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The relationship between socio-affective factors and reading proficiency: Implications for tertiary reading instruction

ABSTRACT

Research in the field of reading literacy has focussed predominantly on the foundation phase and primary and secondary levels. In addition, these studies in reading literacy are predominantly cognitive-oriented. As a result, information on academic reading at tertiary level is sparse; even more so with regard to socio-affective factors and students' reading proficiency. This paper explores the relationship between tertiary-level students' socio-affective profile and their reading proficiency. The Test of Academic Literacy Levels (TALL) was used to measure students' reading proficiency, and ANOVA tests were applied to analyse and yield data on students' reading background, reading habits, social literacy and several motivational components. The results and the data so obtained indicated a robust relationship between these socio-affective factors and students' reading proficiency. The paper discusses the research findings and their implications for instructing tertiary-level students in a way that would ensure successful academic reading.

Keywords: socio-affective factors, reading proficiency, academic reading, reading instruction

1.   Introduction

It is obvious from the high failure and drop-out rates that a majority of South African students continue to struggle with academic activities. According to Nel, Dreyer and Klopper (2004:95), a South African Newspaper (*Sunday Times* 2000) reported that 100,000 students drop out of tertiary institutions each year. The low graduation rate of 15% is one of the lowest in the world (Department of Education, 2001).

An important basis for these academic challenges has been identified as a lack of academic literacy, which is grounded in reading and writing (Cliff, Ramboa & Pearce, 2007; Nel, Dreyer & Klopper, 2004:95). Specifically, successful reading feeds into all aspects of academic activities. In other words academic success is highly dependent on academic reading, which serves as input for writing (Currin & Pretorius, 2010; Nel et al., 2004; Niven, 2005; Pretorius, 2000; 2002; 2007).

It is therefore clear that innovative ways to improve students' reading proficiency are required. A number of reading intervention programmes have been conducted, some focussing on technology-enhanced strategy instruction (e.g. Dreyer & Nel, 2003; Poole, 2008), and many on explicit strategy instruction (e.g. Rupley, Blair & Nichols, 2009; Worden, 2005). In addition, various studies have been conducted on students' reading proficiency, a number of them evaluating intervention programmes in order to improve students' reading proficiency (e.g. Edmonds, Vaugh, Wexter, Reutebach, Cable, Tackett & Schnakenberg, 2009; Guthrie, Wigfield, Barbosa, Perencevich, Taboada, Davis, Scafiddi, & Tonks, 2004; Haager & Windmueller, 2011; Pretorius, 2002; 2007). However, most of the studies seem to focus on school level and thus research at tertiary level is limited (Brunfaut, 2008).

Both anecdotal and empirical evidence indicate that a number of students at tertiary level face severe challenges in academic reading (Cliff et al., 2007; Pretorius, 2000; 2002; Van Wyk, 2008). Lecturers complain that students' poor inferencing skills lead to comprehension challenges. Pretorius (2000) found that first-year psychology students were unable to make inferences and consequently failed to comprehend texts. A significant number of first year students enter tertiary institutions with low or inadequate reading skills (Dreyer & Nel, 2003; Nel et al., 2004; Pretorius, 2000; Van Wyk, 2008) and are unable to meet the required academic reading demands. These students find the level and amount of reading required of them daunting and overwhelming. Cliff et al. (2007:34) point out that students who enter higher education are "poorly prepared to cope with the generic academic reading, writing and thinking demands placed upon them […]". Unpublished data from a South African University reveal that a number of students are deemed to be at risk academically (Unit for Academic literacy (UAL), 2011). Specifically, in 2010, 82% of first-year students in this institution were deemed to be at low or high risk and in 2011, 89% fell in this category with only 11% having no or a negligible risk (UAL, 2010, 2011).

Yeld, in her 2009 National Benchmark Test Project [1](NBTP) report, reveals that more students fall within the basic and intermediate bands than in the proficient band as reported for this test. Students on the proficient level are deemed to be academically literate, whereas those on the basic and intermediate levels are identified by the test as being likely to face challenges in their academic studies. Similarly, the Test for Academic Literacy Levels (henceforth abbreviated as TALL), which is used as a placement or diagnostic test at a number of South African tertiary institutions, shows a large number of students falling in the *High Risk* group (UAL, 2011). These low academic literacy levels and consequently, academic reading proficiency of students are due to a number of social, educational, and affective factors (Currin & Pretorius, 2010; Pretorius, 2000; 2007; Taylor & Yu, 2009).

Several reading researchers have acknowledged the relationship between social and affective factors on one hand and students' reading proficiency on the other (Alderson, 2000; Currin & Pretorius, 2010; Grabe & Stoller, 2002; Guthrie & Wigfield, 2000; Pretorius, 2000; 2007). However, research studies in reading, especially those on intervention programmes, continue to focus on cognitive redress, without much recognition or attempt at improving social and affective reading levels. As a result investigations into social and affective factors in relation to reading seem to be lacking. Yet in order for students to engage in the cognitive aspects, they need the will and the desire to do so and the motivation to achieve this successfully (Grabe & Stoller, 2002; Guthrie & Wigfield, 2000). Thus in order to improve students' reading proficiency the affective dimension needs to be explored. Results of such exploration will assist in designing appropriate affective reading instruction that will provide optimal benefits to students.

This paper explores the relationship between reading proficiency and socio-affective factors such as home literacy background, intrinsic and extrinsic motivation, attitude towards reading, interest in reading and self-efficacy. Such an exploration is important in designing appropriate reading instruction. Although only the exploratory study is reported on in this article, a subsequent paper (Boakye, forthcoming) presents a reading intervention programme based on the results of this exploratory study. Firstly, the importance of socio-affective factors (e.g. motivation, attitude, interest, self-efficacy) in reading instruction is discussed. These factors are grouped into categories for the questionnaire that served as the instrument for the study. Secondly, an exploratory study on the relationship between socio-affective factors and students' reading ability is presented, and the findings are discussed. Lastly, based on the results, implications are drawn for more effective reading instruction that uses a socio-affective approach.

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1   The NBTP was commissioned by the Higher Education South Africa (HESA) group in response to the challenges of student (under)preparedness and was designed with the over-arching aim of assisting higher education to increase its graduate outputs (Yeld, 2009:76).

2.   Reading as a cognitive and an affective activity

Much of reading literacy research seems to focus on the cognitive factors related to reading, although reading is currently explained as a complex process with social, cultural and affective underpinnings (Gee, 1991; 2000; Guthrie & Wigfield, 2000; Street, 1995; 2003; Taylor & Yu, 2009). Reading is a complex activity which involves many internal and external processes (Alderson, 2000; Grabe & Stoller, 2002). According to Grabe and Stoller (2002), whereas lower level processes in reading such as lexical access and semantic proposition formation are mainly cognitive-oriented, higher level processes such as background knowledge application, inferencing, and executive control processes involve affective factors such as the reader's motivation, interest and attitudes.

Although cognitive skills and functions form the basis of reading, they do not account wholly for students' reading proficiency or for the causes of reading difficulties. Bernhardt (2005) points out that 50% of reading ability (i.e. proficiency levels) actually consists of affective issues. The other 50% she attributes to knowledge of vocabulary and grammatical forms. The emphasis on the relationship between reading and cognitive factors often diminishes the underlying contribution of affective factors. However, affective factors such as motivation, attitudes, self-efficacy and interest, add to the multidimensionality of reading proficiency and provide a better understanding of the source of students' reading difficulties.

3.   Importance of socio-affective factors

The affective factors mentioned above, in addition to social factors such as home background, socio-economic status (SES) of family and educational background, have been known to influence students' reading proficiency levels (Alderson, 2000; Guthrie & Wigfield, 2000; Pretorius, 2000; 2007; Taylor & Yu, 2009). The social factors have a direct impact on students' encounter and interaction with texts, and with reading as children, as well as the extent and quality of their interaction with texts. These social factors influence affective levels in reading, which further influence reading habits and willingness to read; thus influencing students' frequency of reading and consequently affecting their comprehension and reading proficiency. The social and affective factors that were investigated in this study are previous reading experience, social literacy, intrinsic and extrinsic motivation, self-efficacy, interest and attitude.

3.1   Social factors

Social factors such as early interaction with reading, literacy interactions with family members and the literacy activities of significant others (i.e. social literacy), and educational factors such as school literacy environment and literacy instruction have been identified as important for developing reading proficiency (Currin & Pretorius,

2010; Taylor & Yu, 2009). Research (e.g. Bus, 2001) has shown that early interaction with reading related activities provide children with the basic pre-reading skills that are necessary for subsequent literacy development.

