CHAPTER 9

A 3-TIER MODEL FOR SUPPORTING READING-TO-LEARN

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Introduction

Increased participation in the higher education sector in South Africa brings with it challenges regarding access to, and success in, the higher education sector. These questions of access become really important when it is realised that many students now seeking participation in the sector do not necessarily come from backgrounds that have adequately prepared them for this participation (Nist & Simpson, 2000; Scott, Yeld & Hendry, 2007; Yeld, 2008). According to Tinto (2008), success for these students will not be achieved by practice as usual, nor by add-ons that do little to change the experience of these students at university. What is required is a more serious and substantial restructuring of the student experience, especially for the many students who enter university academically underprepared.

Du Boulay (1999:1) states that

One of the biggest problems in higher education, but one which is often not fully recognised by either students or lecturers until some way into academic courses, is the problem of reading, perhaps because reading in itself is not assessed. However, the results or output from reading are assessed.

Reading is not simply an additional tool that students need at university; it constitutes the very process whereby learning occurs (Rose & Hart, 2008). According to a report compiled by the Intersegmental Committee of the Academic Senates (2002:4), 83% of faculty stated that the lack of analytical reading skills contributes to students' lack of success in a course.

Research within the higher education sector in South Africa confirms the poor reading levels of students. Webb (1999) reported that many of the students at the University of Pretoria who were tested had reading levels of Grade 7-8 students. Similarly,

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Pretorius (2000) found that many first-year Psychology and Sociology students at Unisa were reading at frustration level (i.e. well below their assumed reading level, with an average comprehension level of 53%). A study conducted by Nel, Dreyer and Kloppe (2004) at the North-West University (Potchefstroom Campus) indicated that first-year students participating in their study experienced problems across all aspects of the reading components assessed, namely vocabulary, fluency, reading comprehension and reading strategy use. Similarly, research conducted by Zulu (2006) at the North-West University (Mafikeng Campus) indicated that first-year students lacked critical and analytical reading skills. Case study research conducted by Pretorius (2005:798) indicated that students approach reading tasks in a 'mechanical and passive way, starting at the beginning and wading their way through conceptually dense text to arrive exhausted, demotivated and largely uninformed at the other end'. In addition, students had difficulty making predictions and elaborating ideas across paragraph boundaries and integrating information across the text.

In the crucial area of academic reading there is often only fragmented and limited provision of support at tertiary level (Rose, 2005; Wingate, 2007). Regardless of student needs, most universities provide bolt-on generic skills courses offered by academic support units, language departments/schools, or study skills centres (Wingate, 2007). Research indicates that generic skills courses are not effective and students tend to avoid them because they regard them as irrelevant to their disciplines (Maxwell, 1997). Academic reading is a complex skill that requires an understanding of the nature of knowledge in the specific discipline (Alexander, 2005; Lea & Street, 1998; Northedge, 2003). Reading-to-learn at university requires a systematic and comprehensive approach to supporting students. Institutions should not leave reading development to chance (Pretorius, 2002). Structures need to be put in place to ensure the consistent and gradual development of academic reading skills for all students.

The purpose of this chapter is to present a 3-Tier model for academic reading skills support at university. The aim of the model is preventative and seeks to facilitate success for all students. In addition, the model addresses government requirements of quality student outcomes and timely completion and throughput rates (Scott *et al.*, 2007). Each tier of the model focuses on core curriculum content, engaged reading-to-learn curricula, teaching staff, resources, instructional methods/strategies, support, assessment and partnerships.

University academic reading demands

The primary skill that students need for university study is learning independently from academic reading (Rose & Hart, 2008). To study independently, university students must be able to read complex academic texts strategically with a high level of understanding and be able to critically analyse such texts in order to present coherent analyses, argument or discussion in their own written work (Rose, Lui-Chivizhe, McKnight & Smith, 2003). Simpson and Nist (2000) reported that 85% of college learning requires careful reading. Extensive reading is also needed, as students must

often understand 200-250 pages per week to meet sophisticated reading tasks in writing assignments and research papers, and in preparing for tests at university (Burrell, Tao, Simpson & Mendez-Berrueta, 1997; Nist & Diehl, 1994). University reading can be a daunting task (Taraban, Rynearson & Kerr, 2000). Not only must students read successfully and extensively, but they must also monitor their success and change strategies to meet varying learning and task demands. Students must also attribute success to their strategic approaches to reading rather than to chance or external factors (Caverly, 2001; Simpson & Nist, 2002).

