fit into the display area of the computer. This process traditionally involves more aspects of design than content, such as screen layout. However, content does influence the storyboarding process in two significant ways.

Firstly, one has to consider the fact that "[m]ost computer displays hold less information than a piece of paper" (Alessi & Trollip, 1991:34-35). Consequently, the authentic texts used in the program had to be divided into "logical chunks" in order to fit onto the computer screen (Lynch & Horton, 2002). Where possible, the need for the reader to scroll in order to read the text was avoided. Alessi and Trollip explain the reason why scrolling should be avoided:

> Most people find it hard to read text when it is scrolling. Scrolling is disconcerting because when text is moving it is hard to distinguish the boundary between new information and old. Lastly, with scrolling, information at the top of the display disappears automatically with the result that important information is sometimes erased unintentionally.
> (1991:35)
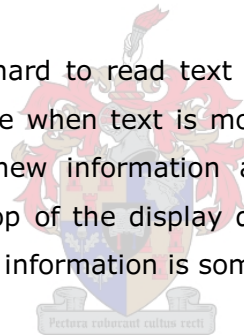
Secondly, Storyboarding involves the writing of clear and unambiguous instructions, questions and feedback (Alessi & Trollip, 1991:34-35). It was extremely important to consider four factors in the development of the questions for the various activities in the program:

- the reading skill to be developed;
- the characteristics of various question-types;
- whether or not the question-type is appropriate to develop the particular reading skill; and
- whether or not the question-types can be effectively transferred from the paper/textbook to the computer.

After careful consideration, six question-types were chosen. The functional reason for choosing certain types of questions will be discussed in section 3.3.5 on technical design. Due to a relatively large number of multiple-

choice questions in the program, this question-type is described in more detail than the others. The characteristics of the question-types mentioned in Table 3 were taken from "Developing Reading Skills – A practical guide to reading comprehension exercises" (Grellet, 1981).

Table 3: The characteristics of the question-types used in this study

Question-type	*Characteristics*		
Multiple Choice	Different functions 1. The questions help the student to understand ▪ a *fact*, or piece of information in the text; ▪ an *implied* fact; ▪ some meaning or interpretation that must be *deduced* from the text. 2. The question helps the student to ▪ *evaluate* the text on his/her own.	Different aims The question aims to ▪ *test* comprehension; ▪ *explain* or help understand a difficult word/passage; ▪ lead the student to go back to the text and *scan* it carefully; ▪ help the student *think* about the text and mentally discuss several possibilities or interpretations.	Different focal points The question can be focused on ▪ a word; ▪ an expression, clause or phrase; ▪ one or many paragraphs; or ▪ the entire text.
True/False	The student is given 2 options and he/she must choose the correct one. In order to do this, the student must carefully consider all the information available on every option.		
Matching	Students are asked to find the link between one concept, word or image and another. Students have to gather information on both.		
Completion	This is also known as a "cloze" exercise. It develops comprehension by deleting target words from a text. Students have to think about the word that would fit into the context of the sentence.		
Short answer	This question-type requires students to type in a word, phrase or number. This type of exercise may direct the student to read the text again in order to type in the correct response.		
Open-ended	This is the ideal question to use if there is not one obvious, correct answer to a question. This will force the students to go back to the text and look for supportive evidence for their answers.		

The formulation of a question should always be accompanied by the formulation of proper feedback. Practice without feedback is meaningless; the student does not know whether he/she is making progress, what he/she is doing wrong, and what can be done to make progress. Ideally, the feedback to student responses should consist of both reinforcing feedback and corrective feedback. Reinforcing feedback recognizes good performance and encourages continued effort; while corrective feedback tells the student exactly what is wrong and what can be done to improve performance

(Newby, Stepich, Lehman & Russel, 1996:120). The program employs mainly reinforcing feedback for questions with a single answer. Giving appropriate feedback to open-ended questions is more problematic, since there can be more than one correct answer. In the case of an open-ended question, the developer chose to give neutral feedback in the form of a 'suggested answer'.

3.2.8   Step 8: Program lesson

This phase of the design process involves 'translating' all your ideas, resources and plans into a product that suits the computer. The word 'translating' is used instead of the word 'transferring', because one cannot simply transfer ideas and concepts that work on paper, to the computer. The field of CALL describes this relationship as the "notion of 'fit' between an author's philosophy of language teaching and learning, and the capabilities of the technology" (Levy, 1997:163). The closer the 'match' between the properties of the medium, the attributes of the users, and the way in which it is implemented in a given context, the better (Pennington quoted in Levy, 1997:163).

After careful consideration, the developer chose to create the program for a hypertext environment. The reason for the choice of hypertext over an authoring tool, e.g. *Authorware*, is user control. Although the user will not be permitted to link immediately to different sections, he/she should be able to roam freely within a given section. This would only be truly possible in a hypertext structure: "The main distinguishing feature of hypertext documents is that they are non-linear; they allow links between parts of the documentation for purposes such as explanation and expansion, comment or criticism" (Ritchie, 1994). Other aspects and implications of hypertext will be dealt with in section 3.3 on technical design.

3.2.9   Step 9: Produce supporting materials

For computer-based instruction to be used to its fullest capacity there should at least be some supporting materials. These materials should give the users certain basic information about the program, without even turning on a computer (Alessi & Trollip, 1991:354). The specific context of this program, the US intranet, does not require the development of printed supporting materials. Despite the fact that the program will not be for sale to the public

as a stand-alone product, one type of auxiliary material is incorporated into this program. Since the program is developed especially for the students, a modified version of a student manual can be found in the *Info* section of the program. This section provides information on the navigation, structure and content.

3.2.10   Step 10: Evaluate and revise

The nature of a computer-based instructional program causes issues of content and design to be inextricably linked. Therefore, the program should be evaluated as a whole. The formal evaluation of the program developed for this study is presented in Chapters 4 and 5.

3.3   Technical Design

This section describes the extent to which the theoretical framework and context influenced the design of the program.

3.3.1   Step 1: Determine Needs of Students and Goals of Lesson

In order "to provide students with the skills and insights needed to engage with and interpret a wide variety of texts, including film and other media;" (Department of English, 2004), the English Department at the US has developed a range of computer-based programs aimed at improving aspects such as academic writing skills, tenses, verb, concord, etc. Contrastingly, little attention has been paid to the reading skills of the students. No computer-based program to develop reading skills and strategies exists.

The lack of a reading skills program is contradictory to some of the key specific skills and outcomes of the English 178 course:

- [to] develop your ability to read texts critically [outcome]
- close, interactive reading of texts and contexts [skill]

(English Department, 2004)

Evidently, the development of an interactive, multimedia program specifically aimed at improving proficiency in specific reading skills and strategies is an absolute necessity. The research results of a study at the North West University showed that students who received strategic reading instruction in a technology-enhanced environment (experimental group), scored

significantly higher than the control group on various reading comprehension tests (*cf.* Dreyer & Nel, 2003). These positive results at the North West University indicate that the reading skills of university students can be improved. Moreover, these results have proved that reading skills can be improved even more through the effective utilization of technology. However, the fact that a computer-based reading instruction program has been successfully implemented at the North West University highlights the lack of and need for a similar program at the US. Therefore, the program developed for this study is an attempt to address that need.

The success of such a program will also be determined by the extent to which it addresses the needs of its most important client, the student. The average first-year university student has probably already experienced the power of the internet, e-mail and computers. This assumption is supported by observations made by Mark Warschauer (2000): "the significance of online communication lies not in its separation from the real world, but rather in how it is impacting nearly every single aspect of the real world". In other words, the world of computers and the internet is becoming the 'real world'. This change in perception of what constitutes the 'real world', has far-reaching and positive implications for computer-based instruction.

The use of computers in education could now become standard practice, especially if the Constructivist Learning Theory informs educational development. According to this theory, "learning is a process which must be supported by a rich learning environment rooted in real life and authentic situations" (Rüschoff, 2003). As we have established, the computer is certainly rooted in real life and the internet provides access to a very rich learning environment.

During the conceptualization of this program, the developer was inspired by the following:
- the undeniably positive effect of computer-based instruction on reading skills, as proven by Dreyer and Nel (2003);
- the opportunity to provide students with a rich learning environment that finally forms an integral part of their 'real world' .

These objectives also informed the ultimate goal of this program:

to provide students with an interactive, multimedia, web-based program which develops their proficiency in specific reading skills.

3.3.2   Step 2: Collect Resource Materials

The collection of resource materials relevant to subject matter has already been dealt with in section 3.2.2 on content. The remaining topics are instructional development and the instructional delivery system.

Collecting resources on instructional development took place in the form of a theoretical literature review of Instructional Design, which has been outlined in Chapter 2 (*cf.* 2.2.4). Two integrated components of the instructional delivery system were taken into account during the collection of resource materials. The primary delivery mode is the computer. A hypertext environment, the US intranet, is the secondary delivery mode. Therefore, appropriate software was necessary to produce graphics, language exercises and hypertext documents. Graphics editors used include *Paint Shop Pro 8*, *Macromedia Fireworks MX* and *Macromedia Flash MX*. The language exercises of the News Media section were created with Hot Potatoes v.6, while the exercises of the other sections were compiled with a *Macromedia Dreamweaver MX* extension, called *CourseBuilder*. *Dreamweaver MX* was also the primary software program used to create the hypertexts documents.

3.3.3   Step 3: Learn the Content

The technical design of this program requires a fair amount of knowledge about the chosen instructional delivery system and software programs. The content of an intranet is not designed to be viewed by people on the World Wide Web, but is exclusively for people inside a company, institution or organization. The intranet of a company uses exactly the same technology as the internet, but simply on a much smaller scale. The emphasis in intranet design is not on attracting users to your site, but on providing useful information as efficiently as possible (Lynch & Horton, 2002). The implications of designing for an intranet on the technical design of the program will be explained in section 3.3.7.

In order to design hypertext documents, a sound knowledge of Hypertext Mark-up Language (HTML) is highly beneficial. Experience gained in the use of HTML by designing other web sites became invaluable. The content of the first year of the course, MPhil in Hypermedia for Language Learning, also provided a solid background to work with all the software programs listed in the previous section (*cf.* 3.3.2).

3.3.4 Generate Ideas

Generating creative ideas for the technical design of a program could become problematic. One is tempted to follow the current trends in web design, even if it has a negative impact on one's site. A good example of this is the ever-increasing use of constant animation on web pages. For some types of web sites, for example those developed for entertainment purposes, this feature is quite acceptable (Lynch & Horton, 2002). However, the use of animation on web sites that aim to provide information or training should carefully consider the use of animation, since it has the potential to distract and annoy the user. Taking into account the popularity of animation, as well as its pitfalls, the developer decided to limit animation to the entry page of the program.