A number of researchers such as Bus (2001), Dörnyei and Ushioda (2010), Guthrie and Wigfield (2000), McKenna (2001) and Wentzel (2009) argue that significant adults, such as parents and teachers, greatly influence students' literacy activities. Bus (2001) found that children who interact with parents become better readers later on than those who have little interaction. Also, interaction with family members who read tends to have a positive influence on students' reading behaviour, attitude and reading habits, which assists in improving and developing their reading proficiency. At the school level, appropriate reading instruction in a print-rich environment instils reading motivation and propels students to read frequently. Frequent reading influences the development of important reading skills such as word recognition, and improves reading ability.

3.2   Affective factors

Affective factors such as intrinsic and extrinsic motivation, attitude, interest and self-efficacy have also been deemed as important in reading development. The affective dimension is considered as important because it drives cognition (Alvermann, 2002). As Guthrie and Wigfield (2000:409) intimated, people read not only because they have the ability to read but because they are motivated to do so.

3.2.1   Reading motivation

Motivation is usually associated with goals, values and beliefs (Deci & Ryan, 2000). Based on this, Guthrie and Wigfield (2000:405) define reading motivation as "the individual's personal goals, values and beliefs with regard to the topics, processes, and outcomes of reading". Motivation is divided into two main categories: intrinsic and extrinsic motivation.

Intrinsic motivation is referred to as the desire to engage in a task or activity for its own sake, and involves mastery and learning goals, curiosity, involvement (enjoyment, absorption) and preference for challenge (Deci & Ryan, 2000:56; Dörnyei, 2001:47; Guthrie & Knowles, 2001:160; Guthrie & Wigfield, 2000:407). Extrinsic motivation, on the other hand, refers to external rewards and recognition as the goals for reading. It leads to performance goals, competition, and general instrumental goals for reading (Deci & Ryan, 2000:60; Dörnyei, 2001:47; Guthrie & Knowles, 2001:160; Guthrie & Wigfield, 2000:407). Whereas both intrinsic and extrinsic motivation predict reading amount and frequency of reading, leading to reading achievement, the former is said to be more beneficial in learning and in reading, and highly predicts text comprehension (Lau, 2009; Wang & Guthrie, 2004).

In relation to reading, a number of studies have shown a relationship between positive emotional experiences and reading achievement. Quirk, Schwanenflugel and Webb's

(2009) short-term longitudinal study of the relationship between motivation to read and reading fluency showed that students' reading motivation was significantly related to reading fluency at each time point in the one-year study. Privé (2004), using the Florida Comprehensive Assessment Test (FCAT) and Motivation to Read Profile for 585 mixed population of high school students, found that motivation to read was a significant positive predictor of FCAT reading achievement. Motivation has also consistently been said to relate to students' use of strategies. Highly motivated readers are said to be strategic and employ deep conceptual strategies to comprehend (Wigfield, Guthrie, Perencevich, Taboada, Lutz, McRae & Barbosa, 2008:432).

Motivation in reading is related to self-perceived competence (i.e. self-efficacy). Lack of self-efficacy would cause students to avoid attempting, developing or persisting in doing tasks. Positive self-efficacy beliefs increase students' motivation in attempting and persisting with a reading task. Chapman and Tunmer (2003), Linnenbrink and Pintrich (2003) and Oldfather (2002) observed that students' self-perceived competence related to their level of motivation in reading.

3.2.2   Self-efficacy

Bandura's (1986) definition of self-efficacy is presented in Guthrie and Wigfield (2000:408) as "people's judgements of their capabilities to organise and execute courses of action required to obtain designated types of performances". Pajares (2006:341) refers to it as the way students judge their competence. Applied to reading, it refers to readers' beliefs in their ability to read successfully. Ghonsooly and Elahi (2010) examined the reading self-efficacy of Japanese EFL university students and found a positive relationship between the participants' self-efficacy in reading and their reading proficiency. They also found that "high self-efficacious learners performed better than low self-efficacious learners in reading achievement" (Ghonsooly & Elahi, 2010:58). This led them to conclude that self-efficacy is an "important factor in the achievement of higher scores in English language skills such as […] reading comprehension" (Ibid). They attributed this conclusion to low anxiety and frequent strategy use among learners with high self-efficacy. However, it is not the mere use of strategies but the appropriate use of reading strategies for comprehension that distinguishes good readers from poor readers.

In addition, the degree of a student's metacognition (e.g. monitoring of comprehension) has been shown to influence his/her self-efficacy. Van Kraayenoord and Schneider (1999) studied the reading achievement, metacognition, self-efficacy (which they refer to as self-concept) and interest among German primary school students and found that higher reading achievement corresponded with higher metacognition and self-efficacy. Their findings show that metacognition directly influences reading achievement.

They also found that metacognition and motivation had reciprocal effects on each other. Research showed that students with high self-efficacy perceive difficult reading tasks as challenging and work diligently to overcome them, using cognitive strategies productively (Guthrie & Wigfield, 2000:408; Van Kraayenoord and Schneider, 1999:319).

Yribarren (2008:6) explains that students' reading self-efficacy and self-perceptions are related to their social and school literacy experiences. In other words, students who have had positive home and school literacy experiences tend to have higher self-efficacy and self-perceptions in relation to reading, and those who have had negative literacy experiences tend to have low reading self-perceptions. Yribarren (2008) argues that early literacy experiences become the foundation for positive self-perceptions, attitudes and behaviours that become established in adolescence and adulthood.

3.2.3 Interest

Interest is closely related to motivation in that interest will invariably lead to intrinsic motivation. Personal interest in reading, like intrinsic motivation, is internal, and is the enduring attraction to a topic even before a particular text is read (Hidi & Anderson, 1992:216; Schiefele, 1992:152). Situational interest, on the other hand, is external, triggered by environmental factors, and is defined by Hidi and Anderson (1992:216) as a "short-lived emotional state educed within a particular context". Although personal interest and situational interest combined increase reading comprehension, research has shown a positive relationship between personal interest in particular, and reading comprehension (Schiefele, 1992:152).

3.2.4 Attitude

Guthrie refers to attitude as the "liking for a task" (Guthrie & Knowles, 2001:161; Guthrie & Wigfield, 2000:405). A reading-specific definition is provided as "a system of feelings related to reading, which causes the learner to approach or avoid a reading situation" (Guthrie & Knowles, 2001:161; McKenna, 2001:136). Guthrie and Knowles (2001:161) add that reading attitudes are "affective responses that accompany behaviour of reading initiated by a motivational state". A number of reading researchers believe that a positive attitude is vital in fostering engaged readers (e.g. Guthrie & Wigfield, 2000; McKenna, 2001:135). Reading attitudes are usually formed from early experiences of reading episodes. Students with negative attitudes towards reading were shown to have had few or no pleasurable early reading experiences, and mostly negative experiences of early reading in school. They also perceive reading as being solely for utilitarian purposes (Alvermann, 2004). Students with negative attitudes towards reading are unwilling to read due to constant failure to meet the complex requirements of academic reading processes (Albright, 2001).

McKenna's (2001:140) model on attitude extends a previous distinction of the two principal beliefs that affect attitude: the object itself (e.g. reading) and a normative nature (e.g. how one's friends view reading). McKenna's (2001:140) model extends this distinction to include three principal factors in the acquisition of attitudes towards reading: the direct impact of episodes of reading; beliefs about the outcomes of reading; and beliefs about cultural norms concerning reading (conditioned by one's desire to conform to those norms). The model predicts that attitudes are shaped over an extended period through the influence of these three factors. The direct impact of reading refers to the

effect that any reading episode or encounter has on attitude. Beliefs about the outcome of reading refer to the reader's expectations of reading - be it of success or failure, pleasure or boredom. Beliefs about cultural norms include how an individual views or reflects the values that significant others (family members, peers, community members and teachers) attach to reading. He argues that where reading is negatively valued by people from whom a student seeks approval, the student is unlikely to develop positive reading attitudes. McKenna's (2001) view is also shared by Mathewson (2004:1436), with his later inclusion of external motivators that takes into account mediating social influences on reading behaviour.

McKenna (2001:145), citing studies by Swanson (1982), Wallberg and Tsai (1985), and Richards and Bear (1986), argues that there is an impressive body of research that relates reading attitude to reading proficiency. He states that the older the students are, the wider the difference in reading attitudes between good and poor readers. He identifies effective instructional intervention as a way of bridging this gap. Kirmizi (2011), using the Reading Attitude Scale, found that attitude is a significant predictor of the level of reading comprehension strategies used by students. Interestingly, Lukhele (2010) did not find a relationship between reading attitudes and reading levels or reading activity among second language (L2) students in Swaziland. Many of her students expressed positive attitudes to reading but in fact performed very poorly on reading tests. It seems that McKenna's model may relate to the product of reading and not necessarily the process. In other words, the relationship between students' reading proficiency and their attitude could be informed by the model but not the relationship between their attitude and their reading behaviour.

