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Hypnotised by Gutenberg? A report on the reading habits of some learners in academia

A B S T R A C T Against a background of poor levels of literacy throughout the education system, the dual purpose of this study was to identify reading practices of successful students at tertiary level and to report on sound reading practices that need to be implemented to improve the comprehension of learners in academia. The article reports on the culture of reading of some undergraduate Linguistics students at Unisa, an Open Distance Learning (ODL) institution. Specific text-processing skills were examined within the sociocultural context in which reading takes place. To fully understand reading behaviour at tertiary level, reading practices at primary school in South Africa, as reported on in the *Progress in International Reading Literacy Study* (Baer *et al.*, 2007), are also mentioned. To provide background to the literacy problem in South Africa, reading practices observed at schools in South Africa are reported on. The findings indicate that individuals, who read more and are aware of what they do when they read, perform better academically.

Keywords: scholastic performance, reading development, comprehension instruction, question generation for comprehension, text structure, text processing skills

1. Introduction

'You village pumpkin!' Murad exclaimed. 'You are still stuck in the age of the printed page, hypnotized by Gutenberg, I suppose. Don't you know it is over? Don't you know the written line is nearly extinct? If you can't add sound and light, it won't do with the public. The public want to see and hear, not put spectacles on its nose and learn the alphabet. These days everything is put down on film or tape. Haven't you seen, or heard, you donkey?' (Desai, 1984:91, *In Custody*).

1.1 The role of print in academic (under-) achievement

Because of the proliferation of new technologies (audio as well as video) one can forgive the character in Desai's novel for thinking that the printed word has become obsolete and replaced

electronically by sound and light media, but according to Stanovich *et al*. (1996:17) 'Print is a unique source of declarative knowledge, not replaceable by electronic media or oral sources'. They cite five studies that confirm that the ever-increasing storehouse of knowledge is readily available to those who read, and that much of this information is not usually attained from other media. This view is supported by Snow and Shattuck's (2007:1) statement that 'Literacy is the cornerstone of school achievement', and this statement also echoes many research findings that stress the crucial role of reading for academic success. These views prove wrong the character in the novel who berates someone for not using a tape recorder to capture information. Newer technologies do not diminish the need to decipher symbols and make meaning of the printed message.

Poor levels of academic literacy are a matter of concern and reading intervention campaigns have been put in place, not only locally, but also in America and the United Kingdom. The front page of *The San Francisco Chronicle* of 16 August 2006 reads: 'Fewer than half of California's students can read or calculate at grade level nearly a decade after the state began its top-to-bottom overhaul of public education…' (Asimov, 2006:1). In Britain, too, because of the poor performance of pupils, 2008 has been declared 'National Year of Reading'. In South Africa decisions to tackle the problem afresh were taken before the announcement of the results in late November 2007 of the *Progress in International Reading Literacy Study* (Baer *et al*. hereafter referred to as *the PIRLS*). In this major study of literacy skills of Grade 4 and 5 pupils in forty countries, South Africa came out bottom of the class in fortieth position of participating countries. The study was conducted under the auspices of the International Association for the Evaluation of Educational Achievement in Amsterdam (Bateman, 2007). The findings of the study were not news to South African educationalists who did not need international benchmarking to draw attention to the poor reading performance of learners because this has been documented countless times. In the past decades any discussion of academic performance has been sprinkled liberally with the words 'unprepared', 'underachievement', 'below standard' or 'at risk' (Broom, 2004; Van Dyk & Weideman, 2004; Sweetnam Evans, 2002; Van Wyk, 2002; Pretorius, 2000; Bouwer, 1999; Dreyer, 1998; Kingwill, 1998; Yeld & Haeck, 1997; Perkins, 1991; Blacquiere, 1989). Many universities have had to provide support for underdeveloped students to help them to acquire skills needed for academic life. In the early eighties academic 'support programmes' or 'bridging courses' mushroomed at universities, and conferences were held to debate problems and find solutions.

1.2 The context of literacy attainment: the root of the problem described

The literacy model developed by the RAND Reading Study Group (2002:11-12) illustrates that learning to read depends on many factors. In their model three dynamically interrelated core elements are identified (see figure 1).