Other creative thoughts that influenced the technical design of the program involve the language exercises and the feedback on questions. These aspects will be dealt with in section 3.3.8.

3.3.5 Design Instruction

The section entitled Program Content discussed the content aspects of the main instructional methodologies used in this program, namely tutorials and drills (*cf.* 3.2.5).

3.3.5.1 Tutorials

The aim of this section is to describe the technical aspects of the main instructional methodology used in this program: tutorials. In order to facilitate discussion, the same sub headings that appear in section 3.2.5.1 will be used here.

3.3.5.1 a) Tutorials – Introduction and Presentation of Information

One of the key functions of the information presentation mode is "stimulating prior knowledge" to facilitate learning (Alessi & Trollip, 1991:22). A multimedia presentation mode is ideally suited to this function. The term multimedia refers to "the integration of two or more types of information (text, images, audio, video, animation, etc.) in a single application (ICT4LT, 2004). The two main types of information integrated into this program are text and graphics. Although animation is present on the entry page, it does not feature in the rest of the program and will therefore not be included.

The benefits of multimedia in teaching reading strategies and skills have been explored in a study by Dreyer and Nel (2003):

> …the students' comprehension of content knowledge and concepts…was facilitated through graphic illustrations on the web pages, which helped to consolidate and concretize abstract content-based concepts by encouraging multi-modal processing of both visual and verbal cues as presented on the Internet page. This aspect would, therefore, have accommodated those students with a visual learning style.

This combination of multimedia with a hypertext environment is also known as "hypermedia". In more precise terms, hypermedia is "the combination of multimedia and hypertext where pieces of information presented in multiple media are connected by meaningful links" (Christensen, Giamo, Jones & Simpson, 1993)

3.3.5.1 b) Tutorials – Question and Response

Asking questions about texts or information is one of the main ways of incorporating interactivity into a program, because the student is interacting with the computer. The term "interactivity" is frequently used, but it remains an ill-defined concept, especially with regards to computer-based instruction. The following variables should be present in a program in order to provide a degree of interactivity:

- Immediacy of response
- Non-sequential access of information
- Adaptability
- Feedback

(Borsook & Higginbotham-Wheat, 1991)

The program developed for this study features three of the four variables of interactivity mentioned above. The response to students' answers is immediate; the hypertext structure provides non-sequential access of information; and the student's receive feedback when they answer a question. The program does not feature adaptability, since it has not been programmed to vary the instruction, questions and feedback according to the student's individual performance.

The main question-types used in the program have been outlined in section 3.2.7 (see Table 3). These six question-types can be categorized as either alternate-response questions, or constructed-response questions (*cf.* 3.2.5.1). Multiple-choice, true/false, matching and completion questions are all alternate-response questions. These types of questions suite the computer environment very well and they are easy to manage (Alessi & Trollip, 1991:50-57). Short-answer questions and open-ended questions are examples of constructed-response questions. Short-answer questions also work well in a computer environment, but open-ended questions presented a bit of a challenge to the developer in terms of response judgement and feedback.

3.3.5.1   c) Tutorials – Judging the Response, Feedback and Closing

The technicalities involved in judging the student's response and giving feedback are more relevant to section 3.3.8 on programming. The nature of the secondary delivery medium, the US intranet, and the program itself simplifies the closing of the program. The student views the program in his/her internet browser and can close the program at any point. No records of student responses are kept. The fact that the program is mainly for practice, means that the student can redo the activities as often as he/she wishes.

3.3.6   Step 6: Flowchart the Lesson

Determining the sequence of events in a hypertext program is closely linked with issues of learner control and navigation.

3.3.6.1   Learner Control and Navigation

The hypertext environment of this program gives the student a large amount of control over the sequencing of events. Students are not given total control over the content, because research studies have shown that "students do not make good decisions and the more control is given to the student, the more learning suffers" (Alessi & Trollip, 1991:24). Therefore, the developer guides the student either implicitly (through images) or explicitly (through instructions).

The entry page leads the student to the main menu page of the program, where he/she can choose the genre of text to be explored. The positioning of menu items implicitly indicate the preferred order: Read the 'Info' page first, then move sequentially through the genres: 'News Media', 'Short Story', 'Poetry' and 'Novel'. These genres were ordered according to the perceived level of difficulty and complexity.

Once students are within a certain section, they encounter a mixture of explicit and implicit guides. The 'Home' page of each section provides explicit instructions as to what the student should do. The textual information is reinforced by the order of the buttons in the static navigation panel. This technique is approved by the Web Style Guide: "By providing your own consistent and predictable set of navigation buttons, you also give the user a sense of your site's organization and make the logic and order of your site visually explicit" (Lynch & Horton, 2002). From this navigation panel, the student can access all the information in the section by clicking on the appropriate button. The presence of a static navigation panel negates the need for a permanent 'forward' and 'back' button.

3.3.7   Storyboard Displays on Paper

When designing screen layout, one has to consider the screen size of the potential user. It is here that the secondary delivery medium of the program, the US intranet, plays an enormous role. The program is intended for use in the multimedia classrooms and computer usage areas of the Arts Faculty. These classrooms are all equipped with the same computers, with the same standard applications and the same screen resolution: 1024 x 768 pixels. Knowing the exact screen resolution and capabilities of the potential

user's computer, it was possible to design in absolute measurements (pixels), rather than relative proportions (percentages).

Being able to design for a very specific screen size also made it possible to define functional areas of the screen. Functional areas involve allocating specific sections of the screen to specific purposes, such as directions, information and buttons (Alessi & Trollip, 1991:30). Combining the definition of functional areas with web design, the developer decided to use frames for screen layout and information presentation. The screen is divided into three main sections: the top panel remains static and displays the logo of the text genre; the left-hand panel contains the static navigation panel; and the rest of the screen is used to present the texts and activities.

3.3.8   Program the Lesson

The technical construction of this program did not require the knowledge of a specific programming language such as C++ or Java. Hypertext Mark-up Language, or HTML, was the only 'language' used. Macromedia's Dreamweaver MX significantly enhanced the process of design. Not only was Dreamweaver used in the creation of the information pages, but it was used to compile the questions and the feedback as well. All the questions in the Short Story, Poetry and Novel section were compiled by using an extension to Dreamweaver, the CourseBuilder Suite.

Although the CourseBuilder Suite makes it possible to insert a wide variety of questions directly onto a web page, it is more suited to questions for which there is only one correct answer. In order to make judgements about the student's answer, the developer of the program must predefine the answers when building the question. CourseBuilder interaction also allows you to change the appearance of the feedback. The default feedback is the Microsoft alert box, which is neither aesthetically pleasing nor informative. However, using the combination of CourseBuilder and another Dreamweaver extension, dHTML Tooltips, the developer was able to customize the feedback for each question.

The use of the Tooltip extension to Dreamweaver also allowed the developer to annotate or gloss the more difficult words in some of the text. A student

could simply move his/her cursor over the word, and an explanation or a picture would appear. The problem with any form of annotation lies in maintaining the authenticity of the text. If one would use a different colour, or underlining to highlight the word, the meaning of the word might change: the student might associate a colour with a certain meaning, or an underlined word with a hyperlink. Therefore, in order to maintain the authenticity of the text as much as possible, and provide some assistance, the developer decided to italicize the text to be glossed.

The questions of the News Media section were compiled with Hot Potatoes v.6. The reason for this apparent inconsistency is that Hot Potatoes seems to be the only program able to create a crossword puzzle. In an attempt to avoid inconsistency within a section, the developer decided to use Hot Potatoes for all the activities in the News Media section.

3.3.9   Produce Supporting Materials

The technical specifications of this program are outlined in the *Info* section. For special viewing purposes i.e. to view the program as a stand-alone application, the program is also packaged as a CD-Rom. The cover of the CD contains information about the system requirements, technical specifications and starting procedures.
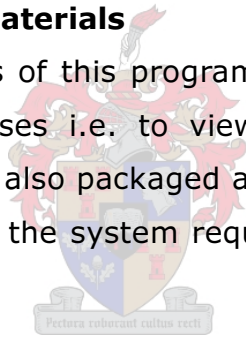
3.3.10   Evaluate and revise

In every instructional design process, evaluation takes place throughout the development of a program. However, a formal evaluation is necessary at the end to determine the success of a program. Two elements of a program that should be evaluated are: the program's visual appeal and its instructional effectiveness (Alessi & Trollip, 1991:248). The formal evaluation of the program developed for this study is presented in Chapters 4 and 5.

3.4   Conclusion

From the range of topics covered in this chapter, it is clear that the process of creating a computer-based instructional program is an extensive, intensive and rewarding one. The process also involves the successful integration of content and technical design factors. This implies that neither the content, nor the technical design of a program should be over-emphasized. In fact,

the most important aspect of designing a computer-based instructional program, is knowing your target audience: "the goal is to provide for the needs of all your potential users, adapting Web technology to their expectations" (Lynch & Horton, 2002).

The development process of the program described in Chapter Three will be followed by a formal evaluation of the program's effectiveness as a teaching aid in Chapters Four and Five.

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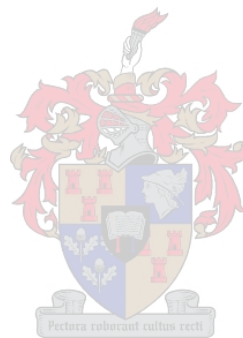
CHAPTER 4

RESEARCH METHOD AND APPROACH

</div>

4.1 Introduction

The research component of this project aims to empirically investigate the effect of the program described in the previous chapter, on students' proficiency in specific reading skills. This chapter outlines the specific approach to research, as well as the research method followed in this study.

4.2 Mixed Methods Approach

The mixed methods approach to research is based on pragmatic assumptions that employ a mixed methods design as strategy of inquiry (Creswell, 2003:18). The value of this approach lies in its capability to provide the researcher with the structure of quantitative research and the flexibility of qualitative inquiry within a single study.

4.2.1 Strategy of Inquiry

A strategy of inquiry serves as the compass in a research design; it directs all the procedures within the design. After careful consideration of the relevant criteria, the Concurrent Nested Strategy emerged as most suitable (Cresswell, 2003:218). Characteristically, this strategy of inquiry only has one data collection phase, during which both quantitative and qualitative data are collected simultaneously. The unique feature of the concurrent nested strategy is that it has a predominant method that guides the project.

