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ARTICLE

# THE APPROPRIATENESS OF STANDARDISED TESTS IN ACADEMIC LITERACY FOR DIPLOMA PROGRAMMES OF STUDY

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## ABSTRACT

Standardised tests in higher education have become widespread as a mechanism to provide additional information for student placements in appropriate programmes of study. Much has been written about these tests for entry to formative degree programmes. This study contributes to this discussion by determining the alignment between the academic literacy test specifications of a standardised test and reading practices for diploma subjects. Theoretical approaches to standardised testing and academic literacies framed the analysis and findings of this study. The multiple-case study approach was used to explore reading practices of first-year diploma subjects, and semi-structured interviews and document analysis were used for data generation. The findings revealed two dominant content representations – text-dominant and visual literacy-dominant orientations – that influenced the application of different literacy practices. It is concluded that while academic literacy is integral to knowledge acquisition in academia, disciplinary literacies within diploma qualifications have a profound presence and should be accommodated in standardised testing to ensure that what is tested resonates with subject literacies.

**Keywords:** academic literacy; diplomas; disciplinary literacy; higher education; placement; standardised tests

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# 1. INTRODUCTION

The South African higher education sector has seen a steady increase in the number of institutions that request the use of standardised test(s) for placement purposes. In the 2016 intake cycle, 29 institutions, of which 16 were universities, participated in the National Benchmark Test Project (NBTP), with a total of 81 699 students writing the Academic/ Quantitative Literacy (AQL) test (CETAP, CHED and UCT 2016, 21). With 49 895 writers for the 2011 intake, this represents an increase of 41% or 31 804 writers from 2011 to 2016. One of the reasons for the continued use of standardised tests could be the additional information they provide in relation to the National Senior Certificate (NSC) results. This information assists with placement decisions and provides diagnostic data of student profiles to support student learning. Given the increased use of standardised tests like the National Benchmark Tests (NBTs) to identify students in need of academic support, the question of these tests' appropriateness for diploma qualifications which are vocationally oriented needs to be explored

Research on the proposed Flexible Curriculum (CHE 2013b) revealed that the majority of students do not complete their qualifications in the minimum prescribed period of study.Statistics show that those who drop out of higher education are likely never to pursue higher education studies again (CHE 2013b). According to the Council on Higher Education's (CHE) Proposal on the Flexible Curriculum (2013b, 15):

> The current higher education system is not producing sufficient graduates to meet national needs in respect of economic and social development, largely because much of the country's intellectual talent is not being developed. In the best-performing cohort analysed to date (the 2006 cohort), only 35% graduated within five years, and it is estimated that 55% of the intake will never graduate. This translates into a loss of some 70,000 students from the cohort.

The number of graduates exiting higher education in the minimum prescribed time prompted national initiatives to improve student learning and throughput rates. For example, the Extended Curriculum Programme (ECP) provides funding for an additional year of study on entry to higher education to incorporate academic support for students who might be at risk of academic underperformance (DHET 2012); the Flexible Curriculum Proposal recommends an additional year of study for all higher education qualifications and for all students requiring academic support across the years of study, not only at first-year level (CHE 2013b); the Quality Enhancement Project (QEP) was introduced to identify institutional best practices in an attempt to encourage institutional collaboration and improve throughput rates (CHE 2013c), and the Teaching Development Grant (TDG) provides generous funding to public higher education institutions to promote innovative teaching and learning, curriculum development and staff development that should, ideally, translate into improved graduate numbers (CHE 2013c).

The NBTs, first written officially in 2009, were another such initiative to support and improve throughput rates. The NBTs in academic literacy (AL), quantitative literacy

and maths were "designed to assess the ability of first-year students to cope with typical language-of-instruction, academic reading and reasoning demands they will face on entry to higher education" (Cliff 2015, 20). The test results would "assist the sector with decisions about the kinds of curriculum interventions that will be required … to enable students to be successful in their chosen programmes of study" (Cliff 2015, 20). Inferences from test results would guide appropriate placements, for example, into ECP or mainstream programmes. The test results would also serve as diagnostic data to identify mainstream students who might be in need of academic support.

A corpus of literature on standardised tests has steadily developed, albeit predominantly on degree programmes at traditional universities (Cliff 2014; Cliff 2015; Koch and Foxcroft 2003; Petersen-Waughtal and Van Dyk 2011; Visser and Hanslo 2005; Weideman 2003; Wilson-Strydom 2012). Although most universities use NBTs, or the Test for Academic Literacy Levels (TALL), there is minimal research on diploma qualifications. Given that degrees and diplomas are different qualifications with different admission requirements and different characteristics (refer CHE 2013a), the question raised here is whether a generic standardised test in AL would be appropriate to guide placements for entry to all higher education qualifications. It might be argued that if students are placed into programmes of study based on inferences from standardised test scores, there should be congruence between what is assessed in the standardised test and how AL is applied in practice in the curriculum. In other words, inferences should be made from writers' ability to use language in a target language use domain. Bachman and Palmer (1996, 44) define "target language use domain as a set of specific language use tasks that the test taker is likely to encounter outside of the test itself and to which we want inferences about language ability to generalise". Furthermore, it has become necessary to establish legitimacy and validity about whether a generic standardised test in AL is appropriate for diplomas, given that a range of disciplinary literacies might be prevalent in different subjects within the same diploma or across different qualifications. Placement decisions have long-term implications for students, parents and the institution and as such