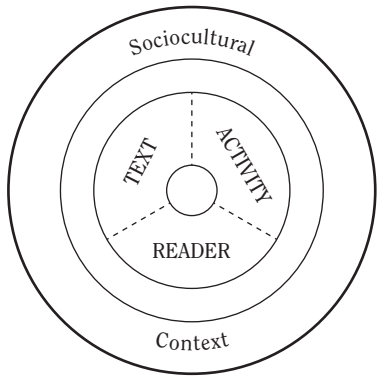


Figure 1. A Heuristic for Thinking about Reading Comprehension (RRSG, 2002: xiv)

These three elements are the *reader* (who brings cognitive capabilities, motivation, experience and different kinds of knowledge to the act of reading), the *text* (that may have features that affect comprehension such as text organisation and conceptual difficulty) and *activity* (processing of text with a specific purpose in mind). The interacting elements are embedded in the context and sociocultural dimensions in which reading takes place. The three elements interact within the sociocultural context of the classroom and home environment, factors that go a long way towards explaining the performance of learners in South Africa.

With this model in mind one need not speculate about the reasons for the poor matriculation results of the past years as they may be found in the shaky foundation laid in many primary schools, as revealed by the PIRLS (Baer *et al*, 2007). The following were identified as factors that contribute to poor literacy performance: more than half the schools that participated in the venture were in rural areas where schools do not have the necessary resources; 60% of schools do not have libraries, classes are too big (24 learners being the norm elsewhere, in South Africa this is 42); lack of computers; absenteeism; pupils coming to school late; violence and intimidation; poor economic housing; and unsafe schools. Shortage of qualified teachers, especially L2 teachers, also plays a crucial role. It also transpired that South African teachers do not read as much as their counterparts in other countries. It was established that pupils come from homes where no culture of reading exists (50% of those who participated had no books at home).

While the PIRLS (Baer *et al*, 2007) reports on the reading performance of Grade 4 and 5 pupils, research conducted at a lower level still, namely Grade 1 (Pretorius & Machet, 2004a, 2004b) probed similar issues. Not surprisingly, their findings are similar to those of the larger study. Pretorius and Ribbens (2005) also found poor reading performance in Grades 7 and 8. Presenting a wider-angle shot of academic performance, Chrisholm (2004) and Reddy (2004) report that half of the pupils who started school in 1991 did not complete their studies in 2002 and research undertaken by the HSRC (Kassiem, 2007) indicates that half of those students who *do* enrol for tertiary education, drop out in the first two years of study. The vicious spiral leads to fewer students graduating (Naidoo, 2008). Reporting on student drop-outs at ODL institutions, Moeketsi (2006:32-3) maintains that more distance learners drop out than students at residential-based universities.

It is clear that poor reading and academic performance in South Africa are a matter of concern and attention. This article provides information on reading intervention. The research sought to investigate the culture of reading and text-processing skills of some students who have come through the system and have reached tertiary level. The aim was to establish how students were involved with the printed word (the *activity* element in the RRSG (2002) model) and to what extent they were 'hypnotized by Gutenberg'.

Below, a brief sketch is given of practices that were observed (and need to be attended to), followed by what research suggests readers in academia should be doing. Questions used in the self-report questionnaire for Linguistic students at Unisa were gleaned from this literature review. This is followed by mention of the methodology used, an analysis of the findings, and suggestions for the way forward.

2. Reading practices compared and contrasted

2.1 Observed practices

Research discussed below revealed the absence of questioning skills and the poor development of vocabulary at primary and secondary levels. Each of these aspects is explored below.

2.1.1 The absence of questioning skills

It is in the reading class that one would expect learners to be taught how to extract meaning from text, but in many primary schools this is often not the case, confirming findings of the PIRLS (Baer *et al*, 2007) that higher order skills were not taught in the primary school in SA, although preparation to do so was under way (Human *et al*, 2001). Bouwer's (1999) report on common practices in many primary school classrooms sheds light on the non-existent text-processing skills of readers. She observed that new words are drilled for pronunciation (sometimes accompanied by dictionary definitions). Often reading was done aloud by the class as a whole with the aim of achieving fluency and dramatic expression. This is reminiscent of Clay's report of a child who wanted to show off his reading ability and excitedly recited the story announcing 'Look I can read with my eyes shut!' (1973 in Paris, Lipson & Wixson, 1983:298). Bouwer established that teachers lacked adequate questioning skills and that only about one in ten lessons is spent on comprehension of some discrete aspects of the content. Macdonald (1990) and Strauss (1995 in Pretorius & Machet, 2004a:58) both confirm this tendency of pupils reading out loud and 'barking at print' without understanding what they are saying. Research by Pretorius and Ribbens (2005:143) corroborates these findings. They also observed that when pupils were asked to read a passage for a comprehension test, the Grade 8 class started whispering softly in unison instead of each pupil tackling the text silently at his or her own pace. Because pupils were used to reading aloud in unison, they were unaware of the important strategy of re-reading, a strategy identified by Garner and Alexander (1989 in Mokhtari & Reichard, 2002:255) as important and by Fehrenbach (1994:291) as one used 'significantly more by gifted readers than by average readers'. These examples serve to prove that many readers were not aware that they had to interact with text. The kind of reading behaviour they demonstrated can be classified as Stage 1 in Chall's (1983) developmental framework. This stage is common between the ages of 6 and 7, much younger than the pupils who were observed in studies mentioned above. The pupils who were observed obviously had a long way to go before they could be described as being 'constructively responsive' readers who carefully orchestrate cognitive resources (Pressley & Afflerbach, 1995 in Mokhtari & Reichard, 2002:249), but they were not deliberately taught how to engage with text. This obviously needs to be remedied.