In this study, the predominant method is quantitative experimentation, while the qualitative method is embedded within the quantitative experiment. The quantitative experiment aimed to determine if an interactive, multimedia web-based program had a positive effect on the reading skill proficiency of English first-year university students. The research method of the quantitative experiment constitutes the guiding research method of this study. Section 4.2.2 describes this guiding research method in more detail. In order to give more depth and context to the quantitative results, a qualitative component was introduced in the form of an evaluation questionnaire. Figure 4 provides a diagrammatic representation of the concurrent nested strategy used in this study:
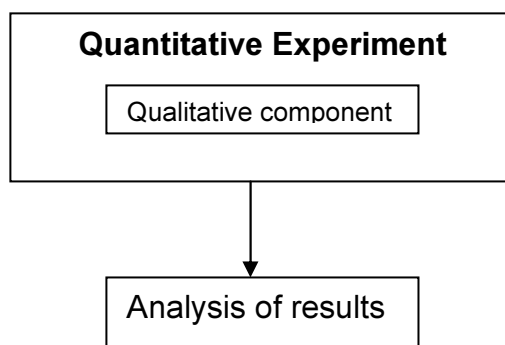
Figure 4: A diagrammatical representation of the Concurrent Nested Strategy used in this study

4.2.2   Research Method

In order to determine if an interactive, multimedia, web-based program affects student proficiency in specific reading skills positively, an experimental method was chosen.   The main aim of the experimental method of research is "to test the impact of an intervention" (Cresswell, 2003:168), which would be the program in this case.   The experimental method of quantitative research usually consists of the following components: experimental design, participants, variables, instrumentation, data collection, and statistical analysis.   These components, along with a component of qualitative research, will be described in the remainder of this section.
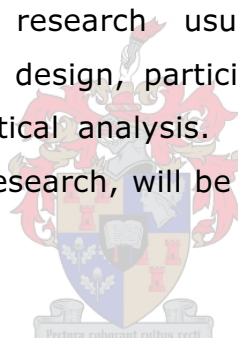
4.2.2.1   Experimental Design

A non-equivalent, repeated measures (pre and post-test), experimental/ control-group design was used in this study. The research design is quasi-experimental, because the participants belonged to intact groups (*cf*. 1.3.4). The selection of the experimental- and control group can be described as non-randomized (*cf.* 4.2.2.2). Both groups take the pre-test and the post-test, but only the experimental group receives the instructional treatment (Cresswell, 2003:169).

4.2.2.2   Participants

The participants consisted of first-year students in the English 178 (Fact & Fiction) course of the Department of English at the University of Stellenbosch.   The participants formed part of two existing English 178 tutorial groups taught by the researcher. These students are a mixture of first-, second-, and even third-language English speakers.

Due to certain specifications of the Department of English a completely random sample of students could not be obtained. Therefore, the experimental group selected themselves by volunteering to participate in the research project. A total of 26 students took part in the study, of which 11 volunteered to be in the experimental group. The other 15 students constituted the control group.

4.2.2.3   Variables

The independent variable is the group identifying the experimental- and the control group. The term "group" refers to the element that determines whether students were in the experimental, or the control group. In this study, this element was exposure to the intervention, or treatment, which was the computer program developed for this study. The experimental group was exposed to the program, while the control group was not. In other words, the computer program developed for this study is the independent variable. The dependant variables are the pre-test and post-test measurements of proficiency in the use of specific reading skills.

4.2.2.4   Instrumentation

The various instruments and instructional treatments used in this study are listed below, followed by a description of each.
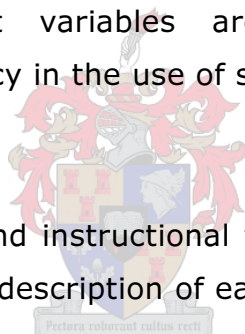
Quantitative instrumentation:

- Two reading comprehension tests were administered to determine students' proficiency in specific reading skills. One test was used as a pre-test, while the second test was administered as a post-test.

Description: Both reading comprehension tests were compiled by the researcher. The tests consisted of: a set of texts to read; four sections based on each genre of text; and one, two or three questions within each section. Each question was designed to test a specific reading skill. The questions in both tests were very similar in style to ensure that the same reading skills were tested for. However, in order to control for the practice effect, the tests were not identical (Brown, 1998:35). The total score of the pre-test (Appendices A, B and C), and the post-test (Appendices D, E and F), was 40 points. The time allocated for the completion of the test was 40 minutes. The

total mark for the test was used in the calculation of the data because the purpose of this study was to test overall proficiency in the targeted reading skills.

Instructional Treatment:

- An interactive, multimedia, web-based program was developed as an instructional treatment.

Description: The experimental group received the instructional treatment in a multi-media classroom, where each student had access to his/her own computer. Each student could work at his/her own pace. A total of 5 hours within 1 week was set aside for the instructional treatment. The students worked independently, therefore some students worked through the material faster than others. The average time spent by students working with the program, is 4 hours. The theoretical base and characteristics of this program constitutes the content of Chapters 2 & 3.

Qualitative instrumentation:

- An evaluation questionnaire of the program (instructional treatment) was developed to determine how the experimental group perceived the effect of the program.
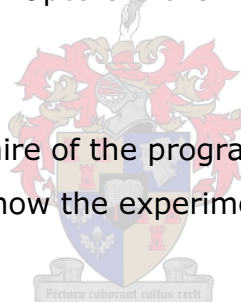
Description: The questionnaire consisted of open-ended questions which were intended to elicit a truthful, personal response from the student. These questions enquired about a wide range of topics: the students' attitude towards the program, the suitability of content, ease of navigation, pedagogical value of information, etc. For the sake of brevity, the original questionnaire is not included, but the students' responses have been summarized in Appendix G. The researcher supports the notion that successful research depends on the ability of the researcher "to be highly involved in the actual experiences of the participants" (Cresswell, 2003:181).

4.2.2.5 Data Collection Procedure

Two types of data were collected for this study: quantitative and qualitative. The test scores (percentages) of both groups on both reading comprehension tests constitute the quantitative data. The qualitative data is comprised of

student responses to open-ended questions. Data collection was conducted by the researcher. The pre- and post-test were written 15 days apart, under strict test conditions. All the tests were marked by the researcher. The evaluation questionnaire was distributed immediately after the completion of the instructional treatment, and returned to the researcher on the same day.

4.2.2.6   Statistical Analysis

A non-equivalent, repeated measures (pre- and post-test), experimental/ control-group design was used in this study (*cf.* 4.2.2.1). In the presentation and discussion of the results in Chapter 5, the following important statistical concepts are used:

Alpha level (Significance level)

The alpha level, denoted by (p), represents the probability of error that is involved in accepting a result as valid. The higher the p-level, the less one can believe that the observed result between variables in a study is a reliable indicator of the relation between the respective variables in the greater population. In language studies, the significance levels of (p) are usually set at ($p < .01$) or ($p < .05$). These values mean that the probability is less than 1% ($p < .01$) or 5% ($p < .05$) that the difference, if any, within or between groups occurred by chance alone (Brown 1998:155).

Repeated Measures Analysis of Variance (RANOVA)

RANOVA is the statistical technique used to analyse repeated measurements on the same subjects over time. It is used to determine if there are significant differences in the averages of the measurements between the time periods. If there are only 2 time periods, it can be likened to a paired t-test, which is commonly used in language studies (Brown, 1988:165).

Effect size

Cohen's effect size, denoted by (d) was used to determine if there were any practically significant differences in the participant's proficiency in specific reading skills. Cohen's effect size was used to determine the difference between the two mean scores of the pre-test and post-test of the experimental- and the control group. Cohen uses the following scale for the (d) values:

Effect sizes between groups:

Small effect	d = 0.2
Medium effect	d = 0.5
Large effect	d = 0.8

4.3 Conclusion

This chapter outlined the approach to research; the chosen instructional strategy; the method of research; as well as the experimental design used in this study.   The main statistical terms were briefly explained in order to facilitate the presentation and discussion of results in Chapter 5.

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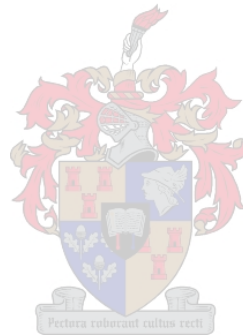
CHAPTER 5

RESEARCH RESULTS AND DISCUSSION

</div>

5.1   Introduction

The aim of this chapter is to present and discuss the analysed data of the quasi-experimental study.   This chapter also attempts to address the research question formulated in chapter 1:

- How does an interactive, multimedia, web-based program affect student proficiency in specific reading skills?

5.2   Description of Results Between Groups

The answer to the research question lies in the analysis of the mean test scores of the experimental, and the control group in the pre-test and the post-test.   Three different tests were conducted to determine whether the results were both statistically, and practically significant.

- A repeated measures ANOVA was conducted to determine if the differences in the mean performance of the experimental group, which received the instructional treatment, and the control group were statistically significant.

- A post-hoc Bonferroni test was used for a more in-depth analysis to pinpoint where the actual differences occurred.

- Cohen's effect size d was used to indicate if the difference in the mean performance was practically significant. The importance of calculating practical significance in addition to statistical significance is advocated by Dreyer (1992:100):

  > Not only do these concepts give an indication of the significance of a particular relationship, or difference, but if researchers/teachers consider applying the findings of a particular study to the teaching in their classrooms, it would be important for them to know if the relationship, or difference, is also practically significant.