> it would stand to reason that academic literacy requirements for a standardised test should be similar for learning subject content, as this would allow for a fair comparison of equivalence to infer whether students might be able to cope with the academic demands specific to their subjects of study. (Scholtz 2015, 5)

This article foregrounds the reading practices required in four first-year subjects in three different diploma programmes and in one vocational degree programme to determine the extent of alignment with standardised test specifications. One first-year subject each was selected from Business Studies, Education, Engineering and Health and Wellness programmes. The purposive sample included a major subject (taken from first to third year) within a programme of study. The comparative analysis of reading practices required for first-year subjects with AL test specifications revealed that there might not

necessarily be a neat fit and alignment with how AL specifications are set and applied for test purposes and in practice. Diplomas are vocational, practice-based offerings, with both a visually-dominant and text-dominant bias, and draw on a disciplinary literacy base that might not neatly subscribe to AL as presented in standardised tests, such as the Standardised Assessment Test for Access and Placement (SATAP) and the NBT. While the processes of AL were found to be similar for standardised tests and the subjects of study, applications in practice, specifically for visually-dominant subjects, were deemed to be different.

# 2. ACADEMIC LITERACY AS CONSTRUCT

## 2.1 Why Focus on Academic Literacy as Entry Criterion?

Student engagement in learning, i.e. in accessing and producing information, is primarily dependent on their ability to read and write in a higher education context which might well be different from any other form of literacy encountered before. Reading and writing within educational contexts require specific skills and practices to navigate incremental academic demands of horizontal and vertical knowledge progression through qualification pathways. Lea and Street (1998, 160) note that "academic literacy in higher education points to reading and writing in the different disciplines where such reading and writing constitute the central process through which students learn new subjects and develop their knowledge". Sebolai (2016, 46) refers to the particularity of AL as "a kind of ability that is relevant to a particular context … the kind of language competence that students need to possess in order to cope with the demands of academic study". The import of this "kind of ability" (Sebolai 2016, 46) resides in the ability to use language (i.e. English) and language practices as a vehicle to access knowledge and articulate thoughts and ideas in particular contexts. Academic literacy, i.e. **"**particular ways of thinking about and doing reading and writing" (Street 2003, 79) in educational contexts, is pivotal to academic success. Research on AL and its bearing on academic success (see Cliff 2014; Cliff 2015; Cliff and Yeld 2006; Van Dyk and Weideman 2004; Van Schalkwyk, Bitzer and Van der Walt 2009; Weideman 2003) provides a plausible rationale for using AL as a test construct to determine the readiness of students to deal with the academic demands of first-year studies. Standardised tests used in South Africa for the past decade, such as the Placement Test in English for Educational Purposes (PTEEP), SATAP, TALL and the NBTs all have an AL focus. Their objective is to establish whether students are able to apply specific reading skills and practices to engage with texts and access information. The NBT aimed to test

> students' capacities to engage successfully with the demands of academic study in the medium of instruction of the particular study environment. "Success" in this sense relates to a student's capacity to use the language of instruction as a vehicle to engage with the academic demands of higher education. (Cliff and Yeld 2006, 19)

In summary, AL relates to engaging with reading and writing practices for academic purposes within academic teaching and learning subject contexts. However, the author acknowledges the array of literacies prevalent in different disciplinary contexts of which AL forms an integral part. For example, in certain diploma programmes, digital literacy, visual literacy and numeracy might be applicable alongside textual literacy, which would require shifts in thinking, reasoning and analysis. Consider analysing text in relation to artefacts, graphics, observations and/or numeracy in an online or other environment. A view of literacy(ies) as a static transferable construct would not be applicable in these contexts.