2.1.2 Poor vocabulary

Research findings have repeatedly indicated that the size of vocabulary is a predictor of success in reading comprehension. Conversely, low vocabulary levels are synonymous with poor comprehension (Beck *et al*, 1982; Curtis, 1987; Graves, 1986 in Medo & Ryder, 1993:120), yet it is possible for pupils to bluff their way through comprehension exercises, as the example illustrates. The instruction is to read the passage and then answer the questions that follow:

Some socklings were mipping cleds into a bild. Unstrengly, the bild had a wantle in it and caddled into twerds, pumperdinking all the socklings. Wantled bilds often caddle.

Who were mipping cleds into a bild?
Why did the bild caddle? (in Macdonald & Burroughs, 1991:82).

It is clear that it is possible to answer the questions without knowing the meaning of any of the made-up nonsense words by manipulating familiar question-and-answer patterns. These examples illustrate that when teachers' questioning skills do not go beyond that of testing memory, pupils are able to answer mechanically without any understanding or meaningful learning taking place.

2.2 Sound practices: what readers should be doing

In this section three kinds of activities that readers could use to become better readers will be introduced, namely the development of questioning skills, what to do about unknown words and how to approach expository (informational) text.

2.2.1 Pre-reading and the development of questioning skills

Many research studies (Calfee & Drum, 1986; Stanovich, 2000; Sweet & Snow, 2003 in Dymock, 2005:177) indicate that skilled readers use a variety of strategies to comprehend written text. The words 'constructively engaged' come to mind in any discussion of the interactive view of the nature of reading and current reading research. Lipson and Wixson refer to accomplished readers as 'planful' because they think about the purpose of the reading (2003:570). In the literature, adjectives used to describe accomplished readers are 'active', 'purposeful', and 'flexible' as they 'gain control' of their reading and learning. What we learn from research is that accomplished readers need to have a range of capabilities and various types of knowledge; amongst others, knowledge of specific comprehension strategies. This is not news as early in the twentieth century educators such as Dewey (1910) and Thorndike (1917) recognised that 'reading involves understanding and *monitoring* activities' (in Brown *et al.*, 1986:50 – my emphasis) indicating that although the term 'metacognition' has only been in use since the 1970s, the concept is not new, but sadly, this wisdom is not applied in reading instruction at many schools. Researchers have identified some of the characteristics of accomplished readers and claim that if they are aware of *what* they are reading, they generally know *why* they are reading. They also have plans for how to handle text and *monitor* their understanding while reading.

Research on reading strategies abound, and have abounded since 'the grandfather' of study strategies, namely *SQ3R* (Survey, Question, Read, Recite, Review) was developed by Robinson in 1946 and modified as *SQ4R* by Paul (1984 in Applegate, Quinn & Applegate, 1994:3). This was followed by Palinscar and Brown's (1984 in Klingner & Vaughn, 1999) *question generation* model. Since then many acronyms and catchy mnemonics have been coined, all congruent with schema theory and current reading research thinking. What the strategies have in common is raising readers' awareness of the necessity of being consciously engaged in the act of reading in order to comprehend. We have, for instance, *K-W-L* (Ogle 1986) and *SMART* (a Self-Monitoring Approach to Reading developed by Vaughan & Estes, 1986 in Lipson & Wixson, 2003:612). For groups of mixed ability Klingner, Vaughn and Schumm (1998) developed an approach

called *Collaborative Strategic Reading* (CSR) according to which readers 'preview', 'click and clunk', 'get the gist' and 'wrap-up'. The *CORE* model (Connect, Organise, Reflect, Extend) was developed by Chambliss and Calfee (1998 in Dymock, 2005:178) for teaching the structure of expository text. Then there is also Gambrell's (2004) rhyming *New, Knew Q* (for 'question'). Mokhtari and Reichard (2002) developed *MARSI* (Metacognitive Awareness of Reading Strategies Inventory) that can help students by raising consciousness of reading strategies. Lipson and Wixson (2003:572) present a table of strategies that have been researched and proven useful for improving students' reading comprehension. The six main categories identified are: *make connections*, *infer and predict*, *question*, *visualise*, *monitor/clarify*, *summarise* and *evaluate*.