In justifying why reading attitude may not always relate to reading behaviour or predict reading behaviour, Mathewson (2004) provides a tricomponent view of attitude. He argues that certain variables affect the attitude and reading behaviour relationship, and proposes intention to read as the central component mediating the attitude-reading relationship (Mathewson, 2004:1433). His tricomponent view presents attitude as consisting of evaluation (i.e. cognitive), feeling (i.e. affective) and action (i.e. conative). He argues for this all-inclusive view of attitude to be used in reading research. As his model deals with three components, it can be seen to tap into various aspects of attitude and may represent a more comprehensive view of attitude. Yamashita (2004) separated the different components and found no relationship between the evaluation component and students' reading. He concludes that "merely thinking that reading is good for oneself does not constitute a sufficiently strong motivation" to read (Yamashita, 2004:13). However, he found a positive relationship between the affective component and students' reading amount and reading behaviour. The seemingly inconsistent results of attitude research could emanate from the fact that attitude, specifically reading attitude, is a complex theoretical construct (Mathewson, 2004; Yamashita, 2004).

Although these affective factors invariably lead to motivation, they may individually influence reading proficiency in different ways. Singling them out, as some researchers have done (Guthrie and Wigfield, 2000; Hidi & Anderson, 1992; Mathewson, 2004;

McKenna, 2001) and as the present study does, allows for clarity and enables us to see the individual effect they have on reading proficiency. In addition, most studies have dealt with a single affective factor, whereas the present study examines all five affective factors in one study. Furthermore, studies on socio-affective factors, though scanty, are beginning to surface as exemplified above but most of these studies have been undertaken at school level and research at tertiary level is limited – even more so in the South African context, where the current study was conducted.

4. The study

Given that many factors relate to students' reading (in)ability, the aim of the present study was to investigate and explore the relationship between the socio-affective factors discussed in the previous section in relation to students' reading proficiency. As explained earlier, an investigation of socio-affective factors in reading development will assist in the design of an appropriate reading literacy programme and help in the creation of an appropriate environment for effective academic reading instruction at tertiary level. These seven socio-affective factors were grouped into categories for the questionnaire. Two additional components consisting of students' use of reading strategies and their reading habits were included.

The question put forward for the study was:

Is there a significant relationship between socio-affective factors (presented as categories in the questionnaire) and tertiary students' academic reading proficiency (using TALL scores as indicators of reading proficiency)?

Although the main focus of the study was on academic reading proficiency (operationalised by TALL, which essentially assesses reading proficiency), the variable of students' home language was included to gain a better understanding of the students' reading profile. The following sub-questions were formulated for the question.

(a) Is there a significant relationship between each of the nine categories (i.e. socio-affective factors, strategy use and reading habits) and students' academic reading proficiency?

(b) Is there a significant relationship between each of the nine categories and students' home/first language?

The main aim of this phase of the research was to identify and analyse the socio-affective factors influencing students' reading proficiency using a survey questionnaire. The study was undertaken to determine the relationship between each of the nine categories (socio-affective factors and strategy use), as the independent variables and academic reading proficiency levels, as the dependent variable. In other words, the study sought

to identify the variables that individually or interactively clarify possible differences in the reading strategies, and the social and affective reading levels of two groups of first-year university students as determined by their results in the TALL.

4.1   The context

The study was conducted at a university in South Africa. First-year students at this university are required to take the TALL, in order to assess their academic literacy levels. The test, which is taken in either Afrikaans or English, is conducted at the beginning of the year, before formal lectures begin. The TALL is designed to assess the academic literacy levels of first year students in order to place those at risk of failing on an academic literacy support programme. Most of the questions in the test essentially assess academic reading proficiency, and the underlying constructs are mainly reading related. Students deemed to be at low or negligible risk are allowed to choose an elective language-related module to fulfil the language requirement of their faculties. A majority of these *Low* and *Negligible Risk* students register for the academic reading module.

4.2   Participants

Two groups of first year students from various faculties participated in the study. The *High Risk* group consisted of *Extremely High Risk* and *High Risk* students who were registered for the compulsory Academic Literacy module. A total of 1168 students from this group responded to the research questionnaire. The *Low Risk* group   consisted of *Low Risk* and *Negligible Risk* students who were registered for the elective Academic Reading module to fulfil the requirement of their respective faculties. The total of 1107 students from this group completed the research questionnaire. The combined total number of respondents was therefore 2258.

4.3   Instrument

A questionnaire consisting of nine categories on social, affective and cognitive factors in reading was distributed to students. The questionnaire consisted of a 5-point Likert scale (positive to negative), comprising 65 questions divided into nine categories corresponding with the social and affective factors discussed above. These categories were used as independent variables in relation to students' reading proficiency, which was the dependent variable. Students' reading ability was determined by their performance in the TALL. The TALL results are given in codes: : 1 for *Extremely High Risk*, 2 for *High Risk,* 3 for borderline, 4 for *Low Risk* and 5 for Negligible or No Risk. The border line students later rewrite the test to be placed on one of the other four levels. This group is therefore not included in the analysis and discussion. Given that initial reading in a home or first language can have consequences for second language

reading development (August, 2006), students' home language was included in the analysis.

The nine categories consisted of eight socio-affective factors (*reading experience, social literacy, interest in reading, attitude towards reading, self-efficacy, intrinsic motivation, extrinsic motivation, reading habits*); and a cognitive/metacognitive factor (strategy use) as laid out in the questionnaire (see Appendix). The questionnaires comprised questions from Grabe and Stoller (2002:243) and Guthrie, Wigfield and VonSecker (2000:341), which were adapted to suit the context. Additional questions deemed necessary by the researcher were included. A pilot study conducted in 2008 (Boakye & Southey, 2008) assisted in improving the questionnaires for validity and reliability. Items that were not compatible were deleted.

4.3.1 Reading experience

Questions in this category probed respondents' past experience with reading in the home, at school and on a personal level. It was expected that a positive past experience with reading would lead to a love for reading, which leads to frequent reading to improve reading proficiency. A negative reading experience does not develop a love for reading and therefore reading is burdensome and rarely undertaken, leading to low reading proficiency levels. Six questions, comprising questions 1 to 6, contributed to this construct.

4.3.2 Social literacy

This category sought to elicit students' reading experiences in the social context, with family members, friends and the wider community. It is expected that students who interact in social environments that have high positive literacy practices will be influenced to read, and thus become proficient readers. On the other hand, students who are raised in social environments with poor or inappropriate literacy practices will not develop a love for reading and will therefore not engage in frequent reading to become proficient readers. Thus, cultural and social practices could have a negative or positive influence on students' reading habits and reading proficiency. Five questions, comprising questions 7 to 11, contributed to this construct.

4.3.3 Interest in reading

Students' reading for pleasure about topics that interest them, and the interest they have in reading as an activity, were elicited in this category. It was expected that students who have a high interest in reading will read frequently and develop the cognitive abilities related to reading. Five questions, comprising items 12 to 16, contributed to this construct.

4.3.4   Attitudes towards reading

The joy and pleasure that students derive from reading, the perceptions that they have of reading, and the ease with which they settle down to read, as well as the perceived importance and usefulness of reading were elicited in this category to ascertain their attitude towards reading. A positive attitude is expected to translate into high self-efficacy that will increase students' motivation and provide the intention to read. Six questions, comprising items 17 to 22, contributed to this construct.

4.3.5   Self-efficacy

This construct refers to students' beliefs and perceptions of their successes in reading. Questions in this category were geared towards respondents' perception of their own reading capabilities, the challenges they encounter and the confidence they have in themselves as readers. A positive perception augurs well for reading development. A negative perception relates to poor reading proficiency. Self-efficacy has been known to correspond with reading ability and academic performance. Ten questions, comprising items 23 to 32, contributed to this construct

4.3.6   Intrinsic motivation

Students' curiosity in reading, their involvement and their preference for challenge in reading were elicited in this category. High intrinsic motivation is said to lead to frequent and engaged reading, which leads to many gains in reading ability. Low intrinsic motivation, on the other hand, leads to infrequent reading, poor reading ability and frustration level reading. Due to numerous research findings on the relationship between motivation and reading proficiency, the number of items in this category was almost double the average for the other categories. Thirteen questions, comprising items 41 to 53, contributed to this construct.