## 2.2 Autonomous and Ideological Models of Literacy

Academic literacy should be construed as a continuous and developmental academic endeavour. Academic demands and different contexts become more distinctive and intense as students traverse each year of study. Academic literacy is, therefore, not an acquisition that is neatly transferable from one context to another. As contexts and objects of study change, AL practices align with how meaning is extrapolated and how knowledge is acquired. The autonomous model of AL as transferable skill would, therefore, not align with the perspective of AL as providing access to knowledge in variable contexts. According to New Literacies Studies (NLS) theorists such as Gee (1996; 2012), Street (1993; 2003) and Lea (2004; 2008), the autonomous model of skills acquisition and transfer presents a limiting understanding of AL, and this model has been rejected in favour of the ideological model. Street's (1993, 7) ideological model presents a socio-cultural approach to literacy that subsumes the autonomous model. The ideological model premises literacy as socially developed within social practices and contexts that contribute to identity formation as part of a community of practice. The promise of literacy as epistemological and ontological gateway is closely aligned with Gee's (2012, 152) concept of Discourse, with a capital D, as "distinctive ways of acting, interacting, valuing, feeling, dressing, thinking, believing with other people and with various objects, tools and technologies". Gee (1996, 139) refers to these "distinctive ways" as Discourse, which is more than using language to make sense in conversation, essays or stories, i.e., discourse with a small d. Given the various social groups which students personify, such as peer groups, academic Discourse or AL represents one kind of identity amongst many.

Drawing on sociolinguistics and anthropology, the NLS framework views literacy as a social practice where individuals actively develop literacy skills to provide access to learning. Street (2003, 77–78) succinctly captures the relationship between AL and learning as follows:

> literacy is a social practice, not simply a technical and neutral skill; … it is always embedded in socially constructed epistemological principles. It is about knowledge: the ways in which people

> address reading and writing are themselves rooted in conceptions of knowledge, identity and being. It is always embedded in social practices, such as … a particular educational context.

Street's (2003, 77) summation of AL as being "about knowledge", and "not simply a technical and neutral skill" presents a de facto view that frames the role of literacy in relation to knowledge acquisition in higher education. In other words, academic literacy is a form of didactic and pedagogic practice that provides access to knowledge.

## 3. DISCIPLINARY LITERACIES

In addition to the Janus-faced context of vocational education requiring both academic and professional literacies, content representation and literacy engagement present themselves differently in different diploma programmes. The nature of higher education resides in the array of literacies present in different disciplines and fields of study. For example, within engineering, there are distinctive fields of study, such as mechanical engineering, civil engineering and chemical engineering, that draw on similar knowledge areas of mathematics and physics but are distinctive and different from applied sciences or business studies. Baynham (2000, 18) notes that "rather than being neat homogeneous discourse communities, academic disciplines are radically heterogeneous and constituted in difference". According to Murray (2010, 59), inherent disciplinary differences include "specialised vocabularies, concepts and knowledges, but also … patterns of meaning-making activity (genres, rhetorical structures, argument formulations, narrative devices etc.) and ways of contesting meaning". Baynham (2000) and Murray (2010) call into question whether the homogenous nature of generic standardised tests adequately relates to the target language use of disciplinary literacies in variable subject areas, or whether standard test specifications in use are equally applicable across subject areas and different qualifications.

The specificity of disciplinary literacies requires particular forms of literacy engagement to access knowledge and produce written or other artefacts (see Baynham 2000; Hull and Moje 2012; Hyland 2002; Hyland and Tse 2007; Hynd-Shanahan 2013; Loveland 2014; Murray 2010; Shanahan and Shanahan 2008 and 2012). Research shows that reading and writing in the discipline demand specificity to engage with different cognitive processes required for shifts within and across multi-modal formats. In addition, academic and professional genres and conventions represent "distinctive ways" (Gee 2012, 152) of knowing, doing and being. Although discipline-specific

standardised tests are emerging, research on disciplinary literacy within the context of standardised tests remains limited.

## 4. THEORETICAL FRAMING FOR STANDARDISED TEST SPECIFICATIONS

Standardised tests such as the NBT, TALL and SATAP assess AL proficiency for entry into higher education. The theoretical framing of these tests draws on Bachman and Palmer's (1996) notion of "language ability" and Cummin's (1996) distinction between Basic Interpersonal Communication Skills (BICS) and Communicative Academic Language proficiency (CALP). The use of standardised tests in South Africa aligns with what Bachman (1991, 680) espouses, i.e. to make:

- inferences about students' language ability on entry to higher education;
- predictions about students' academic literacy proficiency to perform future tasks in contexts outside of the test itself;
- decisions on diagnosis and placement based on inferential interpretations of results; and
- decisions on the kinds of academic support and interventions that students might require.

Bachman (1990) and Bachman and Palmer's (1996) "language ability" views AL as more than superficial reading and writing. "Language ability", according to Bachman and Palmer (1996, 67), involves two components, language competence (also called "language knowledge") and strategic competence, which in combination " [provide] language users with the ability, or capacity, to create and interpret discourse, either in responding to tasks on language tests or in non-language test use". Language knowledge (see Figure 1) includes nuances of text such as genre modes and register, cohesion and coherence of discourse structure in contributing to textual context, as well as grammar and syntax. Integral to reading is the ability to recognise the different levels that constitute texts (i.e. organisational knowledge), identify how each level communicates meaning from the perspectives of language user and the language use setting (i.e. pragmatic knowledge), and adopt a position as reader based on the textual content and

context. Strategic competence provides "a cognitive management function in language use" (Bachman and Palmer 1996, 70) and incorporates aspects of topical knowledge and affective schemata.

