Entry-level students’ reading abilities and what these abilities might mean for academic readiness

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Abstract

The National Benchmark Tests Project (NBTP) was commissioned by Higher Education South Africa and became operational in 2009. One of the main aims of the NBTP is to assess the extent to which entry-level students might be said to be ready to cope with the conventional demands of academic study in three key areas: academic literacy; quantitative literacy; and mathematics. This paper presents an analysis of the academic literacy readiness of a sample of registered students as reflected in their performance on the NBT in Academic Literacy, a standardised assessment developed in the context of the wider project. The paper presents a theoretical analysis of the construct of academic literacy as operationalised in the test. This is followed by a categorised empirical analysis of test-takers’ performance on the test, in which the levels of academic readiness of these test-takers are presented and discussed. The argument presented highlights the diverse range of academic literacy levels of entry-level students, as well as implying the teaching and learning interventions that might be necessary to improve readiness. Concluding comments argue that some groups of students may be unable to cope with conventional academic literacy demands in the absence of explicit intervention.

Keywords: academic literacy, academic readiness, higher education students, language testing, reading proficiency, standardised assessment

Introduction

In South Africa, there is increasing concern in the Higher Education sector about the academic readiness of entry-level students (Scott, Yeld and Hendry 2007). A central component of this concern relates to the extent to which these entry-level students are able to cope with the typical academic reading demands that will be placed on them in the context of their studies. There has been much debate in the sector relating to the extent to which secondary schooling adequately prepares students to read and in an academic manner (see, for example, Pretorius 2002). This debate has also been extended to include considerations of the extent to which Higher Education curricula might be said to be responsive to the reading needs of incoming students and the extent to which these curricula enable students to develop – sometimes both acquire and develop – the necessary reading abilities that will enable them to successfully negotiate their studies (Griesel 2006). In part, the debate centres around questions of whose responsibility it is to ensure that students are academically ‘literate’, i.e. are able to engage meaningfully with a range of academic texts they will face in the context of the disciplines they study and be in a position to make meaning of these texts. A fuller exposition of the meaning of the concept of academic literacy will follow in the next section of this paper.
There is currently a sense that responsibility for enabling students to be academically literate lies both within the secondary and the Higher Education sectors (and with the student him/herself), but the sense of who bears primary responsibility is certainly not uncontested. Whatever the nature of this contestation – whether students are academically literate on entry to Higher Education and whose responsibility it is to ensure this academic literacy – there seems to be an emerging consensus that Higher Education needs, at minimum, to address the development (or further development) of academic literacy in disciplinary contexts if the sector is to (a) improve student graduation rates; (b) provide curricula that ensure holistic development of students; and (c) deal meaningfully with the academic transitions between secondary and Higher Education.

A key challenge in developing students’ academic literacy is arguably to understand what it is that students already know and can do with regard to academic reading on entry to Higher Education. It should follow that an understanding of what students already know and can do provides a platform for the development of teaching and learning interventions and support and the ability to address explicitly the disciplinary reading abilities required if students are to become academically ‘literate’. Clearly, this is no simple task, but having some understanding of students’ academic literacy (or literacies) represents a starting point for the development of teaching and learning support.

The intention of the present paper is to present and analyse notions of academic literacy – or literacies – and to reflect on and analyse the achievement of school-leavers in terms of these academic literacies. The paper will argue that understanding what it is that school-leavers can and cannot do in an academic literacy sense provides an important starting-point for the development of students’ academic literacy in Higher Education. The next section of this paper outlines the conception and construct of academic literacy.