4.3.7   Extrinsic motivation

This category dealt with motivation from external influences, such as recognition and competition. Although external influences are said to lead to temporal and superficial engagement, current studies have shown that extrinsic motivation can lead to positive achievement, especially if the external influence is internalised by the reader. Extrinsic motivation assists in increasing the amount and frequency of reading. Seven questions, comprising items 54 to 60, contributed to this construct.

4.3.8   Reading strategies

The types of strategies that students use for comprehension were elicited in this category. Proper orchestration of appropriate reading strategies leads to high reading comprehension and high self-efficacy. Reading strategies could involve processing (cognitive) or monitoring (metacognition) strategies. The majority of the questions in this

section are centred on processing strategies. The appropriate use of strategies is crucial for successful academic reading at higher (tertiary) levels. Eight questions, comprising items 33 to 40, contributed to this construct.

4.3.9   Reading habits

Questions in this category tapped into the frequency with which students read, at the time of filling in the questionnaire, and the type of genres that they read; whereas questions on reading experience refer to past experience with reading from childhood, reading habits refer to current reading behaviour. Research has shown that positive reading habits develop reading proficiency. It is expected that students who have positive reading habits will be proficient readers, whereas those with negative reading habits will be poor readers. Five questions, comprising items 61 to 65, contributed to this construct.

4.4   Data collection

The questionnaire together with an informed consent form was distributed to the *Extremely High Risk* and *High Risk* students during one lecture period in the last week of the first semester. Permission was sought from Academic Literacy lecturers to distribute the questionnaires to their students towards the end of their class time. Students who were not in class on the day could not participate. The *Low* and *Negligible Risk* group answered the questionnaire, which included the informed consent form, at the end of their Academic Reading examination in the first semester. Due to incorrect or incomplete data not all 2258 responses were used for the analysis.   Some students did not respond to all the questions in the questionnaire, therefore, the number (n) varied from category to category. The highest number of complete responses was 1816 for the category of *reading experience* and *self-efficacy,* and the lowest number of complete responses was 1812 for the category of *extrinsic motivation*.

4.5   Data analysis

The data, comprising questionnaire responses and students' literacy levels, (i.e. their scores on the TALL test taken as an indicator of their reading proficiency) were analysed quantitatively using analysis of variance tests (ANOVA). As a statistical method, ANOVA is used for making simultaneous comparisons between means. It is used to determine differences between groups on some variable, and determines the impact independent variables have on the dependent variable. It is the initial step in identifying factors that are influencing a given data set. Whereas one-way ANOVA tests measure significant effects of one factor only, two-way ANOVA tests measure the effects of two or more factors simultaneously and also indicate whether there is an interaction between the factors or variables. Thus, the one-way ANOVA determines only the main effects, whereas the two-way ANOVA determines main effects and interactions.

Since there were a number of independent variables (i.e. socio-affective factors), a two-way ANOVA test was appropriate. Since the F test of the ANOVA does not indicate the differences within the variables, a post hoc Scheffé's test was used to determine which groups differ significantly within a variable. The Scheffé test is used to adjust significance levels in a linear regression analysis to account for multiple comparisons of all possible contrasts among the factor level means and not just the pair wise differences. It is useful in analysis of variance.

5.   Results

Statistically, the internal reliability of the nine categories was obtained using the Cronbach alpha coefficient. Responses were consistent in each category (Cronbach's alpha was not less than 0.7 for each category). The aggregate responses for each socio-affective factor were therefore used instead of responses to each individual question. Descriptive statistics are provided for a general overview of the results, and the inferential statistics are used to show the statistical relationships between the variables.

5.1   Descriptive statistics

Table 1 below presents the profile of the students with regard to the variables of home language in relation to the dependent variable of literacy levels as determined by the TALL. *Low Risk* students in literacy group 4 comprised almost half of the total number of first-year students who responded to the questionnaire (n=806). Students who spoke English or Afrikaans as a first language were almost equal in number (English n=486; Afrikaans n=495). However, the indigenous South African language (ISAL) speakers were in the majority (n= 650). Interestingly, the first/home language (L1) speakers of English or Afrikaans were mostly in the *Low Risk* group, at literacy level 4.

In the *Negligible Risk* group, literacy level 5, English first language speakers were the majority (n=125). Although ISAL students were on the whole in the majority, only 16 tested at level 5 (Negligible Risk) and 136 at level 4 (*Low Risk*). The majority of the 650 ISAL students were in the *Extremely High Risk* and *High Risk* group (levels 1 and 2). The distribution is shown in Table 1 below:

Table 1: Distribution of literacy groups and home language

Literacy level Literacy group	1 Extremely High Risk	2 High Risk	3 Borderline	4 Low Risk	5 No Risk	Total
Home language						
English	18	36	9	298	125	486
Afrikaans	29	75	35	308	48	495
ISAL	140	272	85	137	16	650
Other	33	56	19	63	14	185
Total	220	439	148	806	203	1816

The mean figures in Table 2 below show that reading *experience* is aligned with literacy groups. In other words, students with poor reading experience (i.e. high mean, indicative of negative responses) were in the *High Risk group*, whereas students who have had a better past reading experience (i.e. low mean, indicative of positive responses) were in the *Low Risk group*. This indicates that poor reading experience is related to low literacy levels, and subsequently poor reading proficiency levels; whereas rich reading experience corresponds with high literacy levels and therefore high reading proficiency levels.

The means for *social literacy, self-efficacy, reading habits* and *attitude* towards reading were also aligned with the literacy groups. These alignments show that the lower the literacy level of the students; the poorer their social literacy, self-efficacy, reading habits and attitudes towards reading. Similarly, the richer the social literacy, or the higher the self-efficacy, or the more positive the reading habits of students and their attitudes towards reading, the higher their literacy level and reading ability. The means for literacy (levels 2, 3, 4 and 5 show that students' interest in reading and their intrinsic motivation were also aligned with their literacy levels.

Apart from the low mean figures indicating positive responses for the affective factor *attitude towards reading*, students' responses were negative, as demonstrated by the high means (greater than 2). Students in the *Negligible Risk* group, however, were distinct from students on the other literacy levels, as they indicated positive responses for four of the nine categories: *reading experience* 1.70, *self-efficacy* 1.75, *interest* 1.75, and attitude 1.69. Table 2 below provides summary statistics of literacy groups in relation to the nine categories of socio-affective factors and strategy use.

Table 2: Descriptive statistics for literacy groups in relation to the nine categories of socio-affective factors included in the study

Literacy levels/ groups	1 Extremely High Risk		2 High Risk		3 Borderline		4 Low Risk		5 Negligible Risk	
Categories	M	(SD)	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Experience	2.50	(0.87)	2.43	(0.75)	2.35	(0.87)	1.94	(0.67)	1.70	(0.55)
Social literacy	2.77	(0.81)	2.78	(0.73)	2.75	(0.72)	2.59	(0.73)	2.43	(0.81)
Self-efficacy	2.44	(0.77)	2.38	(0.72)	2.19	(0.67)	2.09	(0.69)	1.75	(0.57)
Interest	2.09	(0.86)	2.14	(0.82)	2.17	(0.78)	2.08	(0.83)	1.75	(0.77)
Attitude	1.96	(0.75)	1.95	(0.72)	1.94	(0.69)	1.93	(0.67)	1.69	(0.61)
Int motivation	2.38	(0.68)	2.49	(0.66)	2.44	(0.62)	2.39	(0.69)	2.06	(0.64)
Ext motivation	2.61	(0.86)	2.58	(0.81)	2.62	(0.91)	2.85	(0.89)	2.77	(0.97)
Strategy use	2.25	(0.72)	2.37	(0.61)	2.35	(0.68)	2.53	(0.60)	2.47	(0.53)
Reading habits	2.65	(0.64)	2.62	(0.67)	2.62	(0.67)	2.64	(0.63)	2.48	(0.64)

Mean figures (M) with standard deviations (SD) in brackets are given for each category in relation to literacy group/level. Mean scores below 2 are considered low and rated positive, whereas means scores above 2 are considered high and rated negative. The scale was 1 to 5 from positive to negative.

The means given in Table 3 below show that *attitude* is the only category that elicited positive responses in all language groups except the Afrikaans group, which recorded a mean of 2.01: the highest mean. In other words, Afrikaans L1 students were the least positive. The lowest mean, which meant the most positive, was for the ISAL L1 group.

Besides *attitude,* other categories were distributed as follows: for the social factor *reading experience*, English and Afrikaans students displayed positive responses, whereas the ISAL and 'Other' (all other languages) groups displayed negative responses.