5.2.1   Repeated Measures ANOVA

An analysis of the mean test scores of the experimental, and control group is summarized in Figure 5.
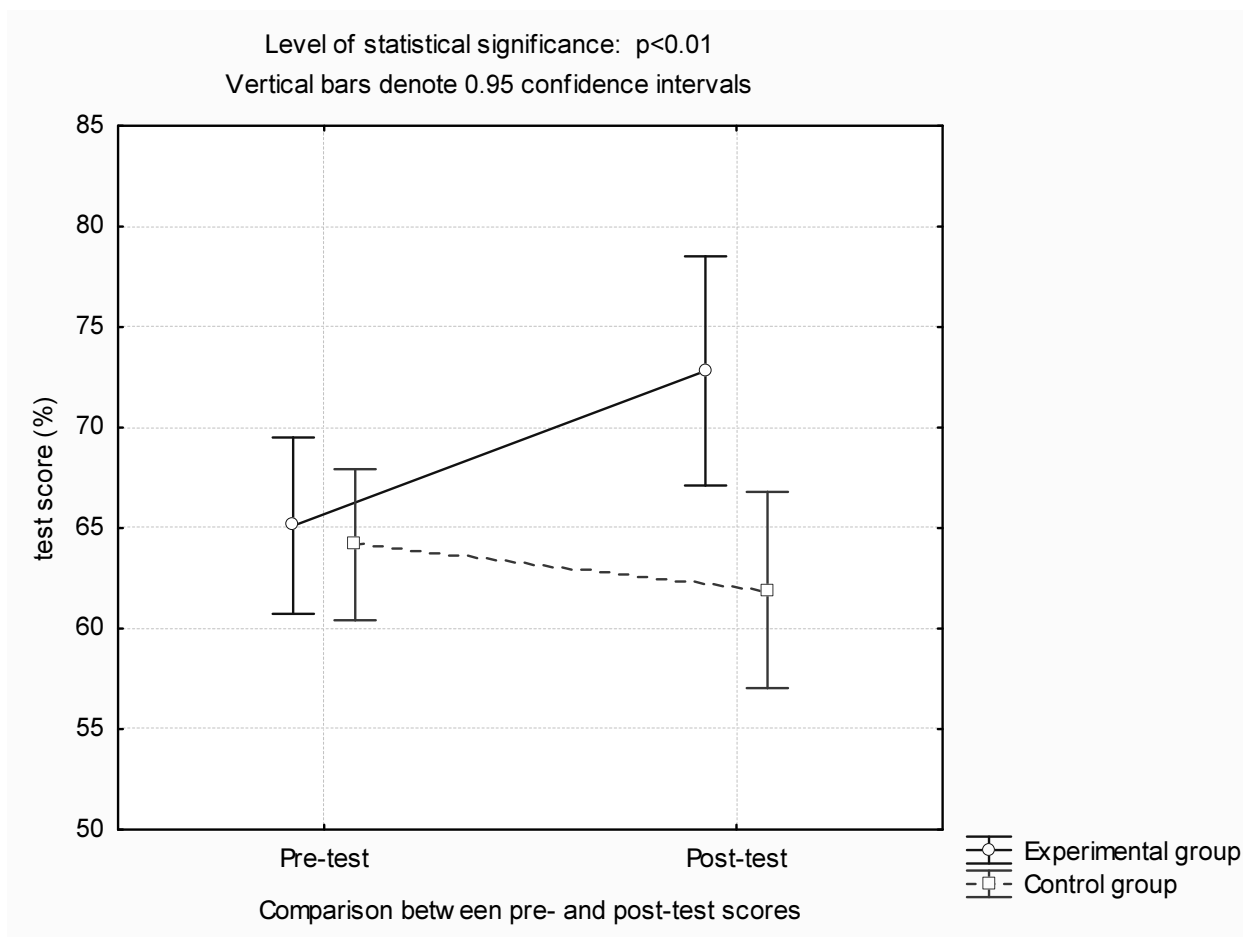
Figure 5: Graphical representation of the repeated measures ANOVA

The results of the repeated measures ANOVA indicate that:

- the students in the experimental group and the students in the control group performed on more or less the same level in the pre-test.
- the students in the experimental group performed statistically significantly better ($p < .01$) than the control group in the post-test.

5.2.2 Bonferroni Test

This test was performed to verify the interpreted results of the repeated measures ANOVA. The Bonferroni test results are summarized in Table 4.

Table 4: Results of the Bonferroni test

Group & Test	p-value (significance level)
Experimental Pre-test vs. Experimental Post-test	0.04
Experimental Pre-test vs. Control Pre-test	1.00
Control Pre-test vs. Control Post-test	1.00
Experimental Post-test vs. Control Post-test	0.06

The results of the Bonferroni test indicate that there was no difference between the test-scores of the experimental group and the control group in the pre-test (p=1.0). This could suggest that both groups had the same level of proficiency at the beginning of the study. The results also show that the control group stayed on the same level of proficiency, since there was no significant difference between their pre- and post-test scores (p=1.0) In contrast, the experimental group's performance in the post-test was significantly different from their pre-test score (p=0.04), as well as from the post-test score of the control group (p=0.06). The Bonferonni test is a very conservative test which specifies that the p-value of results should be very close to (p<0.05), therefore both (p=0.04) and (p=0.06) are considered to be statistically significant.

5.2.3   Cohen's effect size

Cohen's effect size (*d*) was used to indicate if the difference in the mean performances of the two groups was practically significant. The results of this test are summarized in Table 5.

Table 5: Level of Practical Significance – Cohen's effect size d

Test	Group	Effect size d
Pre-test	Experimental vs.Control	0.11
Post-test	Experimental vs. Control	1.21

The scale for the d values of Effect sizes between groups:

Small effect   d = 0.2
Medium effect   d = 0.5
Large effect   d = 0.8

The test for practical significance using Cohen's effect size (*d*), clearly shows that the difference between the post-test mean scores of the experimental group and the control group is practically significant (d > 0.8).

5.3   Summary and Descriptive Analysis of Evaluation Questionnaire

The students' responses to the questionnaire were noted and summarized in APPENDIX G. Where there was a unanimous answer among the students, one or two words were used for a description. Where the responses differed, the major trend was identified and commented on. The overall response to the program was extremely positive, and most participants indicated that

they would enjoy reading more if it was presented in an interactive, multimedia, web environment.

5.4   Discussion of Statistical Results

The results of this study seem to indicate that an interactive, multimedia, web-based program has a positive effect on the proficiency of students in specific reading skills. This positive effect was proven to be both statistically significant ($p < 0.01$) and practically significant ($d > 0.8$). The large effect size established for the students' performance between the two groups, suggest that tertiary institutions will be well advised to incorporate computer-based reading skill instruction into their curriculum.

The positive results of this study could have been influenced by high student motivation due to the self-selection/volunteering of participants. The students who volunteered to participate might be inherently more open to learning and more motivated to succeed. Despite this, the results of the study seem to have established a positive short-term effect of an interactive, multimedia, web-based program on students' proficiency in specific reading skills, as reflected by the post-test scores.

5.5   Conclusion

This empirical study aimed to address the need for research on the effect of computer-based instruction on reading improvement (*cf.* 1.3). The results of the statistical analysis supported the hypothesis stated in Chapter 1:

- An interactive, multimedia, web-based program improves students' proficiency in specific reading skills in a statistically, as well as practically, significant way (*cf.* 1.3.3).

The value of this study is enhanced by the mixed methods approach to research, which allowed for a qualitative element as well. The incorporation of the questionnaire made it possible to incorporate the personal responses of the target group, the students, into the research process. The importance of acknowledging input from the target group, as well as other recommendations, will be put forward in Chapter 6.

CHAPTER 6
CONCLUSIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

6.1 Introduction

The purpose of this chapter is to provide conclusive thoughts about the results of this study and its implications on the role of computer-based reading instruction in higher education. Recommendations for future research include specific suggestions on context and the design process and general recommendations.

6.2 Hypothesis

With regard to the hypothesis posed at the outset of this study (*cf.* 1.3.3) the following conclusions can be drawn:

The results indicate that an interactive, multimedia web-based computer program improves students' proficiency in specific reading skills in a statistically significantly ($p < 0.01$), and practically significantly ($d > 0.8$) way. Therefore, it is possible to accept the hypothesis posed in section 1.3.3 of Chapter 1.

6.2.1 Implications on computer-based reading instruction in higher education

- The acceptance of the hypothesis of this study is further proof that the explicit teaching of reading skills and strategies via the computer is successful in a higher education environment (*cf.* 1.3). An observation made by Pretorius (2000) describes the situation clearly: "Universities need to implement core instructional programmes in reading, because independent learning can only take place when independent reading occurs."

6.3 Recommendations for further research

6.3.1 General Recommendations

Empirical research studies which focus on the impact of computer-based reading instruction on a tertiary level are few and far between (*cf*. 1.3). Considering the importance and relevance of the issue, one wonders why there seems to be so little research. Issues of funding, technical resources

and time could all be contributing factors. Whatever the case may be, future research should focus on establishing a permanent and vital role for computer-based reading instruction in higher education institutions.

6.3.2   Specific Recommendations: Context

The successful integration of computer-based reading instruction into the university's curriculum will be determined by the students' attitude toward the instruction. This presents a challenge for developers and researchers, who have to find equilibrium between the educational need of the university, and the motivational need of the students. Researchers (Kern, Ware & Warschauer, 2004:243) identified this challenge in the paper *Crossing Frontiers: New Directions in Online Pedagogy and Research* :

> The focus went beyond the texts of online interaction to the broader contextual dynamics that shaped (and were shaped by) those texts. This required a shift from primarily quantitative research methods to principally qualitative methods that attempted to account for classroom cultures as well as language use.

The study undertaken by the researcher aimed to establish the specific context of the target group by choosing the mixed method approach to research (*cf.* 4.2) The insight gained from the qualitative evaluation questionnaire is invaluable due to its potential to inform further design or implementation decisions. Future research and design should tap this resource of information. Judging by the positive results of this particular study, it is therefore recommended that every research or design project begin with an intensive needs-analysis of the target group and the unique context of the target group.

6.4   Conclusion

The result of this study is another positive addition to the expanding body of research on the effect of computer-based reading instruction on tertiary students within the South African context. Grounded in a theoretical framework and informed by practice, it clearly identifies the importance of reading as a skill and the potential of new technology to enhance reading skills.
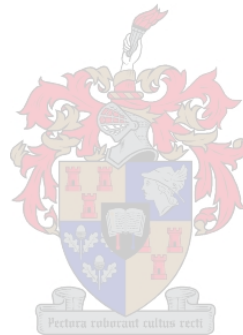
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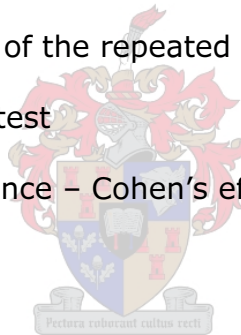# LIST OF COMPUTER PROGRAMS & SOFTWARE USED

1. Half-baked Software Inc. 2004. *Hot Potatoes* version 6.

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LIST OF TABLES AND FIGURES

APPENDIX A

Pre-Test

Reading Comprehension Test   *English 178: Fact & Fiction*   11 August 2004

Name:_____

Student number:_____

Total: 40 marks.

Section A: News Media

Question 1: Scan through the article "Sporting icons to carry Olympic torch in Cape relay" and use the text to complete the cross-word puzzle:

Clues across:

4. Which South African competed in the hurdles final of the 1956 Olympics?
6. Give the first name of the swimmer who won 2 gold medals at the 2002 Commonwealth Games.