**Academic literacy as a construct**

Theoretically, delineation of the construct of academic literacy that is the central consideration in this paper can be found in the work of Yeld (2001), work which, in turn, has its theoretical antecedents. In Yeld’s study, the construct of academic literacy is based on a complex intersection of functional, sociolinguistic, grammatical and textual aspects of language knowledge – derived from the work of Bachman (1990) and Bachman and Palmer (1996). The functional aspects of language knowledge relate to a reader’s ability to make essential meaning from text; understand and interpret communicative purpose; and make meaning and develop an interpretation of one’s own. The sociolinguistic aspects of language refer to the ability to penetrate and understand cultural distinctions, non-literal forms or analogous nuance in language as these find expression in different contexts and linguistic forms – such as word-based, image or icon-based and diagrammatic representation-based language. Grammatical language knowledge refers to a reader’s ability to understand the semantic (word-meanings) and syntactical (structural) basis of words and sentences. Finally, textual language knowledge relates to the ability to understand and interpret textual cohesion and organisation, and to be able to ‘see’ beyond immediate text, through making extrapolations and inferences.

Clearly implied from discussion in the previous paragraph, are wider notions of academic literacy that relate to the extent to which literacy (and academic literacy) goes beyond reading and writing to include, for example, epistemological, digital, technological and multi-modal literacies. Indeed, it has become important in Higher Education to consider and engage with
literacies rather than literacy – the latter conveys impressions of uni-dimensionality or reductionism in understanding and reflection. As Paxton and Frith (2014) point out, conceptions of academic literacies have evolved into descriptions of socially situated cultural practice – thanks substantively to the contributions from the work of Lea and Street (1998; 2000), Lea (2004) and Lillis and Scott (2007), amongst others.

For the purposes of the present paper, however, this wider conception of literacy is applied to the literacy practice of reading in particular. In essence, then, the construct of academic literacy which is based on the foregoing describes a reader’s ability to understand and integrate four dimensions of language knowledge as these apply to academic – specifically Higher Education – settings. If readers are unable or less able to engage with an academic context in ways which indicate that they understand and can manipulate these forms of language knowledge (without necessarily being able to ‘label’ them), their academic literacy is compromised to a lesser or greater extent. The elegance of the construct of academic literacy as found in the preceding paragraph lies in its holistic reflection of reading competence as a set of integrated abilities that require an understanding of the context in which language operates; the different functional and cultural forms that language assumes; the underlying syntactical and analytical base of a language; and the particularities of this language expressed in academic forms and contexts.

A more detailed exposition of the development of the construct of academic literacy is not attempted in this paper. Such an exposition is to be found in the work of Yeld (2001) and Cliff and Yeld (2006). The development of a theoretically and conceptually rich construct is presented there. What is worth emphasising, however, is that this construct has formed the framework for an assessment of academic literacy in South African Higher Education for more than 10 years now (see, for example, Cliff and Hanslo 2009; Cliff, Pearce and Ramaboa 2007; Petersen-Waughtal and Van Dyk 2011; Weideman 2009). Academics from across the Higher Education sector have interacted critically with research that has been grounded in the assessment of academic literacy and the consequences of this research for teaching and learning and for student academic achievement.

From this previous research, it has emerged that:

- Generic assessment of academic literacy offers important complementary understandings of academic readiness alongside other forms of assessment, such as school-leaving examination results;
- Ability in generic academic literacy assessments appears associated with subsequent academic performance in a wide variety of contexts;
- The strength of this association depends upon the extent to which academic literacy as defined above is explicitly required in discipline-specific contexts;
- The teaching of courses explicitly designed to heighten students’ awareness of the requirements of academic literacy appears to have had some success in improving these students’ academic readiness.

To date, this research has not attempted a detailed analysis of the components of academic literacy that entry-level students appear to cope with well and the components that they do not appear to cope with. Research has also not yet assessed the extent to which there might be differences amongst sub-groups of entry-level students in terms of what these groups do or do not cope with in academic literacy. These are arguably important focuses for research, since they may enable the Higher Education sector to develop prior knowledge of the academic
literacy strengths and weaknesses of entry-level students, and to design teaching and learning interventions that enable these students to better cope with the disciplinary academic literacy demands they will face in their studies.