Academic reading – reading for in-depth comprehension and learning – is a special type of reading. It is different than reading for enjoyment or reading for general information, and demands a different type of processing (in terms of focusing of attention, information encoding and retrieval). Reading-to-learn is often associated with ‘the requirement to perform identifiable cognitive and/or procedural tasks ... [to meet] the criteria on tasks such as taking a test, writing a paper, giving a speech and conducting an experiment’ (Anderson & Armbruster, 1984:657). Effective academic reading involves several kinds of metacognitive knowledge:

- ▣ knowledge of the criterion task (such as a multiple-choice test, essay exam, speech, or research paper) and what needs to be studied (task awareness);
- ▣ knowledge of how best to process the text for learning, including what to focus attention on, how to subsequently encode the information attended to and how to retrieve the information required by the criterion task (strategy awareness); and
- ▣ self-knowledge about whether and to what extent one has learned the material (performance awareness) (Anderson & Armbruster, 1984; Wade & Reynolds, 1989).

Academic texts present difficulties for inexperienced/underprepared students in two ways. First, the subject matter, including terms used in the academic field, is likely to be new and very unfamiliar, so even if students can read a text fluently, they cannot necessarily begin to understand, let alone interpret or critique, the ideas expressed in it (Pretorius, 2005; Shih, 1992). Second, since the patterns of language in academic writing differ from the patterns of language in everyday speaking or writing, reading academic texts can be such a struggle that understanding becomes extremely difficult, if not impossible (Rose *et al.*, 2003).

In order to comprehend a text, narrative or expository, students must be able to recognise at least 90-95% of the words and know what they mean. They must also be able to read the text with some degree of fluency using appropriate speed, phrasing, prosody and intonation, so that they can channel enough cognitive resources for building a ‘situation model,’ or mental representation, that the sentences in the text as a whole project (Kintsch, 2004). Within expository text material, two major factors are present which potentially affect students’ understanding: ordination and relationships. Firstly, most expository material is organised hierarchically (i.e. topics, main ideas, and details) into super-ordinate, co-ordinate, and sub-ordinate ideas (Meyer, 1975). Secondly, Meyer identified five general patterns of text structure present in expository material, namely, collection or categorisation, comparison/

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contrast, cause/effect, description, and problem/solution. Research indicates that students have difficulty:

- ▣ discerning important from unimportant information;
- ▣ selecting, organising and interpreting across multiple texts;
- ▣ recognising text structures and inferring main ideas when they are implicit;
- ▣ accessing a repertoire of effective reading strategies;
- ▣ managing executive control over underlying cognitive, metacognitive and affective processes that are the foundation of these strategies;
- ▣ believing in their ability to control their success; and
- ▣ being motivated to read actively (Alexander & Murphy, 1999; Cabral, 2008; Caverly, 1997; Simpson & Nist, 1997).

Students at university need to comprehend text by actively constructing meaning, and by integrating information from the text with relevant information from their background knowledge (Caverly, 2001). Conceptual knowledge (content schemata), text-structure knowledge, and knowledge about text-processing strategies are the foundation for successful construction of meaning (Shih, 1992). In addition, reading is as much a strategic process as a comprehending process, and metacognitive knowledge of the reading process is as important to develop as declarative knowledge, conditional knowledge, procedural knowledge, and conative knowledge (Caverly, 2001).

In order to be successful at university, students need to develop understandings of how they should approach the above mentioned reading demands, how they should proceed while reading, and how they can tell whether they are proceeding effectively or not. According to Fox, Alexander and Dinsmore (2007:2), many undergraduates have fragile understandings of reading. Their success in reading rests upon shaky foundations, due to a passive approach to reading, an over-reliance on background knowledge or personal experience, or a lack of metacognitive flexibility.

Academic reading skills support within the higher education context

Reading at university requires a systematic and comprehensive approach to supporting students. Structures need to be put in place to ensure the consistent and gradual development of reading skills for all students. In addition, 'institutions should deliver support intrusively, by initiating contact with students and aggressively bringing support services to them, rather than by offering services passively and hoping that students will come and take advantage of them on their own accord' (Cuseo, 2003:8).