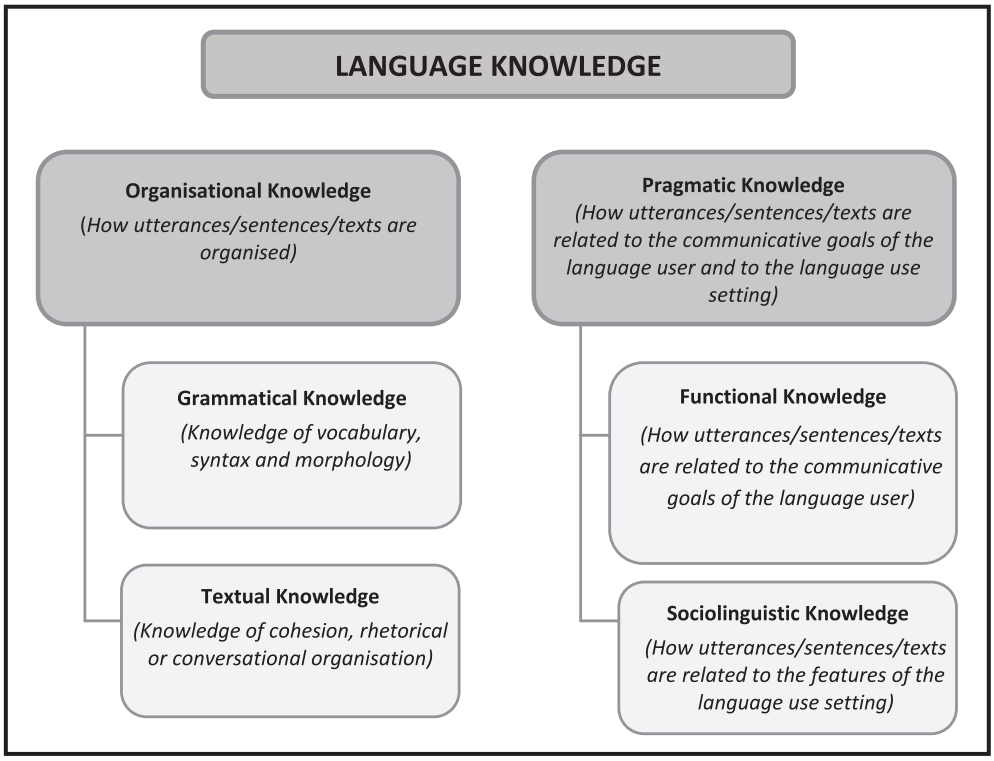


**Figure 1:** Language Knowledge

*Source: Adapted from Bachman (1990)*

Using Bachman (1990) and Bachman and Palmer's (1996) language knowledge framework, the following specifications were included in a standardised test in AL: Potential students should be able to

- read carefully and make meaning from texts that are typical of the kinds that they will encounter in their studies;
- understand vocabulary in contexts;
- identify and track points and claims being made in texts;
- understand and evaluate evidence used to support claims made by writers of texts;
- extrapolate and draw inferences and conclusions from what is stated or given in text;
- distinguish between main and supporting ideas in the overall and specific organisation of a text;

- identify and analyse text genre and the different types and purposes of communication;
- identify text differences that relate to writers' different purposes, audiences, and kinds of communication;
- understand and manipulate numerical information;
- understand the metaphorical, non-literal and idiomatic bases of language (adapted from the NBT Report 2016, 12–3).

Based on research on standardised testing and input from academics, these specifications represent the

> core academic literacy competencies that an entry-level student should demonstrate that will be sufficient indication that s/he will be able to cope with the typical demands of higher education in the medium-of-instruction of an institution, in a context of appropriate teaching, learning and curriculum support (Cliff and Yeld, 2006, 19).

Since the overarching aim of standardised tests is to assess students' "language ability" (Bachman and Palmer 1996) for higher education, the focus is not on knowledge acquisition for a particular subject of study but on the ability to engage with particular cognitive processes to understand content from any given text. Although the specifications for the NBT in AL have undergone rigorous scrutiny as the "core academic literacy competencies that an entry-level student should demonstrate", no distinction between "entry-level student[s]" to different qualification streams seems apparent (Cliff and Yeld, 2006, 19). For example, it is assumed that all entry-level students, irrespective of qualification type (i.e. higher certificate, vocational diploma or formative degree) would require the same text-based, fine-grained analysis, using the same specifications in the same way. Generic text-based standardised tests might not necessarily represent the multimodal requirements of different qualifications in different disciplinary fields. This study shows that due recognition should be afforded to the multimodal nature of certain diploma subjects that might not fit the generic profile of predominantly text-based subjects.