The strategies discussed so far have all proven to be successful for the printed word, but newer technologies call for other approaches as well. As only Luddites will deny the emerging role of the Internet for accessing information, we need to take cognisance of new challenges presented to readers of electronic texts (Leu, Charles, Kinzer, Coriob & Cammack, 2004). The new technologies require the development of sophisticated skills and strategies for twenty-first century readers when they interact with the printed word because they have to analyse and evaluate text in the process of arriving at new insights. Corio (2003) advises that WebQuest can be consulted for techniques on how to work with information on the web and cites *http://www.sesd.sk.ca/teachersresources/webquest/webquest.htm* for links to an extensive collection of WebQuests. The most recent addition to the list of strategies readers can use is Henry's (2006) *SEARCH* techniques that students could try out when surfing the Internet. This strategy urges readers to s*et* a purpose before e*mploying* effective search strategies. They then have to a*nalyse* search engine results and are reminded to r*ead* critically before synthesising information. Then readers have to c*ite the* sources. Finally they have to ask themselves '*How* successful was the search?'

Many of the questioning techniques explored in the strategies identified above were probed in the self-report questionnaire completed by students. The strategies identified are all driven by higher-order questioning generation practices in keeping with schema theory according to which readers are encouraged to activate prior knowledge, identify key information by looking at headings and subheadings, words that are italicised, bolded or underlined, graphs, tables and pictures while also looking for supporting detail that enable them to read for meaning.

2.2.2 The development of vocabulary

It is axiomatic that readers need to understand the meanings of words they come across. Studies of word lists and numbers of words required for general academic purposes exist. Coxhead (2000) developed the latest Academic Word List which covers four disciplines' specific corpora (arts, commerce, law and science) and which contains 570 word families. The usefulness of decontextualised words is debated though, because learners tend not to recall words from lists, but research by Medo and Ryder (1993:131) found that teaching text specific vocabulary increases students' ability to make causal connections as it reinforces the importance of prior knowledge and the ability to make inferences while reading. This then increases the ability to understand expository text. Be that as it may, even if students did know all the words in the lists, they would still come across technical vocabulary in their own fields of study and would have to use a strategy to find the meaning of the words. Schmitt (2002:4) maintains that 'guessing a meaning for a word from context clues is the most useful of all the strategies,' but

to use this strategy effectively, learners need to know 95-98% of the tokens in a text, confirming what Stahl and Nagy (2006:6) say about vocabulary learning. They state that 'The more words you know, the easier it is to learn more words'. This echoes Stanovich's (1986) view of the 'Matthew effect' that applies to reading in general. The reference to the Matthew effect comes from the gospel where it is stated that the rich will get richer and the poor will get poorer, the implication being that the more one reads, the better one gets at it and the more words one knows, the easier it becomes to learn new words, the converse obviously being true as well.

What research indicates is that engaged readers ensure that they do get to the message and do consult dictionaries if the meaning of a word is not clear.