The development of the National Benchmark Test in Academic Literacy (hereafter, the NBT AL) in the South African Higher Education sector represents an attempt to (a) delineate a theorised set of understandings about the meaning of academic literacy; (b) operationalise these understandings in the form of a standardised assessment; and (c) provide information about students’ academic literacy that will enable the development of teaching and learning interventions aimed at the improvement or consolidation of this literacy in various disciplinary contexts (Griesel 2006). It should be emphasised that the NBT AL is deliberately a generic assessment of academic literacy, developed on the assumption that entry-level students ought to possess at least a degree of academic reading competence if they are to successfully negotiate the disciplinary contexts they embark on. In the NBT AL, it is furthermore assumed that, if students do not provide evidence of this degree of competence, they are likely to need some form of support/intervention in order to achieve such levels of competence that will enable them to proceed with their disciplinary studies.

The goal of a standardised test of academic literacy is the development of an artefact that attempts to make a judgment about the kinds of academic reading entry-level students are likely to require in Higher Education; to design test items that attempt to assess these academic reading levels; to determine conceptually and empirically the structure of such a test; and, finally, to make a judgment about the inferences that can be drawn from test-taker performance on the test. This information is arguably of importance for the development of Higher Education curricula that will enable students to successfully engage the content and context of their learning and will allow academics to offer directed, meaningful teaching support.

Flowing from attempts to delineate notions of academic literacy and to render these notions amenable to assessment, the NBT AL is based on the following ‘blueprint’ or set of specifications. This blueprint has been presented and discussed in a number of research studies in South African Higher Education in recent years (see, for example, Cliff and Hanslo 2009; Cliff and Yeld 2006; Cliff, Ramaboa and Pearce 2007; Scholtz 2012; Van Dyk and Weideman 2004; Yeld 2001), but it is worth re-presenting in the current context since it forms the basis for the subsequent discussion of entry-level students’ academic literacy reading abilities.
<table>
<thead>
<tr>
<th>Skill Assessed</th>
<th>Explanation of Skill Area</th>
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<tbody>
<tr>
<td>Separating the <strong>essential</strong> from the non-essential</td>
<td>Readers’ capacities to ‘see’ main ideas and supporting detail; statements and examples; facts and opinions; propositions and their arguments; being able to classify, categorise and ‘label’</td>
</tr>
<tr>
<td>Extrapolation, application and <strong>inferencing</strong></td>
<td>Readers’ capacities to draw conclusions and apply insights, either on the basis of what is stated in texts or is implied by these texts.</td>
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<tr>
<td>Understanding <strong>discourse relations</strong> between parts of text</td>
<td>Readers’ capacities to ‘see’ the structure and organisation of discourse and argument, by paying attention – within and between paragraphs in text – to transitions in argument; superordinate and subordinate ideas; introductions and conclusions; logical development</td>
</tr>
<tr>
<td><strong>Vocabulary</strong></td>
<td>Readers’ abilities to derive/work out word meanings from their context.</td>
</tr>
<tr>
<td><strong>Metaphorical Expression</strong></td>
<td>Readers’ abilities to understand and work with metaphor in language. This includes their capacity to perceive language connotation, word play, ambiguity, idiomatic expressions, and so on</td>
</tr>
<tr>
<td>Perceiving and understanding <strong>cohesion in text</strong></td>
<td>Readers’ abilities to be able to ‘see’ anaphoric and cataphoric links in text, as well as other mechanisms that connect parts of text to their antecedents or to what follows.</td>
</tr>
<tr>
<td>Understanding the <strong>communicative function</strong> of sentences</td>
<td>Readers’ abilities to ‘see’ how parts of sentences / discourse define other parts; or are examples of ideas; or are supports for arguments; or attempts to persuade</td>
</tr>
<tr>
<td>Understanding text <strong>genre</strong></td>
<td>Readers’ abilities to perceive ‘audience’ in text and purpose in writing, including an ability to understand text register (formality / informality) and tone (didactic / informative / persuasive / etc.)</td>
</tr>
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</table>
From Table 1, it can be seen that academic literacy is here conceptualised as comprising textual and contextual meaning-making processes at word, sentence, paragraph and whole-text levels. Additionally, meaning-making might be described as including the reader’s ability to understand or ‘penetrate’ analogous or non-literal language (metaphor); perceive implications within (extrapolation) and beyond (inferencing) text; understand underlying purpose within and beyond text (communicative function); understand and interpret text-type and form (genre); and perceive text structure and development (text relations and separating essential from non-essential components of text). As has been argued elsewhere (cf. references above), academic literacy is operationalised here as a holistic and integrated set of reading abilities that relate to reading in and for Higher Education contexts. These abilities are seen as somewhat different from (although also related to) ‘pure’ language proficiency. It is important to note that the approach to and use of language referred to here is that which is applied to academic reading in the Higher Education language of instruction and not to the use of ‘everyday’ language. Whilst it is assumed that ‘everyday’ language proficiency will likely impact on students’ ability to be academically literate, it is the ability to make academic meaning that is of most importance in Higher Education contexts.