It should be noted that the differences in AL practices (if any) between degree and diploma qualifications fall outside the ambit of this article. The references to degrees in this article relate to research on standardised testing being conducted mainly at traditional universities, which predominantly offer degree qualifications.

## 5. METHODOLOGY

This article draws on a comparative analysis of test specifications in AL and reading practices of first-year subjects in business, education, engineering, and health and wellness. Education, as a degree qualification, was included in this study as it was believed that the professional nature of the qualification would contribute to the study's

objective. The subjects selected were core offerings in the various diploma programmes to lend legitimacy to the kinds of reading practices as integral to each programme of study. In addition, students in each of these programmes had written the NBTs in previous years. Each subject represented an individual case that formed part of a multiple case study approach.

Subject lecturers were interviewed to provide their perspectives on reading practices that students would be required to apply to meet the academic demands for their subjects at first-year level. Each case served as an inquiry into the kinds of reading practices required to arrive at an understanding of how these practices relate to a standardised test. Semi-structured interviews were conducted to define lecturers' perceptions and interpretations of AL within the context of their subject and particular diplomas. Each interview was recorded and transcribed. The transcriptions were sent to the interviewees for verification regarding accuracy of information and to confirm data use for research purposes. Interview data were augmented with document analysis of summative assessments as a means of triangulating the AL perspectives of the interview data with those of assessments. Given that constructive alignment of the curriculum informs teaching, learning and assessment at the Cape Peninsula University of Technology , by implication, assessments should reflect actual reading practices as described in the interview. This, however, might not necessarily be the case. The pre-set AL test specifications underpinned the interview protocol. Item analysis of a sample standardised test resembling the NBT was conducted to establish AL question types and the AL application of each question. Data analysis took the form of thematic content analysis using the test specifications as analytic codes. Each case study followed the same data generation methods and analysis, first as individual cases, and afterwards in a comparative analysis across case studies. Lecturers' understandings and perceptions of reading practices for their specific subjects are limited to this article and are not generalisable to other subjects in the same or similar qualifications.

## 6. DATA AND DISCUSSION

The data and discussion present a summation of reading skills and practices for first-year subjects that formed part of diploma qualifications.

### 6.1 Business Studies

The subject in the field of Business Studies has a management focus, is predominantly text-based, and includes content requiring visual literacy and numeracy. The lecturer's understanding of reading for this subject was described as the ability to:

> pinpoint what the whole article is about, the reasoning behind the work ... understanding and interpreting the subject ... how the text is constructed ... what is critical, key terms ... unpacking the jargon.

The ability to gain a composite understanding and to separate essential from non-essential information, i.e. to "pinpoint" the main ideas would provide insight with which to understand the text. The reference to "the reasoning behind the work" suggests the need to think critically about the intention of the writer, requiring of students to engage with text on a deeper genre level (such as purpose, tone, audience) rather than simply accessing its surface meaning. Discourse analysis with reference to how sentence construction and discourse development influenced meaning seemed important to the lecturer. The reference to analysing "key terms" and "jargon" was "critical … in the context of the subject matter". It was important for students to have knowledge of vocabulary in general and in subject-specific contexts, or to be able to derive meanings from context. Terminology is context dependent. For example, terms such as "risk" or "project" used in subject-specific contexts might have a different meaning when used in a social context.

The lecturer held the view that assessments were integral to teaching and learning, and so too to AL development. Three summative assessments consisting of two assignments and the final written test were analysed for this semester subject. The assessments included multi-modal literacy analysis that resembled several standardised test specifications, such as: explaining concepts within context (analysing vocabulary); analysing scenarios and a case study presented in colloquial dialogue format (textual discourse analysis) and analysing and producing visual representations in relation to text. The assessments were themed, with each question based on a contextual understanding of content knowledge. Test questions were brief scenarios and content-intensive short questions that required limited analysis of textual or other data. Contrary to the interview data that alluded to reasoning and critical thinking, reading for assessments did not require intensive reading skills such as textual analysis. The case study written in colloquial, conversational style is a case in point. The level of textual engagement necessary to arrive at meaning in this subject could be described as less intensive when compared with that of a standardised test. The scenarios in assessments were described in brief paragraphs, shorter than those in standardised test texts, and solicited content-based answers rather than requiring intensive reading to derive an understanding of textual content, as is the case with standardised tests. Genre questions relating to purpose, audience and register, reference to metaphor, establishing the communicative functions of sentences and discourse analysis, for example, were not present in assessments for this subject.

## 6.2 Education

The first year subject in the Education qualification was practice-based; students were required to conduct experiments, engage in field trips, and record observations. The use of inferencing and drawing conclusions related mainly to the analysis of hypotheses and engagement with practical tasks. The lecturer's interpretation of the kinds of reading skills with which students should engage was explained as follows:

> I would expect them to single out the words that they find difficult ... the terminology is strange to them. Now you look at paragraphs, what is the main idea in this paragraph ... would that be the correct conclusion that was made? So I even draw on inferences ... but just very superficially.