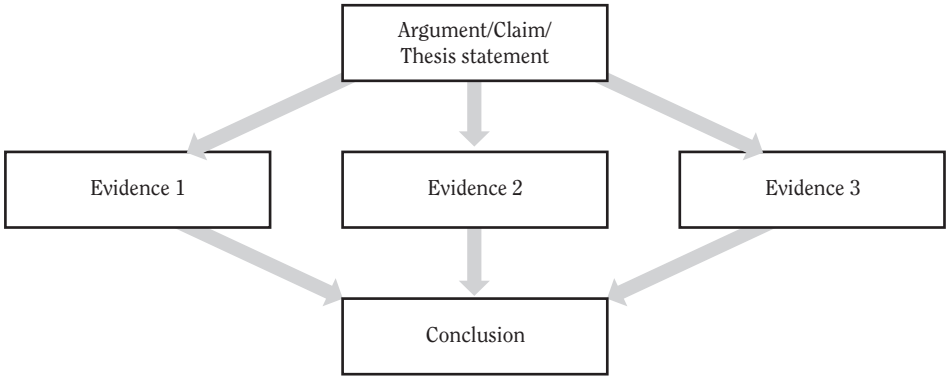
2.2.3 Awareness of text structure

A big difference between the narratives ('ordinary') reading and expository text (found in academic texts) is the way in which information is structured or organised and countless studies have shown that awareness of how texts are organised influences comprehension (Jiang & Grabe, 2007). Calfee and Curley (1984) describe informational text as being characterised by 'unfamiliar content, heavy concept load, technical vocabulary, long sentences, complex syntax, and a hierarchical pattern of main ideas and details' (Muth, 1987:66). When reading narrative texts, readers are instructed to detect how the author develops the plot and they are taught how to analyse the main character and follow his or her development during the unravelling of the plot. When reading expository texts, on the other hand, readers are not made aware of the conceptual organisation and are seldom instructed what to look out for other than detecting the main ideas in paragraphs. Readers (in South Africa) are seldom taught to look out for different kinds of structures in different topics or subjects. Different structures seem to occur more often in different disciplines and depend to a great extent on the subject matter studied. Some reading experts maintain that students' awareness of text organisation and strategic use of organisation affects their comprehension. Hall et al. (2005) argue that text structure provides the reader with a mental scheme according to which they can categorise and process new information and Pearson and Duke (2002 in Dymock, 2005:181) maintain that 'explicit teaching of text structure awareness has a positive effect on comprehension'.

Muth (1987:66) identifies the structures used most frequently as *analysis*, *cause-effect*, *chronology*, *compare-contrast*, *definition*, *enumeration*, *illustration* and *problem solving*. For expository texts Dymock (2005) discusses five different structures that have been identified namely *list*, *web*, *matrix*, *sequential structures* and *string*. Hall et al. (2005) identify seven distinct patterns, namely *temporal or chronological sequence*, *definition and example*, *cause and effect process and relations*, *comparison and contrast*, *problem and solution*, *episode* and finally *generalisation or principle*. Jiang and Grabe (2007:36) suggest that there are 12 to 15 such structures and maintain that the limited variety of discourse structures, and the recurrence of these structures across texts, make it possible for explicit instruction of these structures. The structures are presented visually as graphic organisers that represent the interrelationships of ideas and patterns of discourse organisation. Jiang and Grabe (2007:43-45) provide examples of 9 such structures, 2 of which are given below.

i) Definitions

ii) Argument



Once readers are aware of the existence of structures, a considerable amount of practice is needed before they will be able to navigate their way through academic text with confidence. Bean *et al.* (1986 in Jiang & Grabe, 2007:46) maintain that instruction 'should take at least a semester and instructors should take a cumulative, long-range view of the positive impact of such instruction'.

Findings indicate that intervention in this area of reading is well worth the investment in time and effort.

To sum up this section on *Sound practice: what readers should be doing*: research indicates that readers should be aware of their active role in unlocking meaning during the reading process, that readers should be taught how to handle new vocabulary and should be made aware of various structure patterns in expository texts.

3. Data collection

Based on the literature review discussed in 'Reading practices compared and contrasted' (above) a self-report questionnaire was sent to all students in the Department of Linguistics at Unisa during the course of 2006 and 2007 with the aim of probing reading habits and the use of strategies in academic reading. An incentive of R500 in a lucky draw was used to entice students to complete and return questionnaires. This ploy yielded 167 responses for the three semesters concerned. The sample can be classified as a 'volunteer' sample, therefore not generalisable.

Apart from biographical information (age, gender, whether full-time students or part-time and occupation, etc.), respondents were asked to evaluate themselves as readers and asked to report on reading habits and on some strategies used when confronted with academic text. The questions used were gleaned from a variety of sources on reading strategies (mentioned above in *Sound practices: what students should be doing*) and specifically probed awareness of metacognition and awareness of higher-order skills.

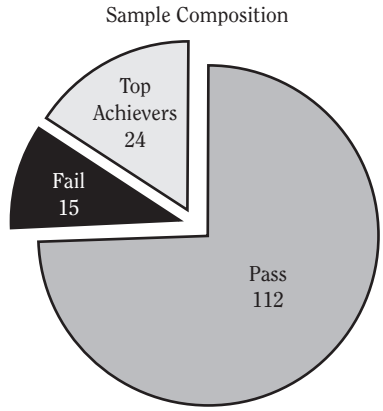
Duplicate responses and those not usable because of results barred (owing to outstanding fees, missing student numbers or library books not returned), were removed. The remaining responses were then classified into three categories: *Fail* (n=15); *Pass* (n=112); and *Top achievers* (n=24), according to marks obtained for various undergraduate modules in Linguistics.