Entry-level students’ performance on an Academic Literacy test

What follows in this section of the paper are the presentation and analysis of data from an empirical study of entry-level students’ performance on the NBT AL. These data present the operationalisation of the construct of academic literacy discussed above and provide an illumination of the argument about the academic readiness and reading levels of entry-level students.

Study Sample

Data in Figure 1 below depict the performance of registered students (n = 1301) at one Higher Education institution. These students took the NBT AL as applicants to Higher Education in 2009 and were registered in the 2010 intake of students. Of the sample, n = 617 are female and n = 684 are male. The majority of students (n = 909) self-report English as Home Language; the rest self-report a variety of Home Languages (Afrikaans; isiXhosa and isiZulu predominantly). The mean age of the group is 18 years.

The NBT AL as test artefact

The NBT AL is a standardised test with typical alpha coefficient of reliability indices of 0.90. Factor analyses show the test construct to be coherent and to have uni-dimensionality, with moderate correlations amongst sub-constructs or specifications (see Cliff, Ramaboa and Pearce 2007).
**Test score classification procedure**

Test-takers’ overall test performance on the NBT AL is classified according to four benchmark performance levels: proficient; top intermediate; bottom intermediate; basic. These benchmark levels were derived psychometrically from a standard-setting process conducted in 2009 and involving Higher Education academics across a range of disciplines and institutional contexts. The split between ‘bottom intermediate’ and ‘top intermediate’ was derived arithmetically rather than from the standard-setting process and is presented here because it enables the development of the educational argument about the readiness of entry-level students. For more details of this process, see Pitoniak, Cliff and Yeld (2008).

According to these benchmarks, students whose performance is classified as ‘proficient’ ought to be able to cope with the typical entry-level academic literacy demands they will face in conventional academic settings. Students whose performance is classified as ‘intermediate’ will experience some difficulties with the academic literacy demands they will face and ought to be provided with forms of academic support additional to conventional curriculum provision, for example, extra academic literacy tutorial support or placement in an extended or foundation programme. Students whose performance is classified as ‘basic’ will experience significant difficulties with the academic literacy demands they will face and will require explicit and ongoing curriculum support and intervention – perhaps best provided by bridging-type programmes – if they are to cope with these demands.

**Data analysis**

Figure 1 depicts the mean levels of performance of test-takers for each of the sub-constructs. So, for example, test-takers whose overall test performance was classified as ‘proficient’ scored an average of approximately 70% on the ‘essential’ (see Table 1) test sub-construct.