The standard deviation for English L1 speakers was .53 compared to the ISAL group that registered .84, indicating a more convergent response from the English L1 group, and a wider variation in the ISAL group. Responses to *social literacy* were negative across language groups. ISAL students were the most negative, displaying the highest mean. English L1 students indicated the highest *self-efficacy*, whereas the ISAL group recorded the lowest.

Table 3: **Descriptive statistics for language groups in relation to the nine categories of socio-affective factors included in the study**

Language groups	English		Afrikaans		ISAL		Other	
Factors	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Experience	1.81	(0.53)	1.88	(0.63)	2.54	(0.84)	2.25	(0.74)
Social literacy	2.57	(0.75)	2.53	(0.74)	2.82	(0.77)	2.67	(0.6 9)
Self-efficacy	1.99	(0.67)	2.18	(0.74)	2.28	(0.72)	2.25	(0.77)
Interest	2.06	(0.86	2.18	(0.89)	2.01	(0.75)	2.02	(0.83)
Attitude	1.92	(0.67)	2.01	(0.75)	1.85	(0.65)	1.87	(0.70)
Int motivation	2.32	(0.71)	2.47	(0.74)	2.38	(0.61)	2.33	(0.66)
Ext motivation	2.78	(0.93)	2.91	(0.93)	2.58	(0.81)	2.65	(0.85)
Strategy use	2.53	(0.57)	2.59	(0.64)	2.27	(0.62)	2.36	(0.59)
Reading habits	2.63	(0.63)	2.69	(0.68)	2.56	(0.63)	2.57	(0.60)

Mean figures (M) with standard deviations (SD) on a scale of 1 to 5 are given for each category in relation to language groups.

Interestingly, the ISAL L1 speakers, the majority of whom were in the *Extremely High Risk* and *High Risk* group, recorded the most positive interest in reading among the four language groups. Students' *intrinsic motivation* was low across all language groups. However, English L1 students displayed relatively better *intrinsic motivation* than other language groups. Students indicated low *extrinsic motivation* across all language

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groups. ISAL L1 speakers showed relatively better *extrinsic motivation*. It seems that ISAL students are relatively more susceptible to *extrinsic motivation* than the members of English and Afrikaans groups. A possible explanation for this difference is given in section 6. Surprisingly, students across all language groups scored low on the category of *strategy use* (cognitive/metacognitive factor). In other words, all the students indicated negative responses for *strategy use*. It is also surprising that the ISAL group, indicated the least negative *strategy use* compared to the other language groups. The theory that poor readers use few and inappropriate *strategies* whereas proficient readers use a combination of strategies (Alderson 2000), did not seem to apply to this cohort of students. However, there may be other reasons for these unexpected results. These are self-report responses and it could also be that since weaker students are more likely to provide socially acceptable responses, these students may have given responses that they deemed to be acceptable. Self-reporting on strategy use is also not equivalent to effective strategy use.

On the whole, students indicated negative *reading habits*. Afrikaans L1 students displayed the most negative *reading habits* and ISAL speakers the least negative. Considering the responses for all the categories, English L1 students scored the most positive, displaying means below 2.0 for three of the nine categories (*reading experience* 1.81, *self-efficacy* 1.99, *attitud*e 1.92). This group of students were also in the majority in the *Negligible Risk* group. Besides *reading experience*, Afrikaans L1 students scored relatively lower on a number of categories compared to English LI students. Although one would expect the Afrikaans L1 group to display more positive affective responses than the ISAL group, since the majority (71%) of the Afrikaans students were in the *Low Risk* group, this was not the case. Their ratings for the categories were lower than those of the ISAL group on five of the nine categories.

5.2   Inferential statistics

The results of the descriptive data given above shed some light on the relationship between socio-affective factors grouped into categories and students' academic reading proficiency. However, inferential statistics were used to statistically test these relationships. A two-way analysis of variance (ANOVA) was used to explore the relationship between the dependent variable, namely literacy levels/groups, and the independent variables, namely socio-affective and cognitive factors grouped into categories. An ANOVA was also performed on the mediating *variables* of *first language* and the nine independent variables. The main effects and interactions of the significant results are discussed, together with the results of Scheffe tests, which were used for multiple comparisons.

5.2.1   Reading experience and reading proficiency

The category of *reading experience* proved to be statistically significant in relation to the dependent variable of literacy group/level: $F(4)=4.92$, $p=0.0006$. Employing the Scheffe test for multiple comparisons, significant differences were found between *High Risk* (levels 1, 2, 3) and *Low Risk* (levels 4 and 5) students. The responses of the *High Risk* group

were negative for *reading experience* compared to the *Low Risk* group. Within the *Low Risk* group, *level 4* students were also significantly different from the students on level 5 in their responses to *reading experience*. In other words, students who had poor past *reading experience* demonstrate poor academic reading proficiency at tertiary level. On the other hand, students who had a rich past *reading experience* are at a higher academic literacy level and are more likely to succeed at tertiary level. The results therefore show a relationship between *past reading experience* and academic reading proficiency.

In relation to language groups and *reading experience,* the ANOVA test also showed significant differences: F(3)=28.41, p<.0001. ISAL students indicated the most negative *reading experience*. English and Afrikaans L1 students had positive response to *reading experience*, though English L1 speakers were marginally more positive.

5.2.2   Social literacy and reading proficiency

There seemed to be no significant relationship between social literacy and reading proficiency, as ANOVA results did not show any statistical difference between students' literacy levels and *social literacy*. However, significant results were shown for home language groups in relation to *social literacy*, which point to an indirect relationship between *social literacy* and reading proficiency. This is due to the fact that most of the ISAL speakers were in the *High Risk* group, and most Afrikaans and English L1 students were in the *Low Risk* group. As a result, an underlying relationship between social literacy and reading proficiency (literacy levels) could be assumed. Statistically significant results were shown for *social literacy* and students' home language (F(3)=4.08, p=0.0067). Afrikaans and English L1 students reported relatively better *social literacy* than the ISAL group. In other words, poor *social literacy* corresponded indirectly with poor reading proficiency. Thus ANOVA test results showed that *social literacy* corresponded with language groups directly and indirectly with reading proficiency levels.

5.2.3   Reading self-efficacy and reading proficiency

The ANOVA analysis showed a statistically significant relationship between literacy groups and students' *self-efficacy*: F(4)=8.84, p <.0001. This significance points to a robust relationship between reading *self-efficacy* and reading proficiency: the lower the literacy level of the student, the lower the *self-efficacy*. There was an interaction between literacy levels, home language and self-efficacy (F(12)=1.77, p= 0.0473). Students in the *High Risk* group were not statistically different from each other in their responses to *self-efficacy*. Likewise, the borderline group (level 3) showed similarities with the *High Risk* and *Low Risk* groups on the *self-efficacy* category. Level 5 (Negligible Risk) students were statistically different from students on the other four levels, which confirmed their relatively higher academic literacy levels and reading proficiency. These students are deemed to be academically literate and therefore proficient readers with negligible risk of failure.

The inferential results presented above indicate that students' *self-efficacy* aligned with their reading proficiency. The responses of the students to statements on the*ir self-*

efficacy corresponded with their reading proficiency, as indicated by TALL. Specifically, the questionnaire responses showed that students who indicated that they were struggling readers and had the poorest perceptions of their reading capabilities were those on level 1, followed by students on level 2, then 3, then 4 and finally 5, as shown in the TALL results. A clear relationship seems to exist between this cohort of students' *reading self-efficacy* and their actual reading proficiency levels, as presented in their TALL results (F(4)=8.48,p=<0001).