Quantitative data were coded and a descriptive analysis of data carried out. Qualitative responses in open-ended questions were scrutinised for trends, but only one topic, the characteristics of expository (informational) text proved to be worthy of further discussion as answers to other questions matched those provided in the quantitative data sections.

4. Discussion of results

Biographical detail is provided before a discussion of reading practices at home. For the latter see Appendix 1. This is followed by an analysis of some of the text-processing skills, which is to be found in Appendix 2.

'Failures', 'Passes' and 'Top Achievers' make up the sample as depicted in the graph:



4.1 Biographical detail

As far as gender is concerned there was an uneven response as 76% of respondents were female and slightly less than a quarter were male.

Not surprisingly for an ODL institution, only 21% were full-time students. Almost a third (30%) of those employed were teachers and under the category 'other' (which accounted for 30% of responses), a wide range of occupations were named, amongst others interpreter for the SANDF, purser for the SAA, artist and sandblaster, court interpreter, medical secretary, manager of an art gallery and craft shop, part-time waitress, registered nurse and even a nuclear scientist.

The age distribution does not follow that of students at residential universities as only 2% were under 20 years of age, 26% between 20 to 29 years, 31% between 30 to 39 years, 27% between 40 and 49 years and 14% were over 50.

Slightly more than three-quarters (78%) came from urban areas. Practically all the provinces in South Africa were represented and students from as far as Mauritius, Texas, Hong Kong and the United Kingdom sent in responses.

Almost two-fifths (37%) had English as their home language. After English, home languages were represented as follows: Afrikaans (22%), Northern Sotho (7%), Swati (5%), Xhosa (4%), Zulu (2.5%), Tsonga, Southern Sotho, and French, German and Italian (2.5% each), Tsonga (1.9%). 'Other' (which included Spanish, Portuguese, Mauritian Creole, Rodriguan Creole, amongst others) accounted for 9.7%. In the *Top achievers* category 14 had English as a home language, 6 had Afrikaans, 2 German, 1 Spanish and 1 had Mandarin as home language. None of the *Top achievers* had an African language as home language.

4.2 Appendix 1: 'Engaged' readers

Issues examined were, amongst others, whether students enjoyed reading, whether they belonged to a public library, how many books they had at home, when last they had read a non-academic book, etc. If one looks at Appendix 1, it is clear that hardly any discussion is needed as the responses clearly illustrate that the degree to which readers are what Baker *et al.* (1996) refer to as 'engaged readers', reflects their classification from fail to pass: the more they were engaged in literacy practices, the better they performed at tertiary level. When percentages are expressed as bar graphs, the progression from *Fail*, through *Pass* to *Top achievers* is a monotonous series of ascending steps: *Fail* representing the lowest step, *Pass* the middle step and *Top achievers* indeed scoring the highest in the most desirable attributes.

Tables 4 and 5 of Appendix 1 indicate that the *Fail* students seem to come from an oral culture background as stories were not read to them as often as for the other groups, while the *Top Achievers* had the highest scores for both listening to and being read to, in other words the *Top achievers* were exposed more to stories at an early age.

An anomalous result that requires some discussion is that for Table 6 in Appendix 1, where we see that the *Top Achievers* claim not to read newspapers as often as the other two categories. The reason for this could perhaps be that they access the Internet instead of buying newspapers, but this usage was not factored into the questionnaire.

As most of the respondents to the questionnaire were successful in their studies, the mini-project conducted at tertiary level confirmed the importance of the role of reading practices at home in fostering a culture of reading and the development of reading competence and academic achievement. Barkhuizen (2002) warns of the shortcomings of written survey questionnaires and student responses, but this picture sketched by the self-report on home practices increases the possibility that students reported truthfully on practices at home, and therefore also on the strategies they said they employ (Appendix 2) when tackling academic text.

4.3 Appendix 2: Text-processing skills

When we compare students' performance in Linguistics and their responses to Table 1 of Appendix 2 ('How would you describe yourself as a reader, generally?') we see that they were realistic in evaluating themselves as readers. This, however, does not rule out the possibility that they could have answered some of the other questions to reflect what they regard as ideal practice instead of what they were in fact doing.

In Appendix 2 we have another anomaly: Table 5 reports on whether students marked difficulties to come back to later. The failures did so more than the top achievers, but this could perhaps be because of the top achievers not experiencing any problems. The results in Table 6 reveal that the *Fail* group re-read more than the other groups. This is an indication of good strategy use but perhaps also an indication that the failure group had more difficulties in understanding the text and therefore needed to re-read more often.