**Figure 1: Entry-level students’ performance on the NBT AL**
The data in Figure 1 appear to provide support for the uni-dimensionality of the construct of the NBT AL: sub-groups of test-takers (i.e. proficient, intermediate, basic) who do well in one sub-construct of the test (i.e. essential, inferencing, and so on) appear also to do well in other sub-constructs. However, there is also evidence of variation by sub-groups in performance across the sub-constructs and there is evidence that what is a relative strength for one sub-group may not be so for other sub-groups.

As a sub-group, ‘proficient’ test-takers appear to be proficient in all sub-constructs of the NBT AL. They perform particularly well on the ‘discourse’ and ‘communicative function’ sub-clusters of the test and perform weakest on the ‘metaphor’ and ‘cohesion’ sub-clusters – although these areas of performance are still classified as proficient. Test scores for ‘proficient’ test-takers suggest that – as a group – they ought to be able to cope with the conventional generic academic literacy demands they will face in Higher Education.

‘Top intermediate’ test-takers appear to be proficient on average on the following sub-clusters: ‘discourse’, ‘vocabulary’, ‘cohesion’ and ‘communicative function’. On all other sub-clusters, they appear on average to be in the ‘intermediate’ category of overall test performance. For ‘top intermediate’ test-takers, ‘discourse’ and ‘communicative function’ sub-clusters are areas of strongest performance on average (as for ‘proficient’ test-takers) and areas of weakest average performance are ‘essential’ and ‘genre’ sub-clusters. In some areas of academic literacy, ‘top intermediate’ test-takers as a group ought to be able to cope with the conventional generic academic literacy demands they will face; in others, they may need additional forms of teaching support if they are to cope.

‘Bottom intermediate’ test-takers are not proficient on average on any of the sub-clusters of the NBT AL. Their performance on average is classified as ‘intermediate’ except for the ‘essential’ sub-cluster where their performance is classified as ‘basic’. For ‘bottom intermediate’ test-takers, ‘vocabulary’ and ‘communicative function’ sub-clusters are areas of strongest average performance (although still ‘intermediate’) and ‘essential’ and ‘grammar’ sub-clusters are on average areas of weakest performance. For the most part, ‘bottom intermediate’ test-takers are going to require additional forms of teaching support if they are to cope with the academic literacy demands they will face; in one particular area, i.e. ‘essential’, they will require ongoing explicit support if they are to cope.

For test-takers whose overall test performance is classified as ‘basic’, average performance on all sub-clusters of the test – with the possible exception of ‘cohesion’ and ‘communicative function’ – is classified as ‘basic’. For ‘basic’ test-takers, areas of relative strongest performance on average are ‘cohesion’ and ‘communicative function’ and areas of weakest performance on average are ‘essential’ and ‘genre’. ‘Basic’ test-takers will require ongoing and explicit forms of teaching support if they are to cope with the academic literacy demands they will face in Higher Education.

Of further interest in the data from Figure 1 are the differences on average sub-cluster performance between ‘proficient’ and ‘basic’ test-takers, as these differences might suggest areas that most separate test-takers who ought to cope with the academic literacy demands they will face from those who might not. Differences between average performance for ‘proficient’ and ‘basic’ test-takers are greatest for the following sub-clusters of test performance: ‘discourse’, ‘metaphor’ and ‘communicative function’. It is worth noting that each of these three test sub-clusters are characterised by particularities in Higher Education that associate with academic argument, analogous or non-literal reasoning and academic
communicative purpose. Accordingly, it might be reasonable that test-takers whose overall test performance is classified ‘proficient’ are much better prepared to cope with these kinds of academic engagements than those whose test performance is classified ‘basic’. Having said this, it must be noted that there are significant differences on average between ‘proficient’ and ‘basic’ test-takers across all sub-clusters of the construct, differences which underline the differential levels of academic readiness of these sub-groups of test-takers.