Clues down:

1. Give the nickname of the four-time world boxing champion.
2. What is the surname of a torchbearer who won a bronze medal in Atlanta?
3. Give the first name of a torchbearer who is a former Springbok.
5. Who is the only South African to win two gold medals at an Olympic Games?
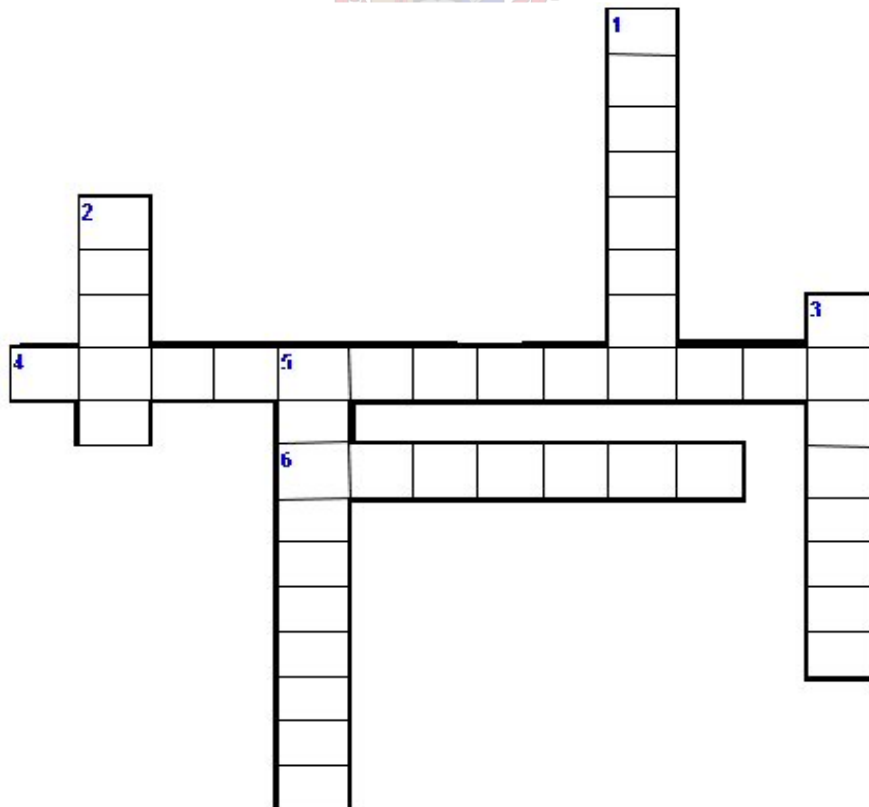
[6]

Question 2: Decide whether the following statements are fact or opinion. Indicate your choice in the box provided.

1. Gert Potgieter was too young to handle the pressure of the Olympics; that is why he did not succeed.

    Fact ☐   Opinion ☐

2. The fact that Francois Pienaar was the Springbok captain that led South Africa to World Cup victory in 1995, makes him the only rugby player worthy of carrying the Olympic torch.

    Fact ☐   Opinion ☐

3. Penny Heyns is a South African sport hero because she has won many Olympic medals and has broken many records.

    Fact ☐   Opinion ☐

4. Marianne Kriel only won the one Olympic medal because she was not good enough to win more.

    Fact ☐   Opinion ☐

[4]

Section B: Short Story

Question 1: Read through the extract (text in bold) and identify the 3 different perspectives relevant to gold (the theme of materialism).

1. Aunt Sal: _____
_____
_____

2. Dad: _____
_____
_____

3. Mother: _____
_____
_____

[3 x 2 = 6]

Question 2: Choose the perspective that you agree with most. Indicate and briefly motivate your choice.

My Choice:_____

Motivation:_____
_____

[4]

Section C: Poetry

Question 1: What is the main idea expressed in the poem **"Dulce et Decorum est"** by Wilfred Owen? Carefully consider the given options and indicate your choice by checking the box next to the option.

1. Seeing someone die is a horrific experience. ☐

2. Death is not glamorous. ☐

3. Young people should not think that going to war for one's country is glorious. It is humiliating, debilitating and unnecessary. ☐

4. War brings out the worst in people. ☐

[4]

Question 2.1 What is the author's tone throughout the poem?

_____

Question 2.2 Quote 5 words or phrases from the poem to support your answer given in 2.1.

_____

_____

[6]

Section D: The Novel

Read through the extract from J.R.R. Tolkien's "The Lord of the Rings – The Two Towers".
Question 1: Which of the following terms describes the dialogue between Frodo and Gollum the best? Indicate your answer by circling the correct letter.

        A. Entertaining conversation
        B. Question-and-Answer session
        C. A Negotiation
        D. An Educational discussion

[2]

Question 2: In the dialogue between Frodo and Gollum, certain sentence types are used. Match the sentence type with the correct sentence from the extract by writing the number of the sentence type in the space provided next to the sentence from the extract.

Sentence from extract	Number of sentence type	Type of sentence
'not unless' – he paused a moment in thought – 'not unless there is any promise you can make that I can trust.'		3. Command
'It will hold you. But it is more treacherous than you are. It may twist your words. Be ware!'		1. Condition
'Down ! down !' said Frodo. 'Now speak your promise!'		2. Warning

[3 x 2 = 6]

Question 3: Who do you think won the argument? Write down and briefly motivate your answer.

_____

_____[2]

APPENDIX B

Pre-test Texts

<u>Reading Comprehension Test – texts</u>　　　<u>English 178: Fact & Fiction</u>　　　<u>11 August 2004</u>

Section A: News Media:

Sporting icons to carry Olympic torch in Cape relay

Big names include Potgieter, Pienaar, Matlala, Radebe, Herman, Gibbs

Several South African sports heroes of yesteryear are among the 120 torchbearers named for the South African stop of the 2004 Athens Olympic Torch Relay in Cape Town on Saturday June 12.

The heroes, with the exception of legendary three-time 440 yards hurdles world record-holder Gert Potgieter, all made their mark in international sporting arenas during the last decade.

Potgieter, at the age of 19, reached the 440 yards hurdles final at the Melbourne Olympic Games in 1956. He fell at the final hurdle and finished sixth.

He broke the world record three times (50.7 secs, 49.7 secs, 49.3 secs) in the period leading up to the 1960 Rome Olympics. But a car accident a few weeks before the 1960 Olympics put paid to his career.

Some of the modern-day sports icons who will share the June 12 limelight with the 67-year-old Potgieter are Francois Pienaar (former Springbok captain), Jacob "Baby Jake" Matlala (four-time world boxing champion) and swimmer Penny Heyns, the only South African to win two gold medals at an Olympic Games.

Pienaar still enjoys the distinction of being the only captain to lead South Africa to Rugby World Cup glory - in their 1995 triumph at Ellis Park.

Matlala won his world title in 1993 when he lifted the WBO flyweight title in Glasgow. In 1995 he returned to Glasgow, this time winning the WBO junior flyweight crown. Las Vegas 1997 provided the stage for Matlala's next world conquest when he annexed the IBA junior flyweight title.

Matlala made it four world titles in 2001 when he won the WBU junior-flyweight title. Seven months later he made a successful defence. He is on record as the only SA boxer to win four world crowns.

Heyns established herself as one of the greatest breaststroke swimmers of all time after striking gold at Atlanta in 1996, in both the 100 and 200m finals. With these victories Heyns set a new world record and a new Olympic record respectively.

Heyns needed three more years before she collared the 200m world record as well. This was achieved in dramatic fashion at a Los Angeles meeting where she bettered the world mark in a heat and later in the final (on the same day) with a time of 2:24:51.

At the same meet Heyns won a 100m heat in 1:06:99 - a world record. The following year she set a new world mark at 1:06:52 - her 14th career world record.

Two other world-class athletes who will fly the flag for national swimming at the torch-relay procession are Marianne Kriel, 100m backstroke bronze medallist at Atlanta, and Natalie du Toit, who continues to rake in worldwide accolades after winning two gold medals at the 2002 Commonwealth Games.

Spectators lining the relay route can expect to hear a chant of "Rhoo!" as former Bafana Bafana captain Lucas Radebe takes his turn at carrying the flame.

One other soccer luminary will be multimillionaire Patrice Motsepe, who made headlines recently after purchasing the Tsichlas family's stake in Sundowns to become the sole owner of the Mamelodi soccer club.

Apart from Pienaar, rugby will have Chester Williams (a star turn at 1995 RWC) and Breyton Paulse winding their way along the route, which starts in Delft and ends on the Grand Parade in central Cape Town.

Article was taken from the following website:http://www.sundaytimes.co.za/2004/05/16/sport/sport/sport21.asp [16 May 2004]

Section B: Short Story - extract

I Could Have Loved Gold
By Maureen Isaacson

Dad talked about gold all the time. Gold standard and shares and world markets and creating work for the masses. The intonation of his voice acted as a soporific on mother and her already pale countenance and air of absence further dissolved. My little brother Jonathan would dip his middle finger into the butter and my aunt would yawn. But sometimes she'd say something and the two would hiss like prize bantams in a sparring match.

Into the spotless order of our Houghton mansion, Aunt Sal would bring the smoke and jazz of the streets of Sophiatown. It was in her walk and in her talk and in her eyes. She vibrated with the sax of Kippie Moeketsi and the huskiness of Dolly Rathebe and all the musos she heard there. As soon as Dad got going, she'd lose that bluesy cool; she'd talk and move fast, like a train chasing its own steam.

'Do you know what happens in the gold mines? About the hostels where there's no place for loving and precious little money to show for it when the miners do get back to their families?'

Dad would swell up with argument and a watery silence would envelop mother. It seemed that this dissension was irrelevant in the face of having an Anglo magnate husband who swathed her in nine carat this and twenty-two that.

She wore it burnished in her ears and round her neck, her wrists and waist and in her teeth. Her eyes were dull with it, with easy living and the loneliness of Dad being away so often.

Read – Short Story Collection. Compiled by Rob Gaylard. 2003. Van Schaik Content Solutions, Stellenbosch, page 99.

Section C: Poetry

DULCE ET DECORUM EST
Bent double, like old beggars under sacks,
Knock-kneed, coughing like hags, we cursed through sludge,
Till on the haunting flares we turned our backs
And towards our distant rest began to trudge.
Men marched asleep. Many had lost their boots
But limped on, blood-shod. All went lame; all blind;
Drunk with fatigue; deaf even to the hoots
Of tired, outstripped Five-Nines that dropped behind.

-    Gas! GAS! Quick, boys! An ecstasy of fumbling,
Fitting the clumsy helmets just in time;
But someone still was yelling out and stumbling,
And flound'ring like a man in fire or lime . . .
Dim, through the misty panes and thick green light,
As under a green sea, I saw him drowning.
-
In all my dreams, before my helpless sight,
He plunges at me, guttering, choking, drowning.