There was an interaction between questionnaire responses on *self-efficacy* in relation to literacy levels/groups of students and their home language. Students who spoke an ISAL as home language and were in the majority in the *High Risk* group indicated the lowest levels of *self-efficacy*. Although on the whole, the *High Risk* group responded negatively to *self-efficacy*, the English and Afrikaans L1 speakers in this group were less negative in their responses than ISAL L1 speakers. However, among the level 2 students, the Afrikaans speakers were the most negative. It is interesting to note that among the *Negligible Risk* students the ISAL students were more positive in their responses to *self-efficacy* than their Afrikaans and English counterparts. The interaction relating to students' responses to their *self-efficacy*, their literacy levels and home language is shown in Figure 1 below.
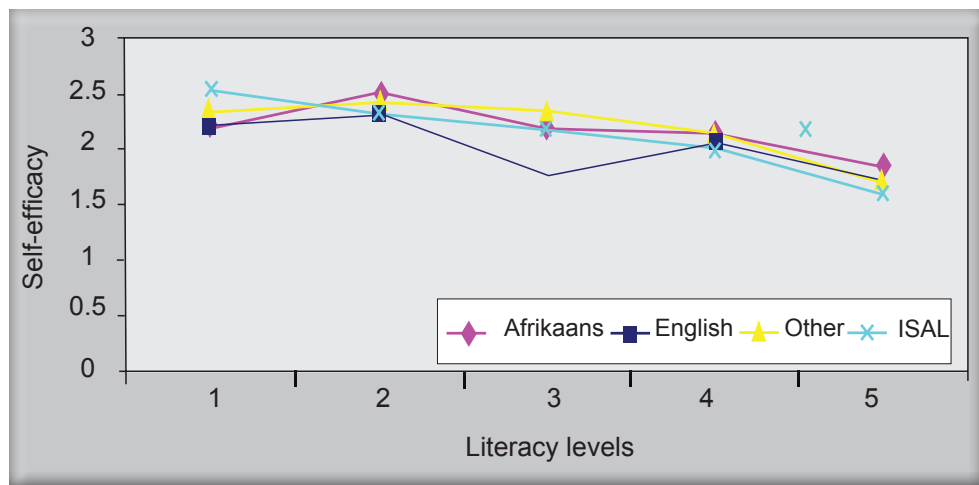

Figure 1: **Interaction between literacy levels/groups and students' home/first language in relation to their self-efficacy.**

5.2.4   Interest in reading and reading proficiency

For this affective factor, the results of the ANOVA test showed that the relationship between students' *interest in reading* and their reading ability as determined by the TALL was statistically significant (F(4)=5.14, p=0.0004). Students on levels 1, 2, 3, and

4 were negative in their responses, indicating low *interest in reading*, whereas students on level 5 were positive, indicating high *interest in reading*. This shows that students who are on a high *academic literacy* level (75% +) are generally students who seem to be *interested in reading*. Thus, *interest in reading* corresponds with high reading proficiency for this cohort of students. For students on level 1, the level of interest did not correspond with their reading proficiency as indicated by the TALL results. This seems to confirm Schiefele's (1992:176) findings that cognitive process variables mediate the effect of interest on academic achievement.

Without cognitive processes playing a role, *interest in reading* by itself will not yield high reading proficiency. This conclusion points to the importance of cognitive development in reading instruction. Despite the discrepancy between ISAL L1 students' reported *interest in reading* and their reading proficiency, on the whole, students' interest in reading corresponded with their reading proficiency levels.

Students' reading interest in relation to their home language was also statistically significant (F(3)=6.52, p=0.0002). Afrikaans L1 speakers scored the lowest for the category of *interest in reading*. The ISAL students were the least negative in their responses to reading interest. It is possible that interest in this regard may have been interpreted as aspirations by the respondents. It is also possible that ISAL students may have given socially desirable answers, as weaker students have been shown to yield to desirability effects (Pretorius 2000:223). Surprisingly, the Afrikaans and English L1 speakers who indicated relatively better *reading experiences*, indicated lower interest than the ISAL group that had recorded negative *reading experience*.

5.2.5   Attitude towards reading and reading proficiency

The ANOVA test for this category did not show any significant results between literacy levels and students' *attitude towards reading*, indicating that there did not seem to be a direct relationship between reading proficiency and students' *attitude towards reading* for this cohort of students. However, statistically significant results were shown for home language groups and *attitude* (F(3)=7.58, p <.0001). As a result, an indirect relationship between literacy levels and *attitude* could be assumed. The Afrikaans L1 group's scores demonstrated a negative *attitude towards reading*, whereas the other three L1 groups' scores showed a more positive *attitude towards reading:* ISAL L1 students were most positive and English L1 students least positive in their *attitude towards reading*.

The positive response from the ISAL L1 group, in contrast to the low reading proficiency of most ISAL students, could be associated with the mediating factor of intention, as explained by Mathewson (2004:1436). He claims that a positive attitude only results in reading if other influences favouring the formation of positive intentions to read are present (Ibid). In the case of the ISAL L1 students the other influences such as availability of books, conducive environment, may have been absent and therefore a positive *attitude towards reading* could not result in actual reading that could improve reading ability.

5.2.6   Intrinsic motivation and reading proficiency

As an important affective factor in this study, the category of intrinsic motivation was shown to demonstrate a statistically significant relationship with reading ability: F(1)=11.15, p<.0003. Students on level 5 who had negligible risk according to the TALL, indicated the highest *intrinsic motivation* among the groups. Scheffe test show that these students were significantly different from the other students. Students on level 2 indicated the lowest *intrinsic motivation*. It is interesting to note that students on level 1, namely *Extremely High Risk*, indicated relatively higher intrinsic motivation than students on levels 2, 3 and 4. This result was unexpected, as poor reading proficiency is usually associated with low motivational levels, and vice versa.

A possible reason for this unexpected result from the *Extremely High Risk* students could be that they may have misinterpreted the motivational questions or had given socially acceptable responses, as in their responses to reading interest and attitude. Another probable reason could be that although they are perceived as poor readers (as determined by the TALL and also from their responses to r*eading experience*, and self-efficacy), the *Extremely High Risk* students on level 1 have the desire and the motivation to improve their reading proficiency. However, with regard to students on levels 2, 3, 4 and 5 a significant relationship was shown to exist between reading proficiency and *intrinsic motivation*, as indicated by the hierarchical progression of the mean figures in Table 2. Except for students on level 1, the mean figures for the other groups showed that the lower the motivational level, the lower the reading proficiency, confirming the widely held view that low *intrinsic motivation* corresponds with low reading proficiency (Grabe & Stoller, 2002; Guthrie & Wigfield, 2000; Logan, Medford, Hughes, 2011; Morgan & Fuchs, 2007; Stanovich, 1986) The view that motivational levels correspond with reading ability refers to the 'Matthew effect'. In essence, the 'Mathew effect' states that 'the rich get richer and the poor get poorer in terms of reading' – a cycle that is mediated by motivation (Stanovich, 1986; Pretorius, 2000).

Apart from the direct relationship between reading proficiency and *intrinsic motivation* described above, students' home language also showed a relationship with *intrinsic motivation*, indicating an indirect relationship between reading proficiency levels and *intrinsic motivation*. In relation to home language, intrinsic motivation was low for all language groups. However, the motivational level of the ISAL group showed a statistically significant difference from the motivational levels of Afrikaans and English L1 groups. Similarly, the Afrikaans L1 group and the English L1 group were markedly different from each other. Afrikaans speakers had the lowest motivation (this might have been due to their response towards English texts, as a number of them receive tuition in Afrikaans but the questionnaire was in English). English L1 students reported the highest *intrinsic motivation* compared to the other language groups.

5.2.7   Extrinsic motivation and reading proficiency

ANOVA tests did not show a statistically significant relationship between extrinsic motivation and reading proficiency. Responses to statements on *extrinsic motivation*

were statistically significant for home language (F3)=3.82, p=0.0096). Although overall responses were negative, indicating low *extrinsic motivation* among students, Afrikaans L1 students had the lowest extrinsic motivation followed by English L1. Both English and Afrikaans L1 students were markedly different from ISAL L1 students who had a relatively high *extrinsic motivation*.

5.2.8   Strategy use and reading proficiency

Overall, the responses were negative for this category of the cognitive and metacognitive factor of strategy use. ANOVA tests did not show any statistically significant differences between reading proficiency levels and *strategy use*. However, students' home language showed statistically significant differences with regard to *strategy use* (F(3)=9.07, p<.0001). Although students from all language groups, on the whole, used poor reading strategies, the Afrikaans and English L1 students were the worst, and indicated less use of strategies than the ISAL group. This may seem contradictory, as Afrikaans and English L1 students indicated more favourable r*eading experiences*, had relatively better *self-efficacy* than the ISAL group, and most of them were on levels 4 and 5 with *Low* or *Negligible Risk*.

A possible explanation for proficient readers not using strategies explicitly is given by Brunfaut (2008), who found that students who use certain support strategies, such as underlining, annotating and highlighting when reading academic texts, do not seem to understand the texts as well as students who do not use them.

She argues that potentially there is a certain comprehension threshold below which students apply support strategies. "Students who have crossed this threshold no longer apply them" (Brunfaut, 2008: 402). However, questions for this study comprise not only support strategies, but processing and metacognitive strategies, which students are expected to use for successful comprehension of texts. Nevertheless, the responses, as shown in the mean figures, point to a general lack of appropriate *strategy use,* which should be addressed in reading instruction at tertiary level.

 5.2.9   Reading habits and reading proficiency

ANOVA test did not show a statistically significant relationship between students' reading habits and their reading proficiency levels. However, responses to reading habits were statistically significant for home language groups (F(3)=4.14, p=0.0062). An interaction between literacy level, home language and *reading habits* was statistically significant at (F(12)=1.91, p= 0.0294). This points to an indirect relationship between reading proficiency and *reading habits*.