A review of the literature indicates the existence of a number of diverse approaches that have been proposed for reading skills provisioning within the higher education sector (Cottrell & Jones, 2003; Skillen & Mahony, 1997; Snow & Brinton, 1988). One of the most prevalent approaches, still in operation in many universities today, is the so-called stand-alone or bolt-on approach (Snow & Brinton, 1988; Wingate, 2006). Reading skills are taught generically, without reference to discipline-specific academic assignments (criterion tasks) or content. In academic discipline-specific classes,

students must not only comprehend texts, but over the long term, critically react to the content (for example, in class discussion some time after reading an assignment), recall main points and details when tested (perhaps several weeks after initial reading), and synthesise information from reading with other related information, such as from lectures, discussion, PowerPoint presentations and independent reading. This approach results in reading skills becoming divorced from discipline-specific content and knowledge.

Research indicates that the linked or adjunct approach to reading skills support is the most effective (Angelova & Riazantseva, 1999; Durkin & Main, 2002; Shih, 1992). This approach recognises that discipline content and academic skills development (academic reading) cannot be divorced (Cottrell, 2001; Shih, 1992; Wingate, 2006) and that both of these elements go hand-in-hand. Research into how students learn in higher education suggests that learning is very contextualised, that is, students need to see how reading skills relate to a domain, enabling them to transfer and connect the skills to the material being studied (Alexander, 2005; Caverly, 2001). This approach entails linking the content of core curriculum courses with an engaged 'adjunct' academic reading-to-learn course or module.

In research conducted by Durkin and Main (2002:25), it was found that greater learner demand existed for a 'discipline-based' approach to academic skills development and that this approach helped to clarify for learners the expectations of their tutors. Durkin and Main (2002) also claim that the high attendance at discipline-based academic skills courses is testimony to the fact that learners see the development of these skills as integral to their programme of study. This approach reinforces the role of faculty in instilling in their learners an understanding of how to read and learn in his or her domain. Reading materials and tasks should resemble materials and tasks students face in discipline-specific classes, thus encouraging students to build repertoires of task- and text-appropriate discourse processing strategies. The abiding factor to bear in mind when designing academic reading modules is to ensure that the reading skills being imparted are relevant to what learners are studying within their own discipline, to how their reading and learning will be assessed. The reading skills should also encourage a deep approach to learning (Biggs, 1999).

A 3-tier model for reading-to-learn

The 3-Tier model is designed to provide scientific research-based instruction and targeted interventions that lead to successful reading at university. The focus of the model should be seen as developmental and preventative and not as remedial. The rationale for a developmental focus is based on Alexander's (2005) lifespan orientation toward reading. This perspective looks at reading as 'a long-term developmental process,' at the end of which 'the proficient adult reader can read a variety of materials with ease and interest, can read for varying purposes, and can read with comprehension even when the material is neither easy to understand nor intrinsically interesting' (RAND Reading Study Group 2002:xiii).

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The model's basic philosophy is based on the recognition that all students entering university need assistance in developing the necessary and appropriate reading skills for both the higher education academic context in general, and more importantly, the domain-specific context (Alexander, 2004). The model consists of three tiers or levels of instruction: Tier 1, Tier 2, and Tier 3 (see Figure 9.1). The authors have adapted the model for university purposes from Utah's 3-Tier model of reading instruction for schools (Utah State Office of Education, 2007). Student movement through the three tiers is a fluid process based on student assessment data and collaborative team decisions. Assessment is viewed as the process of collecting, reviewing and using information to make educational decisions about student learning (Kruidenier, 2002).

Figure 9.1 A 3-tier model for engaged reading-to-learn

The type of information collected is determined by the intended use of the results or type of decision that is needed.

Tier 1: Core classroom reading-to-learn instruction for all first-year students

Reading and learning screening assessments are administered to all first-year students during the induction period before classes officially start in order to identify those students most likely to experience reading and learning difficulties (see Figure 9.1). The information of tests of several reading and learning components is then used to create profiles of students' reading and learning ability (Chall, 1994; Strucker, 1997).

Profiles result in a comprehensive view of students' strengths and weaknesses across many aspects of the reading process and can be used to design instruction that addresses all aspects of the reading process during instruction. This ensures a balanced approach to reading instruction (National Institute of Child Health and Human Development [NICHD], 2000; Snow, Burns & Griffin, 1998; Snow & Strucker, 2000). According to Kruidenier (2002), assessing several components of reading in order to generate profiles of students' reading ability gives educators much more instructionally relevant information than any test of a single component can. In addition, the reading assessment profiles of first-year students may be so diverse that any one measure of reading achievement may not be sufficient to identify strengths, weaknesses and needs of instruction (Strucker, 1997). For example, lecturers often assume that their students have mastered basic reading skills, such as phonics, word recognition and fluency (Dietrich, 1994). However, many students have insufficient word recognition, limited phonics skills and laborious reading rates – three reading components that contribute to these students' comprehension difficulties (Bell & Perfetti, 1994; Martino & Hoffman, 2002; Sabatini, 1997).