This quotation alluded to analysing text from word (terminology), to sentence (extracting the main ideas) to paragraph levels (drawing conclusions). According to the lecturer, interpreting terms in context was central to accessing meaning and understanding textual content. The ability to extract the main ideas, for example, to arrive at comparisons, would require reading intensively to understand the text in order to separate key points from supporting ideas. The lecturer was of the opinion that the subject genre was "mostly factual because of the science" in the subject. "The science", as noted by the lecturer, was evident in hypothesis analysis, which involved deriving appropriate conclusions using scientific processes in multi-modal literacy domains of text, visual experiments, scientific reasoning, and numeracy.

The lecturer used cartoons that were "funny ... [but] address a serious issue" in tutorials and tests. Interpreting "the cartoon ... that's not always literal" required specific literacy skills for analysis, such as interpreting the text, establishing the intended metaphorical and/or literal interpretation, analysing the tone, style and register and relating the cartoon to the "serious issue" depicted. Although reading as described in the excerpt resonates with what is required for standardised tests, the application of test specifications included different dimensions. For example, in standardised tests, metaphor, genre, drawing conclusions and inferencing were mainly tested within text and not visually, whereas, in this subject, metaphorical representation was the primary mode of literacy engagement.

Three term tests and two practical summative assessments formed part of the document analysis for this subject. The three tests included several drawings and illustrations to be interpreted in relation to text. Assessments focused more on the analysis of visual literacy representations and visual grammars (for example, illustrations) than on textual analysis. Only the final test included a reading article as a context for questions. The subject presented limited opportunities to engage with an author, identify text genre or the purpose and intention of the text, as would be the case for standardised tests. For practical tasks and experiments, textual directives were factual and procedural, and thus different from the language knowledge required for the textual analysis of a standardised test that was more exploratory and interpretive.

## 6.3 Engineering

The subject selected from an engineering diploma was primarily practice-based, drawing on observations in relation to text, various graphic representations in relation to text, and numeracy. The lecturer explained that reading techniques were meant to facilitate meaning and the understanding of text as follows:

> I want my students to be able to interact with a text and get the gist … to perhaps give me the crux of that particular piece of reading … . With the course that I teach, the complexity also is in the terminology … it's a very practical course. So things like practicals, demonstrations then become very critical in their understanding.

The lecturer foregrounded four points on reading in the excerpt above: (1) applying interactive reading strategies; (2) extracting main ideas to "get the gist" of a text; (3) interpreting terminology to understand content, and (4) the application of different literacies for practicals and demonstrations in addition to textual literacy. Understanding subject terminology, according to the lecturer, was "critical" to accessing subject knowledge. Reading skills (1) to (3) above relate to specifications of a standardised test: reading with understanding, separating essential from non-essential information, and deriving word meanings from context include complex processes that are considered important elements of AL for first-year university students. Given that standardised tests contain reading texts and contextualised questions, these test specifications would be considered central to extracting and understanding the essence of any text. However, it should be noted that the ability to apply different skill sets for different literacies and engage in modal shifts does not form part of standardised tests.

The focus on disciplinary literacy for this diploma was made overt in the excerpt below:

> We have a very strong practical side of things, where they actually do … it's about visualisation … they will work from data to sketch … if I send them out to do a survey, they collect data in a table or whatever and from that data … they translate the information into some graphical representation.

Visual literacy constitutes a particular kind of literacy, yet the practices involved in visual analysis are not dissimilar to textual analysis. The lecturer explained the different levels of analysis required for visual literacy: reading, analysing and interpreting data, transposing tabulated data to a sketch, and following processes and procedures for recontextualisation. The basis of the subject, however, remained the ability to read and interpret different genres and forms of data representation, including text, tables, sketches and other formats of illustrations. The multiplicity of literacies denotes different ways of thinking, knowing and engaging with different content representations. Students were required to read intensively and extensively by drawing on particular details in texts to translate these into visual representations and provide new insights for actual use in fieldwork. In other words, academic literacies for this subject were both a

pedagogic device to access knowledge, and transformative to "produce" and "translate" information to other representations.

The practical nature of the subject included on-site observations, drawing inferences from observations, translating data to graphs, and drawing on textual insights to reason what the data might represent. Students were required to read, analyse, apply insights, draw conclusions, and make inferences and recommendations that were not limited to text. Although the application of standardised test specifications might be similar, the context and knowledge representations for this subject were visually-dominant, requiring multi-modal shifts and meaning making across modalities.