**Concluding discussion**

This paper has attempted an analysis of the academic readiness of entry-level Higher Education students in terms of their performance on a test explicitly designed to assess this readiness. The paper has focused on differential levels of readiness across sub-groups of students whose overall test performance was classified against pre-determined benchmarks. The paper has not focused in a direct manner on the extent of academic readiness across the sector, i.e. on the proportions of test-takers whose performance was classified as ‘proficient’, ‘intermediate’ or ‘basic’. The national report to Higher Education South Africa (HESA) on NBT performance (Yeld, Prince, Cliff and Bohlmann 2012) provides these data, which show that the test performance of approximately one-fourth of all applicants is classified ‘proficient’, two-fourths is classified ‘intermediate’ and a further one-fourth is classified ‘basic. In other words, only approximately one-fourth of applicants to Higher Education might be said to be sufficiently academically ready to deal with the generic reading and reasoning demands they will face in their studies. These data about the academic readiness of Higher Education applicants become particularly important when it is noted that many of these applicants produce school-leaving examination results in the language of teaching and learning that render the applicants eligible to enter Higher Education. In other words, while applicants appear to be ready to cope with the language of teaching and learning – on the basis of their cognate school-leaving language examination results – many of them do not appear to be so in terms of their NBT AL results. At least part of the resolution of this apparent contradiction lies in the focus of the NBT AL on its Higher Education-specific context academic readiness. Against this focus, the cognate school-leaving examination results do not appear to be directly equatable with the NBT AL results; hence, the usefulness of such a test as a targeted, complementary assessment.

This paper has attempted an analysis of how academic literacy readiness – or lack thereof – might be described; what (if any) differences there might be between different groups of test-takers; and what the general implications might be for teaching and learning in Higher Education when applicants become registered students. Clearly, there are many dimensions of the construct of academic literacy on which test-takers are under-prepared to a lesser or greater extent. The general view of academics across the sector (cf. the standard setting process referred to earlier) is that this under-preparedness means that these test-takers will fail to cope with the academic literacy demands they will face in Higher Education.

The operationalisation of the construct of academic literacy in terms of a set of specifications on a test means that the sector has an opportunity to illuminate the components of academic readiness which test-takers do not cope with well. Perhaps more importantly, data of the kinds presented in this paper suggest specific and tangible lines of teaching and learning intervention that can be developed, as well as the extent to which this intervention is necessary. For example, if it is known that entry-level students whose test performance is classified as ‘intermediate’ have particular weaknesses in ‘essential’ and ‘genre’ areas of academic literacy, particular kinds of interventions can be designed that address these areas.
And these interventions might be more intense or explicit depending upon the extent of the vulnerability identified.

Students whose test performance is classified as ‘basic’ or ‘lower intermediate’ are likely to be unable to cope with fundamental academic literacy reading demands, such as separating core textual points from their supporting detail – or perhaps more disturbingly, misinterpreting supporting detail to be the core point. They may also be unable to extrapolate textual meaning beyond the immediate context; struggle to distinguish amongst key discourse features and signals in academic argument; misinterpret analogous and non-literal language and its connotations and socially-situated nuances; and be unable to discern the cohesive features of text and argument. Arguably, these are fundamental components of academic contexts, which will need to be addressed directly in teaching and learning if such students are to negotiate meaning and be successful in their studies.

The data presented in this paper also suggest lines for continuing exploration and research. For example, average performance on a cluster clearly does not capture the distribution of test-takers’ scores within the cluster, and this kind of distribution could provide a ‘snapshot’ of the diversity of individual test-taker performance on the cluster. What the average performance of sub-groups within a cluster does suggest, however, are possibilities for further research into the different kinds of teaching intervention that might be necessary for each sub-group – both at a generic and at a discipline-specific level. The generic assessment of academic literacy holds relevance for the discipline-specific ways in which academic literacy plays itself: the construct of academic literacy here discussed assesses fundamental reading abilities at a process level as they are manifest across a range of disciplinary discourses, contexts and text forms. In addition, this generic assessment points to the need to grapple with the nuances of discourse, context and form such that teaching interventions can be designed in ways that apply and adapt the generic to the particular.

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References