If in some smothering dreams you too could pace
Behind the wagon that we flung him in,
And watch the white eyes writhing in his face,
His hanging face, like a devil's sick of sin;
If you could hear, at every jolt, the blood

Come gargling from the froth-corrupted lungs,
Obscene as cancer, bitter as the cud
Of vile, incurable sores on innocent tongues -
My friend, you would not tell with such high zest
To children ardent for some desperate glory,
The old Lie: Dulce et decorum est
Pro patria mori.*

*"It is sweet and meet (fitting) to die for one's country."
by Wilfred Owen

Section D: The Novel

Passage from: The Lord of the Rings, The Two Towers
Tolkien, J. R. R. (John Ronald Reuel), 1892-1973. *The Lord of the rings.*
London : Unwin Paperbacks, 1978:640-645.

Chapter: The Taming of Sméagol.

He stood over Gollum, while Sam tied the knot. The result surprised them both.. Gollum began to scream, a thin, tearing sound, very horrible to hear. He writhed, and tried to get his mouth to his ankle and bite the rope. He kept on screaming.

At last Frodo was convinced that he really was in pain; but it could not be from the knot. He examined it and found that it was not too tight, indeed hardly tight enough. Sam was gentler than his words 'What's the matter with you?' he said. 'If you will try to run away, you must be tied; but we don't wish to hurt you.'

'It hurts us, it hurts us,' hissed Gollum. 'It freezes, it bites! Elves twisted it, curse: them! Nasty cruel hobbits! That's why we tries to escape. Of course it is, precious. We guessed they were cruel hobbits. They visits Elves, fierce Elves with bright eyes. Take it off us ! It hurts us.'

'No, I will not take it off you,' said Frodo, 'not unless' - he paused a moment in thought – 'not unless there is any promise you can make that I can trust.'

'We will swear to do what he wants, yes; yes,' said Gollum, still twisting and grabbling at his ankle. 'It hurts us.'

'Swear?' said Frodo.

'Sméagol,' said Gollum suddenly and clearly, opening his eyes wide and staring at Frodo with a strange light. 'Sméagol will swear on the Precious.'

Frodo drew himself up, and again Sam was startled by his, words and his stern voice. 'On the Precious? How dare you?' he said. 'Think!

One Ring to rule them all and in the Darkness bind them.

Will you commit your promise to that, Sméagol? It will hold you. But it is more treacherous than you are. It may twist your words. Be ware!'

Gollum cowered. 'On the Precious, on the Precious!' he repeated.

'And what would you-swear?' asked Frodo.

'To be very very good' said Gollum. Then crawling to Frodo's feet he grovelled before him, whispering hoarsely : a shudder ran over him, as if the words shook his very bones with fear. 'Sméagol will swear never, never, to let Him have it. Never! Sméagol will save it. But he must swear on the Precious.'

'No! not on it,' said Frodo, looking down at him with stern pity. 'All you wish is to see it and touch it, if you can, though you know it would drive you mad. Not on it. Swear by it, if you will. For you know where it is. Yes, you know, Sméagol. It is before you.' For a moment it appeared to Sam that his master had grown and Gollum had shrunk : a tall stern shadow, a mighty lord who hid his brightness in grey cloud, and at his feet a little whining dog. Yet the two were in some way akin and not alien: they could reach one another's minds. Gollum raised himself and began pawing at Frodo, fawning at his knees.

'Down ! down !' said Frodo. 'Now speak your promise!'

'We promises, yes I promise!' said Gollum. 'I will serve the master of the Precious. Good master, good Sméagol, gollum, gollum !' Suddenly he began to weep and bite at his ankle again.

'Take the rope off, Sam !' said Frodo.

APPENDIX C

Pre-test Memorandum

The reading skill targeted in each question is given below the question in [square brackets]. The correct answer is displayed in bold face and in **(round brackets).**

Total time: 40 minutes

Section A: News Media

Question 1 :

Scan through the article on the Olympic torch relay and use the text to complete the cross-word puzzle:

[**Skill:** Scanning to locate specifically required information on a single point, involving a simple search]

Across:

1. Which South African competed in the hurdles final of the 1956 Olympics? **(Gert Potgieter)**

2. Give the first name of the swimmer who won 2 gold medals at the 2002 Commonwealth Games. **(Natalie)**
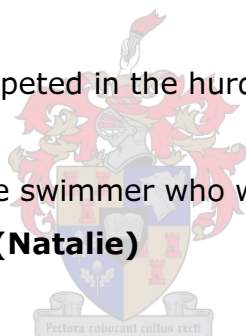
Down:

4. What is the surname of a torchbearer who won a bronze medal in Atlanta? **(Kriel)**

5. Give the first name of a torchbearer who is a former Springbok. **(Francois)**

6. Who is the only South African to win two gold medals at an Olympic Games? **(Penny Heyns)**

7. Give the nickname of the four-time world boxing champion. **(Baby Jake)**

[6]

Question 2: Decide whether the following statements are fact or opinion. Indicate your choice in the box provided.

[**Skill:** Recognizing indicators in discourse for anticipating an objection or contrary view]

5. Gert Potgieter was too young to handle the pressure of the Olympics; that is why he did not succeed. **(Opinion)**

6. The fact that Francois Pienaar was the Springbok captain that lead South Africa to World Cup victory in 1995, makes him the only rugby player worthy of carrying the Olympic torch**. (Opinion)**

7. Penny Heyns is a South African sport hero because she has won many Olympic medals and has broken many records. **(Fact)**

8. Marianne Kriel only won the one Olympic medal because she was not good enough to win more**.(Opinion)**

[4]

Section B: Short Story

Question 1: Read through the extract (text in bold) and identify the 3 different perspectives relevant to gold (the theme of materialism).

[*Skill:* Selective extraction of relevant points from a text, involving the tabulation of information for comparison and contrast.]

4. Aunt Sal: She was not fooled by the glamour of gold, and she was painfully aware of the impact gold had on the people who worked in the gold mines.

5. Dad: He thought of gold as the reason for his existence.

6. Mother: She knew that gold was a replacement for her husband.

The student's answer must contain: a word that describes the person's perspective, i.e. point of view. If further substantiation from the text was given, the student would receive the full 2 marks.

[3 x 2 = 6]

Question 2: Choose the perspective that you agree with most. Indicate and briefly motivate your choice.

[*Skill:* Same as Question 1]

Key ideas in answer: The realization that perspective is more closely associated with thought than with feeling. Student must be able to substantiate his/her answer from the text.

[4]

Section C: Poetry

Question 1: What is the main idea expressed in the poem "Dulce et Decorum est" by Wilfred Owen? Carefully consider the given options and indicate your choice by checking the box next to the option.

[*Skill*: Distinguishing the main idea from supporting details, by differentiating the whole from its parts.]

5. Seeing someone die is a horrific experience.

6. Death is not glamorous.

7. Young people should not think that going to war for one's country is glorious. It is humiliating, debilitating and unnecessary. **(Correct answer)**

8. War brings out the worst in people.

[4]

Question 2.1 What is the author's tone throughout the poem?

[*Skill:* Understanding the communicative value (function) of sentences and utterances with explicit indicators.]

(Ironic)

Question 2.2 Quote 5 words or phrases from the poem to support your answer given in 2.1.

[*Skill:* Same as Question 2.1]

(Innocent tongues; desperate glory; lie; clumsy helmets; hunting flares; helpless sight)

Section D: The Novel

Question 1: Read through the extract from J.R.R. Tolkien's "The Lord of the Rings – The Two Towers". Which of the following terms describes the dialogue between Frodo and Gollum the best?

[*Skill:* Understanding conceptual meaning, especially result, purpose and contrast]

1) Entertaining conversation

2) Question-and-Answer session

3) A Negotiation **(Correct answer)**

4) An Educational discussion

[2]

Question 2: In the dialogue between Frodo and Gollum, certain sentence types are used. Match the sentence type with the correct sentence from the extract by writing the number of the sentence type in the space provided next to the sentence from the extract.

[*Skill:* Understanding the communicative value (function) of sentences and utterances without explicit indicators]

Sentence from extract	Number of sentence type	Type of sentence
'not unless' - he paused a moment in thought – 'not unless there is any promise you can make that I can trust.'	**(1)**	1. Condition
'It will hold you. But it is more treacherous than you are. It may twist your words. Be ware!'	**(2)**	2. Warning
'Down ! down !' said Frodo. 'Now speak your promise!'	**(3)**	3. Command

[3 x 2 = 6]

Question 3: Who do you think won the argument? Write down and briefly motivate your answer.

[*Skill:* Understanding the communicative value (function) of sentences and utterances without explicit indicators]

(Gollum won the argument because Frodo ordered Sam to take off the rope, which is exactly what Gollum wanted.)

[2]

APPENDIX D

Post-Test

Reading Comprehension Test   *English 178: Fact & Fiction*   26 August 2004

Name:_____

Student number:_____
Total: 40 marks.
Section A: News Media

Question 1: Scan through the article "Sporting icons to carry Olympic torch in Cape relay" and use the text to complete the cross-word puzzle:

Clues across:
     5. Where did Penny Heyns break the 200m breaststroke record?

Clues down:
     1. In which stadium did the Rugby World Cup final take place in 1995?
     2. In which city did both Penny Heyns and Marianne Kriel win Olympic Medals?
     3. In which city did the 1956 Olympics take place?
     4. Where will the Olympic Torch arrive on the 12th of June 2004?
     6. Where did Matlala win two world titles in 1993 and 1995?

[6]
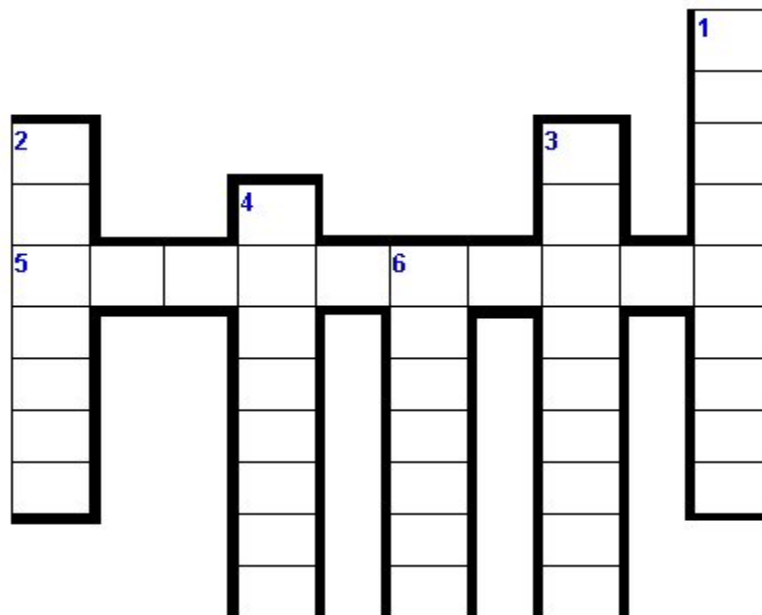
Question 2: Decide whether the following statements are fact or opinion. Indicate your choice in the box provided.