Three term tests included similar reading practices: scenarios provided a textual context and numerical data from which information had to be extrapolated. Certain questions included illustrations, graphs or tables. Several parallels could be drawn between reading as explained in the interview data and reading required for assessments. Extracting essential information and terminology was dominant in every question, as was the need for visual literacy analysis and synthesis. Students would have to read the scenarios carefully to understand the setting in order to reason what textual and numeral data to extrapolate and manipulate. The literacy requirements for assessments were closely aligned with interview data in terms of the lecturer's expectations and the disciplinary literacy inherent in this subject. These literacy engagements did not, however, mirror the specifications and application for a textually-based standardised test.

## 6.4 Health and Wellness Sciences

The subject Health and Wellness Sciences was predominantly text-based but formed part of a practice-oriented qualification. This lecturer's notion of reading for this subject ranged from critical appraisal of texts and analysing vocabulary in context to the ability to extract the main points of a text. The lecturer noted that for students to be able to

> find relevant information to the subject area, they should be able to identify the relevance of that information … they should be able to read through that information and be able to understand … and take out the important bits … .

This excerpt alludes to several test specifications of a standardised test. For example, critical appraisal of texts requires the reading skills of skimming; scanning; separating main ideas from supporting ideas "to take out the important bits"; defining text genre; and identifying appropriate register, style and tone of the text for the task at hand. Although critical appraisal of texts was not a standardised test specification, the range of reading skills was equally applicable to understanding texts.

The lecturer's interpretation of how students should apply reading skills to access meaning was that they should

> unpack and pull the article apart … start with the first paragraph; they must know that this paragraph introduces this article and … underline words that are new to them and that they don't understand and to go and find out. I would assume by unpacking the paragraphs individually and writing key words and key phrases, they would then make meaning out of the whole article. And also summarise that article in order to present their understanding.

The interview excerpt centred on understanding vocabulary to access meaning, extracting key words and phrases and writing a summary to show understanding. The AL test specifications implicit in this excerpt would include, amongst others, identifying meanings of words in context; separating essential from non-essential information ("key words and phrases"); discourse analysis from word, sentence to paragraph level (textual analysis); coherence and cohesion (to "summarise the article") and extrapolating and drawing conclusions to "make meaning of the whole article". While the interface between reading and writing was the summary, the importance of AL seemed to reside in the structured, study-skills approach of analysing text from word to paragraph level.

Three summative term tests and two assignments were analysed. The term tests consisted of multiple choice questions (MCQs) and short questions requiring written responses or diagrammatic representations. The assignments included a combination of visual representations and essay writing. Reading for assessments focused on analysing test questions and analysing the responses for the MCQs. While some MCQs mainly tested knowledge, other questions required a detailed analysis of the question in order to select an answer from multiple sentences.

Standardised tests of academic literacy consist of similar-type questions that test the reasoning abilities of students by requiring them to select the correct answer from plausible options across a range of difficulty levels, from testing basic reasoning skills to reflection-type questions.

The MCQs for this subject required knowledge of terminology, analysing sentence structure, extrapolating words, numbers and/or graphics, and reasoning skills to determine what the question was actually about. The questions might have been short (i.e. no case studies or scenarios to analyse) but the reading processes required were intensive, given the use of subject-specific terminology. The essay assignments for this subject required more detailed, structured reading processes in order to find appropriate information for assignment-writing purposes.

## 7. DISCUSSION

This article explores whether a generic standardised test provides insights into the language knowledge requisite for the target language use of first-year diploma subjects. When comparing lecturers' perspectives of AL requirements for their subjects and subject assessments to the AL specifications and application of a standardised test, one finds that there are commonalities in specifications. However, there seems to be a mismatch in application and focus of specifications of a standardised tests when compared with

the target language use of particularly visual-numeracy subjects. Although it is not the intention of standardised tests to establish a perfect match between test specifications and target language use, it should be noted that what is assessed should (ideally) bear "direct relation to what is *likely* [my emphasis] to be required … of test takers in any higher education context" (Cliff and Yeld 2006, 23).

The data revealed two types of subject orientations – text-dominant and visual-literacy dominant – with different genres of content representation and different AL requirements. There seemed to be a greater alignment between the test specifications and the target language use for text-based subjects such as business studies. There is sufficient evidence to suggest that a standardised test would present a plausible reflection of academic literacy proficiency for these subjects. For the more practice-based subjects such as in engineering, incongruence between the kinds of academic literacy specifications of the test and subject specifications were apparent on two levels. Firstly, although the test specifications might be applicable to the more practice-based subjects, their application was different. For example, separating essential from non-essential information from a table, graph, observation or an image required a different approach to perusing texts that were much more language ability-intensive. Secondly, the specifics of language ability (Bachman 1990) and fine-grained analysis of text were not considered necessities in practice-based subjects. Texts were complementary to visual literacy and numeracy and used mainly for explanations, instructions and descriptions. The ability to analyse and synthesise visual and empirical representations accrued greater currency than fine-grained textual discourse analysis required for standardised tests. The findings suggest that the sample standardised test would not provide a plausible result to draw reasonable inferences of students' academic literacy proficiency for practice-based subjects based on the textual–visual difference as the test is predominantly textually oriented and the subjects are predominantly visually-dominant. Regardless of the broad, overarching terms that describe such tests (i.e. "generic", "standardised", "typical academic literacy requirements") there is limited congruence between AL test application and reading practices in visual-dominant subjects. The findings show similarities in AL specifications of the sample test and subject requirements but the test question types and the focus of AL application do not align adequately with the target language use for practice-based subjects. This could well compromise inferences made from test results for placement purposes.