The following tests and questionnaires are used to screen the students:

- ▣ Motivated Strategies for Learning Questionnaire (MSLQ): A self-report instrument designed to assess students' motivational orientations and their use of different learning strategies for a university course (Pintrich, Smith, Garcia & McKeachie, 1991).
- ▣ Revised 2F Study Process Questionnaire: Used to determine students' approaches to learning (Biggs, Kember & Leung, 2001).
- ▣ Learning Style Survey: Used to determine students' learning style preferences (Cohen, Oxford & Chi, 2001).
- ▣ Monteith's Self-Regulated Learning Questionnaire: Used to determine students' self-regulation abilities (Monteith, 2007/2008).
- ▣ Steck-Vaughn Read-On programme: Used to determine the rate at which students read (i.e. words per minute) and their reading comprehension ability (Harcourt Achieve, 2007).
- ▣ Coxhead's Academic Word List – Sublist 1: Used to determine students' vocabulary knowledge (Coxhead, 2000).

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The results of the screening assessments should be communicated to the deans of all the faculties. At-risk students are identified, and in addition to Tier 1 instruction, Tier 2 instruction becomes compulsory for these students.

Tier 1 refers to core classroom reading-to-learn instruction for all first-year students. The reading-to-learn module is linked to the students' core curriculum, for example, B.Ed, (which is similar to an adjunct approach) and there is close cooperation between both of these components and the University Academic Support Centre. The staff responsible for implementing Tier-1 instruction include the core curriculum lecturers responsible for teaching the identified linked modules within the core curriculum (for example, B.Ed curriculum – Professional Studies EDCC 111), the reading specialist responsible for teaching the linked reading-to-learn module, and the academic literacy specialist in the Academic Support Centre. The reading-to-learn module focuses on scientifically based reading research (SBRR) to teach critical reading components relevant to adolescent and adult students as identified by Caverly (2001), Kruidenier (2002), the NICHD (2000), the RAND Reading Study Group (2002) and Rose *et al.* (2003). Components taught include strategic reading, fluency, reading comprehension, vocabulary, text and language structures within expository texts, and reading strategies. Instruction in the reading-to-learn module is direct and explicit. For example, the reading specialist specifically defines the strategy to be learned. The specialist then models the strategy and provides guided practice as students work independently or in small groups. Students are also provided with multiple opportunities to apply the strategies on their own. The reading specialist scaffolds support, which enables students to successfully practice complex strategies, and as they become more competent, scaffolding is gradually withdrawn. The content used in the reading-to-learn module is the prescribed material used by the core curriculum module lecturers in their courses. When students attend the reading-to-learn module they use the same material as in their core curriculum modules. Weekly meetings between the identified staff ensure collaboration and engagement. For example, projects and assignments required in the core curriculum modules are used as 'practice tasks' within the reading-to-learn module. In order to complete the assignments, students should be able to synthesise and integrate information from multiple sources with different structures. They should also use a variety of reading strategies and monitor for comprehension. These reading skills are then explicitly addressed in the reading-to-learn module. Assessment within the reading-to-learn module is also combined with the core curriculum module with the reading specialist assessing the academic reading skills and the content specialist assessing the domain-specific content.

Weekly planning meetings give colleagues the opportunity to discuss student progress and identify students who might require Tier-2 or Tier-3 interventions. These meetings also serve to identify what additional support or practice should be provided in and by the Academic Support Centre (for example, computer-assisted instruction – compulsory during Tier 1; the implementation of supplemental instruction – optional, peer study groups – optional). Assessment data is used to monitor and

inform instruction. Students not making adequate progress are identified and referred to the Academic Support Centre (literacy specialist) where they receive differentiated and scaffolded instruction delivered in flexible groupings, namely, whole group, small group, partner and individual study. Students are monitored twice weekly by means of progress and outcome assessments in order to identify at-risk students early in the semester. Deans, directors, lecturers within the core curriculum, students and their parents are regularly informed of students' progress (early-warning system). Three 45- to 50-minute reading-to-learn periods, including the compulsory computer-assisted instruction period in the academic support centre, are required per week.