On the whole, students demonstrated negative reading habits. Afrikaans L1 students reported the most negative *reading habits*, particularly those students on levels 2 and 3, who showed scores significantly different from the ISAL group. Although students' *reading habits* were negative in all language groups, ISAL students in the *Negligible Risk* group showed markedly better reading habits. A probable explanation for this

could be that these students had done most of their reading in English and therefore those who reported positive *reading habits* possessed good reading skills in English.

Since the ISAL group rarely read in their first language, those who indicated positive *reading habits* emerged with relatively higher academic literacy levels and reading proficiency levels. These are usually students who had attended private schools (received good reading instruction), and are from high socio-economic status (SES) families (rich literacy environment). The interaction between reading proficiency as shown in literacy levels and home language in relation to *reading habits* is shown in Figure 2 below.
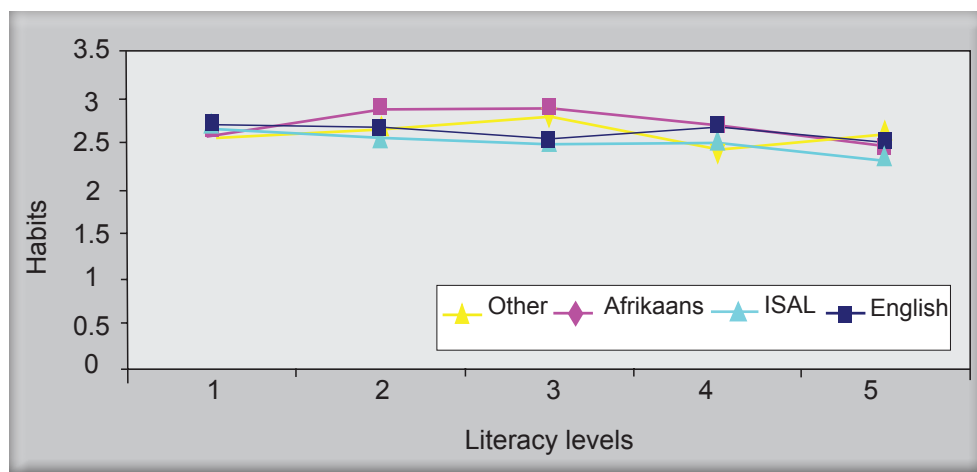

Fig 2: Interaction between literacy levels and home language in relation to reading habits

Table 4 below presents a summary of the statistically significant results stated under inferential statistics. The p- values of the main effects and the interactions between the variables as shown by ANOVA test are given.

Table 4: Summary of significant results of ANOVA: main effects and interactions

Variables	Independent variables								
	Reading experience	Self-efficacy	Social literacy	Interest	Intrinsic Motivation	Extrinsic motivation	Reading Habits	Attitude	Strategy Use
Literacy level	0.0006	<.0001		0.0004	0.0003				
Home language	<.0001		0.0067	0.0002	<.0001	0.0096	0.0062	<.0001	<.0001
Interactions between literacy levels, the categories and home language		0.0473					0.0294		

6.   Discussion

Reading experience, self-efficacy, intrinsic motivation and *interest* each show a statistically significant relationship with students' reading proficiency levels (p<.0001). In addition, the analysis shows that students' past *reading experience, social literacy, interest, intrinsic and extrinsic motivation, reading habits, attitude and use of strategies* also had a statistically significant relationship with home language and therefore corresponded indirectly with reading proficiency levels. The analysis shows that all the nine categories, directly or indirectly, are reliable indicators of their level of reading proficiency. That is, when these affective and cognitive levels are high, reading proficiency is also high. The implication of this analysis is that affective factors in reading are closely linked to cognitive factors in reading. Thus reading instruction should be aimed at improving students' affective levels concomitantly with cognitive instruction in order to achieve maximum results in developing their reading proficiency.

In relation to *reading experience, social literacy and self-efficacy*, ISAL L1 students' responses were the most negative. This negative response seems to indicate that most of the ISAL L1 students in this study had poor reading experiences at home and at school, impoverished *social literacy* and low *self-efficacy*. These negative social and affective responses to reading confirm the link between social factors and affective levels (Bandura, 2001; Giddens, 2001). Various social researchers including Bandura (2001) and Giddens (2001), have pointed out the influence of social factors on students' affective levels, which seems to hold true for the respondents in this study. Students who reported poor *social reading experiences*, also reported low *self-efficacy*, and those who indicated rich *social reading experiences* also indicated high *self-efficacy*.

Intrinsic motivation was the only category that showed consistently low levels for all variables: home language and literacy groups. This indicates that regardless of their home language or literacy levels, these students do not seem to experience reading as a pleasurable activity. However, there were variations in their motivational levels, which points to Grabe and Stoller's (2002) assertion that L2 students have varying affective levels for reading due to their varying educational and social backgrounds. Although students in the *Negligible Risk* group had relatively higher levels of *intrinsic motivation* the general score for this cohort of first-year students indicated low levels of *intrinsic motivation*. This confirms other research findings that intrinsic motivation declines as students climb the educational ladder (Guthrie & Wigfield, 2000:404). Although, generally, students showed low *extrinsic motivation* ISAL students indicated the lowest motivational levels. This response was expected, as the ISAL L1 students had also indicated the poorest reading experience and the most impoverished *social literacy.* These results support the view that social factors greatly influence students' affective and motivational levels.

Attitude as an affective factor was expected to correspond with motivational levels of ISAL L1 students, but showed different results. ISAL L1 students were the least negative among the respondent groups in terms of r*eading attitude*. Possible explanations are that students may have translated *attitude* into aspiration or that the complexity of *attitude*, as discussed by Mathewson (2004:1436), could be at play here. According to Mathewson (2004), the three components of *attitude* (cognitive, affective and conative) should all be present to influence attitude in reading. The complexity in the *attitude* variable may have contributed to this unexpected result.

The overall negative *reading habits* of students point to a need for positive *reading habits* to be developed; positive *reading habits* develop reading proficiency. Good habits cannot be developed without the willingness of the participants. Thus a focus on affective aspects in reading instruction is highly relevant. Negative *reading habits* were indicated by all the students, which means that students do not seem to read much, presumably due to the influence of the technology-driven 21st century, which is conducive to interacting with TV, computers and cell phones, instead of longer printed texts. Statistically significant results (F(12)=1.91, p=0.0294), indicating a relationship between *reading habits* on the one hand, and home language and literacy levels on

the other, showed that Afrikaans L1 students on literacy levels 2 and 3 had the most negative *reading habits*, whereas ISAL L1 speakers in the Negligible Risk group had the best *reading habits* among this cohort of students. This group of ISAL L1 speakers, as mentioned above, displays different reading characteristics from ISAL L1 speakers in the other literacy groups, possibly because of their higher SES family background; pointing to the link between SES and reading proficiency. Students' responses showed that they were not using appropriate reading strategies irrespective of their home language group. Explicit strategy instruction seems to be crucial for this cohort of students, as strategy instruction improves self-efficacy, increases metacognition and the conceptual use of strategies in reading (Guthrie, Wigfield & Von Secker 2000).

To summarise, the categories or independent variables that did not show significant results for reading proficiency from the ANOVA tests were *social literacy, extrinsic motivation*, *attitude* towards reading and *strategy* use. The rest of the variables corresponded with reading proficiency levels, sometimes in a robust relationship. However, all the variables that did not share a direct relationship with reading proficiency showed a relationship with students' home language, indicating an indirect relationship with reading proficiency, as literacy levels relate to L1 groups. Thus, it can be concluded that there seems to be a direct relationship between reading proficiency and students' *reading experience, self-efficacy, interest, and intrinsic motivation*, whereas an indirect relationship exists for *social literacy, extrinsic motivation, attitude and strategy use*. The ANOVA tests showed that all the independent variables – social, affective and cognitive/metacognitive – may have a direct or indirect relationship with the dependent variable of reading ability.

7   Implications for instruction

Regarding the first question of whether there is a relationship between socio-affective factors (the independent variables) and students' reading proficiency levels (the dependent variable), ANOVA test showed that a statistically significant relationship exists between these two variables. The responses from the questionnaire were often aligned with students' literacy levels, indicating that socio-affective factors of the various categories corresponded either positively or negatively with reading proficiency levels.

ISAL L1 students in the *High Risk* group who were registered for the compulsory Academic Literacy module were consistently low on *self-efficacy*. Thus reading instruction for these students should focus on strategy instruction to improve self-efficacy. *Self-efficacy,* which is the affective variant of metacognition, is known to be crucial for successful academic reading at higher (tertiary) levels (Mills, Pajares & Herron, 2007). Thus instruction on metacognition should be done concurrently with the improvement of *self-efficacy*.