Standardised tests contain several reading texts and writers are required to engage in textual analysis to access meaning. Reading practices for subjects in this study were not limited to text only but drew on the plurality of different ways that knowledge was presented in disciplinary literacies. In other words, the ability "to deploy a repertoire of linguistic practices appropriate to each setting" (Lea and Street 1998, 159) would aptly summarise academic literacy shifts in visual-dominant subjects, but would not necessarily be appropriate to standardised tests. In certain subjects, from the first term of study, visual literacy predominates with texts being complementary. The data suggest

that inferences regarding students' language proficiency might not be reliable within the context of the course of study, given that the subjects selected represented the major disciplinary literacy focus of each diploma. This does not imply that inferences about language proficiency are not reliable for the test itself, only that such test results do not represent the kinds of specifications salient to subjects of study.

The frequency and types of test items in the sample test and NBT tests focus primarily on textual engagement and analysis. Test items on visual literacy and numeracy in relation to text were minimal and metaphorical reasoning did not appear to be replicated in the same way as in practice-based subjects. Similarly, "understanding relations between parts of text" by using "devices of cohesion such as pronoun reference" and "transitions in argument" (Cliff and Yeld 2006, 24) were not considered important in factual, content-intensive science and engineering subjects. The misalignment or incongruence of various intensities has implications for student placements. For example, students categorised as "basic" might be placed on inappropriate text-intensive academic literacy support programmes based on their performance and test scores. Academic literacy support should ideally include facilitation "to deploy a repertoire of linguistic practices" (Lea and Street 1998, 159) and support students in negotiating multi-modal shifts between text, various modalities of visual literacies and numeracy. A more balanced test with text-based and visual-numerical test items might present a more authentic portrayal of academic literacies proficiency for visual literacy-dominant subjects. This does not imply that the specifications were not applicable to other visual literacy-dominant subjects in other diploma offerings not included in this study. The findings are limited to the data generated from these subjects in particular and are not necessarily generalisable to other subjects. While the test specifications and their comparison with requirements for specific subjects are not considered absolute, there is a case to be made for considering alternative questions to accommodate the more visual-numerical literacy dominant subjects.

Although the NBT in quantitative literacy (QL) includes test items with contextual visually-dominant graphs, bar charts and illustrations, they do not necessarily align with visual literacy and numeracy demands in subject content. For example, the QL test exemplars (see NBT n.d.) require visual grammars for analysis with limited textual engagement required to arrive at an answer. Essentially, QL "involves responding to quantitative information that may be presented verbally, graphically … or in symbolic form" (Frith and Prince 2006, 30) using numerical acumen for calculations such as ratios, fractions or percentages. The QL test focuses on analysing minimal text in relation to visuals for quantitative reasoning and numerical manipulations. This might not be comparable with more demanding academic texts and the different kinds of visual representations not present in QL. Furthermore, in subject content, the analysis and understanding of one modality is often contingent on understanding another. Iterative modal shifts and analysis between text, a range of visuals, and numeracy add another dimension of complexity not evident in QL. Engineering is a case in point where visual

representations and texts are mutually dependent for meaning making. This integration of visual literacy, numeracy and textual knowledge sources might not be representative of QL items, hence the need to focus on addressing diploma requirements in the NBT in AL as a point of departure.

## 8. CONCLUSION

This article foregrounds the complexities of developing a standardised test in AL that would reflect the target language use of both formative and professional/vocational higher education qualifications. Academic literacy(ies), within the context of "language ability" (Bachman (1990) and Bachman and Palmer (1996)),

> is a composite construct that includes the application of language knowledge for textual and other engagement, provides access to discourse analysis and language structures, frames the vocational discourse required for specific programmes, and as such, provides epistemological and ontological gateways to the knowing, doing and being imperatives of academia and the profession (Scholtz 2015, 47)

Academic literacies in relation to disciplinary literacies have complexities in terms of identifying AL fit for disciplinary purpose, negotiating multi-modal literacy shifts and developing reasoning skills to accommodate the range and continuum of modalities. These complexities present challenges to developing standardised tests in academic literacy(ies) that would encompass the specification focus of visually-dominant subjects. The high-stake decisions concomitant to inferences made from test results impact students, parents, institutions and the economy. It may be argued that the higher education sector should review generic standardised tests in support of discipline-based literacies where test specifications would, at best, align with language in use in the field of study.

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