The above analyses of the two appendices account for the question generation and questioning techniques used by students; what still need to be discussed are their strategies for tackling unknown words and knowledge of text structure in expository texts.

4.4 Unknown vocabulary

One of the questions probed what students did when they came across unknown words. Table 7 in Appendix 2 revealed that almost all students claimed that they do look up words they do not know.

4.5 Expository texts

One question that yielded qualitative data was on the differences between expository and narrative texts. (*Please tell me what you think are the main differences between the kind of writing used in 'academic reading' matter and the kind of writing used in books or stories in magazines that you read for pleasure ('ordinary reading').* Most students were unable to identify characteristics, and words such as 'formal', 'academic', 'technical' or 'jargon' were most commonly offered. Students did not voice an awareness of text structure and how this could be of assistance to them.

5. Implications of the findings

The areas identified in the PIRLS as needing attention are reading practices at home, training at colleges that would result in improved reading practices at primary level and improvement of conditions at school.

The Unisa research project provided information on practices that readers themselves should implement. The results present insight into the practices and thinking of some students at tertiary level, of whom some can be classified as *Top achievers*. This study might well shed light on other ODL student populations. Wagshal (1998:125) maintains that distance education 'has become the latest fad within the Academy' because colleges and universities are 'seeking new markets during a time of financial exigency and rapid technological change'. This trend seems to be manifesting itself in South Africa as well where more and more institutions are also becoming 'distance' or 'open' institutions. According to the HSRC report (Kassiem, 2007), more than 50% of students quit their studies by the end of their first year, but many resume again at distance education institutions.

5.1 Reading practices at home

The large-scale international PIRLS (Baer *et al.,* 2007) revealed the extent to which primary school pupils were *not* engaged with print as the investigation revealed that 'Literacy begins at home, but for most kids [in SA] this is not the case' (Bateman, 2007). To remedy poor performance at levels feeding into tertiary education, improvement can be expected if it were possible to improve the wider sociocultural context of learning (see Figure 1). As research findings point to a positive relationship between engaging in early literacy activities and reading achievement, it is clear that a culture of reading should start at home. (For the National Year of Reading project in the UK parents are encouraged to read to their children for 10 minutes a day.) If South African parents were to engage in emergent literacy practices and were to read books, tell stories, sing songs, play with alphabet toys, play word games and read signs and labels aloud, this could lay a firmer foundation for reading acquisition and formal education than is presently the case.

5.2 Practices at school

Contextual factors identified at school that play a role in reading development are the instructional practices of teachers, their number of years of teaching experience and other school characteristics (Baer *et al*, 2007:iii). To remedy the above, Education Minister Pandor 'declared war' on foundation learning with the aim of improving the teaching of reading in primary schools. A strategy, to be implemented in January 2008, envisages the delivery of 'reading tool kits' that contain the needed resources for teachers in grades R and 1 (Blaine, 2007), but obviously it will take time for these envisaged intervention measures to show measurable improvement. If at primary school the changes envisaged by Minister Pandor are put in place, the next level up could be improved and then gradually higher levels will benefit from a firmer foundation (Pandor, 2007). In the meantime, teachers at training colleges need to be kept up to date on current reading theory and practice. It is not only in South Africa that an effort needs to be made in this respect as Baker *et al.* (1996:xiv) confirm that elsewhere the teaching of reading is not widely informed by current research.

As many researchers advocate conscious teaching of strategies (Lipson & Wixson, 2003:603) and some maintain that readers will not develop these skills without explicit teaching of comprehension strategies (Dymock, 2005:177), students should be made aware of strategies that they could use when reading. In contrast to consciously knowing grammar rules but not necessarily being able to use these correctly in spoken or written output, conscious knowledge of reading strategies has been shown to lead to improved reading performance, as many of the research studies mentioned in *Sound practices* (above) have shown. At school, teachers could therefore select the most suitable programme for their own needs depending on the age and interests of their pupils. Many activities designed to improve comprehension are mentioned in *Sound practices: what readers should be doing* above.

5.3 What readers themselves should do

This project revealed that at tertiary level a small group of successful students, who on the whole came from supportive reading environments, were using most strategies that have been identified as important although some weaker students were not always able to explain adequately why they were doing so. The MARSI instrument developed by Mokhtari and Reichard (2002) can be used independently by students to gauge their own measure of engagement with text. The Inventory consists of 30 items and has 3 strategy subscales (Global Reading, Problem Solving and Support Reading) that help users to diagnose weaknesses and strengths. It does not take long to complete and scoring can be done by students themselves. When using this instrument students will increase awareness of their own reading strategies and at the same time it will give them an idea of which strategies need to be improved.