   1. Potgieter's car accident before the 1960 Olympics was a convenient excuse not to compete in the Games.

      Fact ☐   Opinion ☐

2. Marianne Kriel came third in the 100m backstroke in Atlanta, 1996.

Fact ☐   Opinion ☐

3. The nickname "Baby Jake" is inappropriate because it implies that Matlala is weak.

Fact ☐   Opinion ☐

4. Penny Heyns should be the only swimmer to be a torchbearer since she was the only one to win a gold medal in the Olympics.

Fact ☐   Opinion ☐

[4]

Section B: Short Story

Question 1: Read through the extract from "I could have loved Gold" and identify 3 different attitudes that Aunt Sal, Dad and mother had towards the children.

1. Aunt Sal: _____

_____

_____

2. Dad: _____

_____

_____

3. Mother: _____

_____

_____

[3 x 2 = 6]

Question 2: Choose the attitude that you find most appropriate. Indicate and briefly motivate your choice.

My Choice:_____

Motivation:_____

_____

[4]

Section C: Poetry

Question 1: The main idea expressed in the poem **"Dulce et Decorum est"** by Wilfred Owen is:

Young people should not think that going to war for one's country is glorious. It is humiliating, debilitating and unnecessary.

Which of the following combinations of phrases would be the best supportive evidence for the main idea? Indicate your answer by circling the number of the combination.

1. Bent double; knock-kneed; haunting flares; hoots/Of tired, outstripped Five-Nines; a man in fire or lime; helpless sight; like a devil's; such high zest.

2. like old beggars; like hags; to children…desperate glory; stumbling/ And floundering; guttering, choking, drowning; the wagon that we flung him in; His hanging face; The old Lie.

3. cursed through sludge; turned our backs; someone still was yelling; some smothering dreams; eyes writhing in his face; hear, at every jolt,…; bitter as the cud/Of vile,…; My friend; Pro patria mori.

[4]

Question 2: A major part of the author's style is to shock the reader. Give 5 examples of words/phrases that have a shocking effect.

_____

_____

[5+1=6]

Section D: The Novel

Read through the extract from J.R.R. Tolkien's "The Lord of the Rings – The Two Towers".
Question 1: Which of the following questions best summarizes the plot of the extract? Indicate your answer by circling the number of your choice.

1. Will Frodo show Sméagol the Ring?

2. Is Sméagol really being hurt by the rope which is binding him?

3. Is Sméagol lying to Frodo?

4. Will Frodo take the rope off Sméagol?

[2]

Question 2: In the dialogue between Frodo and Gollum, both use certain argumentation techniques to try and win the argument.
These techniques are particularly apparent in 3 sentences, which have been marked in your texts.
Identify the argumentation technique and the speaker who uses it, by writing the number of the sentence in the appropriate column.

Argumentation Techniques		
	Appeal to pity	Appeal to force	Appeal to authority
Frodo			
Gollum			

[3 x 2 = 6]

Question 3: What do Frodo and Gollum have in common? Quote one sentence from the extract to support your answer.

_____

_____[2]

APPENDIX E

Post-test Texts

<u>Reading Comprehension Test – texts</u>   <u>English 178: Fact & Fiction</u>   <u>26 August 2004</u>

Section A: News Media:

Sporting icons to carry Olympic torch in Cape relay

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The heroes, with the exception of legendary three-time 440 yards hurdles world record-holder Gert Potgieter, all made their mark in international sporting arenas during the last decade.

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He broke the world record three times (50.7 secs, 49.7 secs, 49.3 secs) in the period leading up to the 1960 Rome Olympics. But a car accident a few weeks before the 1960 Olympics put paid to his career.

Some of the modern-day sports icons who will share the June 12 limelight with the 67-year-old Potgieter are Francois Pienaar (former Springbok captain), Jacob "Baby Jake" Matlala (four-time world boxing champion) and swimmer Penny Heyns, the only South African to win two gold medals at an Olympic Games.

Pienaar still enjoys the distinction of being the only captain to lead South Africa to Rugby World Cup glory - in their 1995 triumph at Ellis Park.

Matlala won his world title in 1993 when he lifted the WBO flyweight title in Glasgow. In 1995 he returned to Glasgow, this time winning the WBO junior flyweight crown. Las Vegas 1997 provided the stage for Matlala's next world conquest when he annexed the IBA junior flyweight title.

Matlala made it four world titles in 2001 when he won the WBU junior-flyweight title. Seven months later he made a successful defence. He is on record as the only SA boxer to win four world crowns.

Heyns established herself as one of the greatest breaststroke swimmers of all time after striking gold at Atlanta in 1996, in both the 100 and 200m finals. With these victories Heyns set a new world record and a new Olympic record respectively.

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Two other world-class athletes who will fly the flag for national swimming at the torch-relay procession are Marianne Kriel, 100m backstroke bronze medallist at Atlanta, and Natalie du Toit, who continues to rake in worldwide accolades after winning two gold medals at the 2002 Commonwealth Games.

Spectators lining the relay route can expect to hear a chant of "Rhoo!" as former Bafana Bafana captain Lucas Radebe takes his turn at carrying the flame.

One other soccer luminary will be multimillionaire Patrice Motsepe, who made headlines recently after purchasing the Tsichlas family's stake in Sundowns to become the sole owner of the Mamelodi soccer club.

Apart from Pienaar, rugby will have Chester Williams (a star turn at 1995 RWC) and Breyton Paulse winding their way along the route, which starts in Delft and ends on the Grand Parade in central Cape Town.

Section B: Short Story - extract

I Could Have Loved Gold
By Maureen Isaacson

Aunt Sal adored Jonathan and me. Whenever one of us felt sad she'd say that nothing stays the same and she'd sit with us until it went over. She'd tell us stories; it was only through her that we ever got to hear of cottages in woods and baskets to be taken to grandmothers and people like Rapunzel letting down their hair. She told her own version; with syncopated rhythm and high drama.

Dad believed in facts. When he did tell us stories they would invariably be about gold.

`The Incas of Peru,' he said, 'believed that the tears of the sun fell in golden drops. They wore huge golden circles in their ears, just like the wooden ones the Nguni natives wear in South Africa.

'If you're going to tell kids something, make sure it's useful,' he said. He told us tales of ancient Roman gold mines. He talked about gold leaf death masks, thin as gossamer, used by the early Greeks and said that gold was civilised; it was something to believe in. It had changed his life. 'I didn't make it big through fairy stories. Nor jazz for that matter,' he said.

Aunt Sal laughed at the way my parents listened to the sounds of Elvis Presley and the Everly Brothers, when there was all that going on just around the corner. My parents weren't interested in what was going on round the corner, and told friends that Aunt Sal had a basic problem that made it necessary for her to go into the world of the `Natives'.

She brought us Glen Miller records and blues and marabi, the sounds of the shebeens, and we'd dance until we dropped. It gave mother a headache, she would say, then she'd go and lie down.

Once I heard Aunt Sal say to mother, `You weren't like this before, Sarah'.

`Well now I am,' mother said.

I was at primary school at the time, and my experience of the world was limited to our Houghton mansion, our many servants and mother's golden unhappiness. She remained passive and inert, it was as if she'd been alchemised into some mystical substance, and was no longer with us. She looked into mirrors for a long time and I wondered what she was thinking; if she was thinking. She was always around, but I missed her.

Read – Short Story Collection. Compiled by Rob Gaylard. 2003. Van Schaik Content Solutions, Stellenbosch, page 100.

Section C: Poetry

DULCE ET DECORUM EST

Bent double, like old beggars under sacks,
Knock-kneed, coughing like hags, we cursed through sludge,
Till on the haunting flares we turned our backs
And towards our distant rest began to trudge.
Men marched asleep. Many had lost their boots
But limped on, blood-shod. All went lame; all blind;
Drunk with fatigue; deaf even to the hoots
Of tired, outstripped Five-Nines that dropped behind.

-    Gas! GAS! Quick, boys! An ecstasy of fumbling,
Fitting the clumsy helmets just in time;
But someone still was yelling out and stumbling,
And flound'ring like a man in fire or lime . . .
Dim, through the misty panes and thick green light,
As under a green sea, I saw him drowning.
-
In all my dreams, before my helpless sight,
He plunges at me, guttering, choking, drowning.

If in some smothering dreams you too could pace
Behind the wagon that we flung him in,
And watch the white eyes writhing in his face,
His hanging face, like a devil's sick of sin;
If you could hear, at every jolt, the blood
Come gargling from the froth-corrupted lungs,
Obscene as cancer, bitter as the cud
Of vile, incurable sores on innocent tongues -
My friend, you would not tell with such high zest
To children ardent for some desperate glory,
The old Lie: Dulce et decorum est
Pro patria mori.*

*"It is sweet and meet (fitting) to die for one's country."
by Wilfred Owen

Section D: The Novel

Passage from: The Lord of the Rings, The Two Towers
Tolkien, J. R. R. (John Ronald Reuel), 1892-1973. *The Lord of the rings.*
London : Unwin Paperbacks, 1978:640-645.

Chapter: The Taming of Sméagol.

He stood over Gollum, while Sam tied the knot. The result surprised them both.. Gollum began to scream, a thin, tearing sound, very horrible .to hear. He writhed, and tried to get his mouth to his ankle and bite the rope. He kept on screaming.

At last Frodo was convinced that he really was in pain; but it could not be from the knot. He examined it and found that it was not too tight, indeed hardly tight enough. Sam was gentler than his words 'What's the matter with you?' he said. 'If you will try to run away, you must be tied; but we don't wish to hurt you.'

1['It hurts us, it hurts us,' hissed Gollum. 'It freezes, it bites! Elves twisted it, curse: them! Nasty cruel hobbits! That's why we tries to escape. Of course it is, precious. We guessed they were cruel hobbits. They visits Elves, fierce Elves with bright eyes. Take it off us ! It hurts us.'**]**

 'No, I will not take it off you,' said Frodo, 'not unless' - he paused a moment in thought – 'not unless there is any promise you can make that I can trust.'

'We will swear to do what he wants, yes; yes,' said Gollum, still twisting and grabbling at his ankle. 'It hurts us.'

'Swear?' said Frodo.