Tier 2: Supplemental targeted instruction

Tier 2 provides supplemental targeted instruction in addition to Tier 1 and addresses the specific needs of students who do not make adequate reading progress in Tier 1. Students move to Tier 2 based on a collaborative team decision made by the core curriculum lecturer, the reading-to-learn lecturer and the literacy specialist within the Academic Support Centre. The results of various assessment data, such as progress and outcome assessments, are used in order to make an informed decision. In addition, diagnostic assessments are done via the Visagraph III system (Taylor, 2000) in order to identify possible reading efficiency problems. The following aspects are identified:

Fixations/100 words	90
Regressions/100 words	15
Directional attack %	17
Average span of recognition	1.11
Average duration of fixation	.24
Rate without rereading	280
Comprehension	70%

The values identified are relevant to first-year students. Tier-2 interventions should be targeted, scientifically based, and aligned with core curriculum instruction. Approximately 10-15% of students may require Tier-2 instruction. The duration of this instruction varies and is based on student assessment and progress monitoring data. The instruction is generally provided by the literacy specialist in the Academic Support Centre. Flexible and small homogeneous group instruction is provided. A minimum of one additional period is required for teaching at Tier 2.

Tier 2 refers to targeted Scientific-Based Reading Research (SBRR) supplemental instruction. This instruction is aimed at supporting students who fail to meet Tier 1 benchmarks in one or more critical areas of reading, which could include word-level decoding, fluency, vocabulary, comprehension, flexible strategy use, and such like. Students who have difficulties with domain-specific knowledge will receive assistance from a core curriculum mentor. Tier-2 instruction is systematic, explicit, and aligned with Tier-1 instruction. Instructional interventions are differentiated and based on the needs of individual students as determined by assessment data.

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Tier 3: Intensive instructional intervention

Tier-3 intervention *replaces* Tier-2 instruction and is *in addition to* Tier 1. Tier 3 is designed to provide intensive, targeted intervention to the most at-risk readers – those who have not responded adequately to Tier-2 instruction. This small percentage of students usually have severe reading difficulties and require instruction that is more explicit, more intensive, and is specifically designed to meet individual needs in the areas of essential word analysis, word recognition, fluency, background knowledge, vocabulary, comprehension, and in extreme cases, phonemic awareness. Students are also required to work with the Reading Plus (Taylor, 2000) and Read On (Harcourt Achieve, 2007) software within the reading laboratory in the Academic Support Centre. This intervention is extended over a longer period, and diagnostic and weekly progress monitoring assessments are used extensively to identify problems, check progress, and provide appropriate, targeted interventions using SBRR materials. Instruction is provided by a reading or academic literacy specialist or by a paraprofessional. Flexible, small group (two to three students) or individual instruction is provided within Tier 3. A minimum of one additional period is required for instruction at this level. A core curriculum mentor provides support in terms of domain-specific knowledge.

Conclusion

The 3-Tier model for reading-to-learn (academic reading) discussed in this chapter emphasises the importance of reading within the higher education context and acknowledges that all students need support with this skill due to its developmental nature. Alexander (2005:2) states that, 'Until we adopt this lifelong perspective, we continue to run the risk of turning out undeveloped, unmotivated, and uncritical readers unable to fulfill their responsibilities within a democratic society.' The 3-Tier model to reading intervention instruction focuses on helping students succeed within the higher education context. Each tier provides a different level of support based on student need and is monitored through the use of students' outcomes or data.

The results of both quantitative and qualitative studies emphasise that our attempts to produce quality learning material and developing independent and self-regulated students are prone to failure unless we can improve the reading ability of our students. Pretorius (2005:810) states that there is a, 'pressing need for tertiary institutions to acknowledge the fact that many – if not most – of our L2 students have reading problems that do not go away if ignored, and to act on that admission of fact.'

To be serious about the success of all students, including the academically underprepared students, institutions should recognise that the roots of their attrition and/or failure lie not only in student backgrounds and the academic skills they bring to campus, but in the very character of the educational settings in which students are asked to learn, settings that are the product of past decisions already made that can be changed if we are serious in our desire to translate the promise access offers to students to real opportunity for success (see Scott *et al.*, 2007). Nowhere does such change matter more than during the critical first year when student success is so much in doubt. It is for that reason that there is much to be gained from a rethinking of the

character of reading courses and the development of coherent first-year programmes aimed at ensuring that all students receive the support they need to learn and persist beyond that year. As stated by Tinto (2008), 'Access without effective support is not opportunity.'

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