6. The way forward

In 1987 Silberstein looked back at twenty-five years of reading instruction and described the advances made in understanding the psycholinguistic processes involved in reading, saying how much had been learned about the complex interaction between reader and text. Early in the twenty-first century the International Reading Association (2001 in Corio, 2003) looks ahead at the next two decades, and, speculating on newer technologies and the challenges

the Internet poses to readers, suggests that 'proficiency in the new literacies . . . will become essential'. Whereas the previous period tried to explain what happens in the head of the reader, the focus now falls on the changed nature of text. The change from conventional, linear text to electronic texts changes the nature of the interaction between the reader and the printed word. Leu *et al.* (2004) conclude that the changing nature of literacy requires a rich understanding of changes and poses different challenges to readers. It is suggested that fundamentally new thought processes, skills and strategies will be required to handle non-linear texts which contain hypertexts and links to other media and information.

If students are to meet the cognitive demands required to achieve academic success, they obviously need much more than recall information that has been learned by rote. Readers need to interpret new information in order for it to become part of their newly constructed store of knowledge. At tertiary level readers have to have the ability to construct knowledge at a high level of abstraction. If meaningful learning has to occur, students need to advance from remembering to understanding, then progress to analysing, and eventually to evaluating and constructing knowledge. This process of factual knowledge being transformed into conceptual, procedural and metacognitive knowledge is set out in Bloom's revised taxonomy table (Krathwohl, 2002). To reach the highest levels, students need to be instructed how to go about interacting meaningfully with text.

Pressley, Beard El-Dinary and Brown 1992 (in Mokhtari & Reichard, 2002:256) caution that it takes several months or 'perhaps as long as 1 year or more for students to become strategic readers'. It must be remembered that reading competence is a multifaceted and long-term developmental process, but intervention programmes have been shown to be successful.

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Appendix 1: 'Engaged' readers

The scores express percentages of the respondents.
Fail: n = 15; Pass: n = 112; Top achievers: n = 24

Table 1: Do you enjoy reading?

	Very much	**Quite a lot**	**A little**	**Not at all**
Fail	53	40	7	-
Pass	62	31	7	-
Top achievers	96	4	-	-

Table 2: Are you a member of a public library?

	Yes	**No**
Fail	50	50
Pass	54	46
Top achievers	58	42

Table 3: When did you last read a (non-academic) book?

	A week ago	**A month ago**	**A year ago**	**More than a year ago**
Fail	40	7	40	13
Pass	54	5	34	7
Top achievers	70	4	26	-

Table 4: When you were younger, did your parents (or any other family member) ever **read** *stories to you?*

	Never	**Seldom**	**Sometimes**	**Often**
Fail	33	7	47	13
Pass	27	14	32	27
Top achievers	12	-	25	63

Table 5: When you were younger, did your parents (or any other family member) ever **tell** *you stories?*

	Never	**Seldom**	**Sometimes**	**Often**
Fail	7	40	53	0
Pass	13	14	38	35
Top achievers	4	4	42	50

Table 6: How often do you read a newspaper?

	Every day	**Once a week**	**Sometimes**	**Never**
Fail	40	40	13	7
Pass	37	22	36	5
Top achievers	29	42	21	8

Table 7: How many books (more or less) are there in your home?

	More than a 100	**More than 50**	**More than 20**	**More than 10**	**None**
Fail	40	27	13	7	13
Pass	63	24	10	1	2
Top achievers	92	8	0	0	0

Appendix 2: Text-processing skills

Table 1: How would you describe yourself as a reader, generally?

	Fast, highly skilled	**Average**	**Slow, but understand**	**Slow, and have problems**	**Struggle**
Fail	7	66	20	7	0
Pass	41	42	13	4	0
Top	79	21	0	0	0

Table 2: Do you read aloud to help you understand better?

	Yes	**No**
Fail	57	43
Pass	64	36
Top achievers	67	33

Table 3: Do you look at headings, sub-heading and illustrations?

	Yes	**No**
Fail	87	13
Pass	95	5
Top achievers	96	4

Table 4: Do you underline or highlight anything?

	Yes	**No**
Fail	93	7
Pass	92	8
Top achievers	100	0

Table 5: Do you mark anything you do not understand?

	Yes	**No**
Fail	87	13
Pass	66	34
Top achievers	67	33

Table 6: How many times to you re-read a difficult text?

	Once	**Twice**	**3 – 4 times**	**5 or more**
Fail	7	20	60	13
Pass	10	38	41	11
Top	8	37	42	13