Students in the *Negligible Risk* group showed *positive reading experience, high self-efficacy, positive social literacy, and high interest in reading*. These factors are foundations for proficient reading, and it is therefore not surprising that the level 5 students have the

highest academic literacy levels, as determined by the TALL. Furthermore, these results confirm the relationship between social and affective factors pertaining to reading on the one hand and academic reading proficiency on the other.

The consistent negative response of ISAL students to *reading experience* indicates that a number of them were not exposed to reading as children and did not have a reading culture in the home or at school. For such students, it is even more crucial to have a reading programme that focuses on affective aspects, develops their love for reading and enables them to read frequently in order to develop appropriate reading strategies that seem to be lacking due to poor *reading experience*. For such students extensive reading or reading for pleasure should be included in their academic reading programme.

Other affective strategies that are crucial for improving students' reading proficiency include providing a non-threatening classroom environment for students to feel free to explore and learn; introducing various collaborative activities that enable students to learn from each other and to improve social literacy; using interesting and relevant texts that help to increase students' motivational levels; modelling reading strategies and scaffolding activities and texts to increase *self-efficacy*.

8.   Conclusion

The results of this study show that a robust relationship exists between social and affective factors and reading proficiency as determined by the TALL. ANOVA results show a statistical significant relationship between reading proficiency and each socio-affective factor directly, or indirectly through home language. The paper further points out that based on this relationship, reading instruction should be affective-oriented, and should include teaching techniques such as collaboration, scaffolding, teacher modelling, use of relevant and significant texts, explicit strategy instruction, and a favourably non-threatening environment, to increase motivation, develop self-efficacy and promote positive attitudes that will contribute to the optimal improvement of students' academic reading ability at tertiary level. A subsequent article (Boakye forthcoming) that presents the results of an intervention programme, further discusses the details of the teaching techniques listed here.

Acknowledgments

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Appendix

Questionnaire: Socio-affective factors and strategy use in academic reading

Dear student

Thank you for your willingness to contribute data on factors affecting reading that will help to improve the reading instruction programme.

Please note that there are no incorrect or false answers since the answers reflect your personal opinion. Your responses will remain anonymous. Even though you are required to supply your student numbers, they will only be used for tallying responses to test performance and not for any other identification purposes. There are no disadvantages for responding to this questionnaire.

For office use

Respondent number

Please tick (using an X) the number that best reflects your opinion accurately

Past experiences with reading	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree		
1.When I was a child I was often taken to the Library	1	2	3	4	5	V1	
2. Members of my family used to read to me	1	2	3	4	5	V2	
3. There have always been books in my family's home	1	2	3	4	5	V3	
4. Attention was given to developing reading skills in my high school	1	2	3	4	5	V4	

Past experiences with reading	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree		
5. There was a library in my primary school	1	2	3	4	5	V5	
6. There are 20 or more books in my home	1	2	3	4	5	V6	
Reading and social environment							
7. My siblings read a lot	1	2	3	4	5	V7	
8. My parents read a lot	1	2	3	4	5	V8	
9. My friends like reading so they read a lot	1	2	3	4	5	V9	
10. My friends and I discuss books that we read	1	2	3	4	5	V10	
11. I know people who read all kinds of texts	1	2	3	4	5	V11	
Interest in reading							
12. I like to read about topics of interest	1	2	3	4	5	V12	
13. I like to read about new things	1	2	3	4	5	V13	
14. I read for pleasure	1	2	3	4	5	V14	
15. I find reading an interesting activity	1	2	3	4	5	V15	
16. If I had more time I would read more	1	2	3	4	5	V16	
Attitude towards reading							
17. I have always believed that reading was a good thing to do	1	2	3	4	5	V17	
18. I have favourite subjects that I read about	1	2	3	4	5	V18	
19. 1 enjoy reading	1	2	3	4	5	V19	

Past experiences with reading	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree		
20. I find it easy to settle down and concentrate on my reading tasks	1	2	3	4	5	V20	
21. Reading well will help me with my studies	1	2	3	4	5	V21	
22. I can learn a lot from reading	1	2	3	4	5	V22	
Perceptions about own abilities / Self efficacy							
23. I think I read well and with understanding	1	2	3	4	5	V23	
24. I read slowly so I have problems with understanding	1	2	3	4	5	V24	
25. I have difficulty in completing the reading assignments given to me	1	2	3	4	5	V25	
26. I read slowly so it makes me tired and bored	1	2	3	4	5	V26	
27. I have difficulty in understanding words (50% or more) in my reading assignments	1	2	3	4	5	V27	
28. I have to translate what I read into my home language before I really understand	1	2	3	4	5	V28	
29. I have difficulty n understanding idiomatic Language	1	2	3	4	5	V29	
30. I have difficulty in understanding the texts I have to read at university	1	2	3	4	5	V30	
31. I have difficulty in extracting the main points in what I read.	1	2	3	4	5	V31	
32. I find it difficult to summarise a text in my own words	1	2	3	4	5	V32	

Past experiences with reading	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree		
Reading strategies							
33. When I read a novel, I read it in a different way from when I read a textbook	1	2	3	4	5	V33	
34. Before I read a book, I look at its contents page and skim through it looking at headings and illustrations	1	2	3	4	5	V34	
35. The first thing I do when I come across an unknown word is to look it up in the dictionary	1	2	3	4	5	V35	
36. I record new words and try to memorise them with their meanings	1	2	3	4	5	V36	
37. I ignore diagrams, maps, graphs, charts, which I come across in the course of my reading	1	2	3	4	5	V37	
38. I try to relate what I read with my own ideas and previous knowledge	1	2	3	4	5	V38	
39. I use questions like why, what and how to help me understand my reading better	1	2	3	4	5	V39	
40. I form visual images when I read.	1	2	3	4	5	V40	
Int. motivation-curiosity, involvement, Challenge							
41. I read to learn new information about topics that interest me	1	2	3	4	5	V41	
42. If I am reading about an interesting topic, I sometimes lose track of time	1	2	3	4	5	V42	

Past experiences with reading	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree		
43. I enjoy reading books on various topics	1	2	3	4	5	V43	
44. If my teacher/lecturer discusses something interesting, I might read more about it	1	2	3	4	5	V44	
45. I feel I connect with characters in good Books	1	2	3	4	5	V45	
46. I enjoy reading fictional stories	1	2	3	4	5	V46	
47. I enjoy a long involved story	1	2	3	4	5	V47	
48. I read a lot of adventure and mystery books	1	2	3	4	5	V48	
49. I like hard challenging books	1	2	3	4	5	V49	
50. Reading helps me understand difficult Concepts	1	2	3	4	5	V50	
51. If the assignment project is interesting, I can read difficult material	1	2	3	4	5	V51	
52. If the book is interesting, I don't care how hard it is to read	1	2	3	4	5	V52	
53. I like to read books that make me think	1	2	3	4	5	V53	

Extrinsic motivation- recognition, competition							
54. I like to get compliments for my reading	1	2	3	4	5	V54	
55. It is important for me that my teacher and/or my parents recognise my reading	1	2	3	4	5	V55	

Past experience with reading	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree		
56. I like being the only one who knows the answer to a question from a text we have read	1	2	3	4	5	V56	
57. It is important for me to be among the good readers in my class	1	2	3	4		V57	
58. I try to get more answers right than my friends' in reading tasks	1	2	3	4	5	V58	
59. I like to finish my reading and tasks before other students	1	2	3	4	5	V59	
60. I am willing to work hard in order to read better than my friends	1	2	3	4	5	V60	
Reading habits							
61. I read one novel each week/ month during Holidays	1	2	3	4	5	V61	
62. I read one novel each week/ month during school term	1	2	3	4	5	V62	
63. I often read						V63	
i. newspapers	1	2	3	4	5	V63i	
ii. novels (fiction)	1	2	3	4	5	V63ii	
iii. magazines	1	2	3	4	5	V63iii	
iv. academic books	1	2	3	4	5	V63iv	
v. any other (e.g. motivational, plays, etc)	1	2	3	4	5	V63v	
64. I read books/ magazines/newspapers in my mother-tongue	1	2	3	4	5	V64	
65. Newspapers are bought daily/weekly in my Home	1	2	3	4	5	V65	

Personal information							
66. Faculty						V66	
67. Gender	F		M			V67	
68. Code for literacy test	1	2	3	4	5	V68	
69. Home language	Eng	Afr	SA African	Other		V69	
Student number							

T**hank you for filling in the questionnaire.**

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