'Sméagol,' said Gollum suddenly and clearly, opening his eyes wide and staring at Frodo with a strange light. 'Sméagol will swear on the Precious.'

2[Frodo drew himself up, and again Sam was startled by his, words and his stern voice. **'**On the Precious? How dare you?' he said. 'Think!

One Ring to rule them all and in the Darkness bind them.]

Will you commit your promise to that, Sméagol? It will hold you. But it is more treacherous than you are. It may twist your words. Be ware!'

Gollum cowered. 'On the Precious, on the Precious !' he repeated.

'And what would you·swear?' asked Frodo.

'To be very very good' said Gollum. Then crawling to Frodo's feet he groveled before him, whispering hoarsely : a shudder ran over him, as if the words shook his very bones with fear. 'Sméagol will swear never, never, to let Him have it. Never! Sméagol will save it. But he must swear on the Precious.'

3['No! not on it,' said Frodo, looking down at him with stern pity. 'All you wish is to see it and touch it, if you can, though you know it would drive you mad. Not on it. Swear by it, if you will. For you know where it is. Yes, you know, Sméagol. It is before you.' **]** For a moment it appeared to Sam that his master had grown and Gollum had shrunk : a tall stern shadow, a mighty lord who hid his brightness in grey cloud, and at his feet a little whining dog. Yet the two were in some way akin and not alien : they could reach one another's minds. Gollum raised himself and began pawing at Frodo, fawning at his knees.

'Down ! down !' said Frodo. 'Now speak your promise!'

'We promises, yes I promise!' said Gollum. 'I will serve the master of the Precious. Good master, good Sméagol, gollum, gollum !' Suddenly he began to weep and bite at his ankle again.

'Take the rope off, Sam !' said Frodo.

APPENDIX F

Post-test Memorandum

The reading skill targeted in each question is given below the question in [square brackets]. The correct answer is displayed in bold face and in **(round brackets).**
Total time: 40 minutes

Section A: News Media

Question 1:
Scan through the article on the Olympic torch relay and use the text to complete the cross-word puzzle:
[**Skill:** Scanning to locate specifically required information on a single point, involving a simple search]

Clues across:

5. Where did Penny Heyns break the 200m breaststroke record? **(Los Angeles)**

Clues down:

1. In which city did both Penny Heyns and Marianne Kriel win Olympic Medals? **(Atlanta)**
2. Where will the Olympic Torch arrive on the 12th of June 2004? **(Cape Town)**
3. Where did Matlala win two world titles in 1993 and 1995? **(Glasgow)**
4. In which city did the 1956 Olympics take place? **(Melbourne)**
6. In which stadium did the Rugby World Cup final take place in 1995? **(Ellis Park)**

Question 2: Decide whether the following statements are fact or opinion. Indicate your choice in the box provided.
[**Skill:** Recognizing indicators in discourse for anticipating an objection or contrary view]

1. Potgieter's car accident before the 1960 Olympics was a convenient excuse not to compete in the Games. **(Opinion)**
2. Marianne Kriel came third in the 100m backstroke in Atlanta, 1996. **(Fact)**

3. The nickname "Baby Jake" is inappropriate because it implies that Matlala is weak. **(Opinion)**

4. Penny Heyns should be the only swimmer to be a torchbearer since she was the only one to win a gold medal in the Olympics. **(Opinion)**

Section B: Short Story

Question 1: Read through the extract (text in bold) and identify the 3 different attitudes that Aunt Sal, Dad and mother had towards the children.

[*Skill:* Selective extraction of relevant points from a text, involving the tabulation of information for comparison and contrast.]

1. Aunt Sal: She cared deeply for the children and was concerned with their happiness.

2. Dad: He also cared for the children, but on an intellectual and financial level. He was emotionally distant.

3. Mother: She was too absorbed in her own world to pay much attention to the children. One could even say that she emotionally neglected them.

The student's answer must contain: a word that describes the person's attitude, i.e. some aspect of behaviour/emotion. If further substantiation from the text was given, the student would receive the full 2 marks.
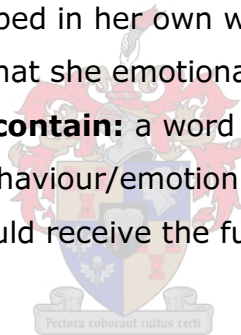
[3 x 2 = 6]

Question 2: Choose the attitude that you find most appropriate. Indicate and briefly motivate your choice.

[*Skill:* Same as Question 1]

Key ideas in answer: The realization that attitude is more closely associated with a person's behaviour and emotion than his/her thoughts. Student must be able to substantiate his/her answer from the text.

[4]

Section C: Poetry

Question 1: The main idea expressed in the poem "Dulce et Decorum est" by Wilfred Owen is:

Young people should not think that going to war for one's country is glorious. It is humiliating, debilitating and unnecessary.

Which of the following combinations of phrases would be the best supportive evidence for the main idea?

[*Skill*: Distinguishing the main idea from supporting details, by differentiating the whole from its parts.]

1. Bent double; knock-kneed; haunting flares; hoots/Of tired, outstripped Five-Nines; a man in fire or lime; helpless sight; like a devil's; such high zest.
2. like old beggars; like hags; to children…desperate glory; stumbling/ And floundering; guttering, choking, drowning; the wagon that we flung him in; His hanging face; The old Lie. **(Correct answer)**
3. cursed through sludge; turned our backs; someone still was yelling; some smothering dreams; eyes writhing in his face; hear, at every jolt,…; bitter as the cud/Of vile,…; My friend; Pro patria mori.

Question 2: A major part of the author's style is to shock the reader. Give 5 examples of words/phrases that have a shocking effect.

[*Skill:* Understanding the communicative value (function) of sentences and utterances with explicit indicators.]

(blood-shod; white eyes writhing in his face; like a devil's sick of sin; froth-corrupted lungs; Obscene as cancer; bitter as the cud of vile incurable sores on innocent tongues; to children; The old Lie.)

Section D: The Novel

Question 1: Read through the extract from J.R.R. Tolkien's "The Lord of the Rings – The Two Towers". Which of the following questions best summarizes the plot of the extract?

[*Skill:* Understanding conceptual meaning, especially result, purpose and contrast]

1. Will Frodo show Sméagol the Ring?
2. Is Gollum really being hurt by the rope which is binding him?
3. Is Gollum lying to Frodo?
4. Will Frodo take the rope off? **(Correct answer)**

[2]

Question 2: In the dialogue between Frodo and Gollum, both use certain argumentation techniques to try and win the argument. Identify the argumentation techniques used by writing the number of the sentence in the appropriate column.

[*Skill:* Understanding the communicative value (function) of sentences and utterances without explicit indicators]

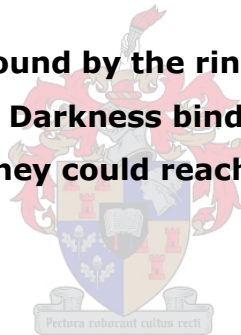| Argumentation Techniques			
	Appeal to pity	Appeal to force	Appeal to authority
Frodo		**(2)**	**(3)**
Gollum	**(1)**		

[3 x 2 = 6]

Question 3: What do Frodo and Gollum have in common? Quote one sentence from the extract to support your answer.

[*Skill:* Understanding conceptual meaning, especially result, purpose and contrast]

(They are both drawn to and bound by the ring. Quotes to support: "One Ring to rule them all and in the Darkness bind them" or 'Yet the two were in some way akin and not alien: they could reach one another's minds.)

[2]

APPENDIX G

Evaluation Questionnaire Summary

Area of Questioning	Genre of Text			
Content	*News Media*	*Short Story*	*Poetry*	*Novel*
How did you find the difficulty level of the texts?	Easy	Easy	Moderately Difficult	Difficult
Did you find the "Reading Skill Resource" sections informative – did you learn something new from them?	Yes – keywords to indicate fact/opinion.	Yes – the difference between perspective and attitude.	Yes – how to describe tone.	Yes – different kinds of arguments.
Where the questions in the various activities clear?	Yes	Yes	Yes	Yes
How did you find the difficulty level of the questions?	Easy	Relatively easy	Difficult	Moderately difficult
Were the instructions given clear and easy to follow?	Yes	Yes	Yes	Yes
Do you think that the feedback for the questions were appropriate?	Yes – the hints were helpful No – the scoring element can be discouraging.	Yes	Yes	Yes
Where the outcomes stated at the beginning of each section clear, and do you think they were reached?	Yes	Half of the students felt that all of the outcomes were reached. The other felt that there were one or two points that they did not understand.	Yes, but some students indicated that they need more practice in describing the author's tone, and supporting it with examples from the text.	The majority of the students felt that all the outcomes were reached. Two students felt that the outcomes were not reached.
Layout				
When you look at a computer screen, which path do your eyes follow? (Students were given an example figure and asked to draw a similar one)	This was an interesting experiment. The drawings of the students all indicated a different sequence of viewing information on a screen. This poses a challenge for designers!			
Are the buttons set out in the left-hand column a clear representation of the content to which they take you?	Yes	Yes	Yes	Yes

Do you ever feel "lost" on a page?	No	No	No	No
Was the text easy to read? – Comment on the size and the colour?	Yes - colours support the theme.	Yes - colours support the theme. No – one student had a negative feeling towards brown, due to the fact that her old school uniform was brown.	Yes - colours support the theme	Yes
Were the graphics appropriate, did they help in "setting the scene"?	Yes	Yes	Yes	Yes
Were the colours used in each section appropriate?	Yes	Yes	Yes	Yes

Technical Functionality

Did you find that there were certain links that did not work, or images that did not appear?	No	No	No	No
Where there any other significant "glitches" in the program that you would like to mention?	No	No	No	No

General

What feature would you add to the program if you could?	Some of the students suggested the addition of sound.
Which section's activities did you enjoy the most?	Most students found the activities in the Short Story section very enjoyable. Two students preferred the Poetry section, while one student preferred News Media
Which section's Reading Resource page did you find the most informative and helpful?	The Poetry section was the most popular choice, followed by the Novel section, and Short Story Section.
Would you like a printed version of the "Reading Resource" pages?	All the students agreed that a printed version of the resource pages would be very helpful.
Would you read more if a greater amount of your prescribed reading was presented in this way?	The students were unanimous in their preference for reading in the manner provided by the program. They said that it will be much more "fun" and "interesting" if they could read all their texts in this way.
Do you have any other comments, suggestions, problems, advice that you want to share about this program?	Two students commented on the choice of reading texts, finding them either too difficult or too easy. Most students commented on the feedback for the questions, saying that it motivated them to do more. All the students thoroughly enjoyed the program.