

TIME-ON-TASK AS AN INDEX OF SITUATED LANGUAGE PROFICIENCY IN ACADEMIC PERFORMANCE

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Transforming higher education in South Africa involves, among other things, finding ways of enabling a broader group of students to perform successfully in high-stake assessment. This paper recounts work in progress to that end. The focus is on the effect of time constraints on the performance of physiotherapy students whose first language is other than the one in which the classes and the assessments are presented. The concept of working memory is investigated by using C-tests based on physiotherapy material and the results are correlated with students' home languages and their performance in other academic subjects. The paper concludes by reflecting on C-tests as a trustworthy instrument to measure situated language proficiency and the implications of the results for higher education.

INTRODUCTION

The current transformation of the University of Stellenbosch would necessarily include having a more diverse population. A series of practical changes would have to be put in place for the larger project to succeed. A key concern would be to find ways of enabling a broader group of students to overcome barriers to performing successfully in contexts requiring the situated language of their chosen profession. This paper recounts work in progress to that end.

In seeking to contribute to re-imagining higher education practices, we decided to test the intuitive theory of one of the members of the team: that time was a significant factor in the performance during tests and examinations of 'at risk' physiotherapy students whose mother-tongue was other than Afrikaans and English. However, although there were some students in the third and fourth year, whose home language was other than English or Afrikaans, the second year class that was identified as the target group for this study comprised only home and additional language speakers of English and Afrikaans. The experimental test tasks were limited to extracts from the textbook (that was in English) to determine whether home and additional language users of English performed differently in dealing with material to which they all had ready access. The decision to limit the study to this group has proved useful in finding an appropriate instrument to test our hypotheses.

The first step was to determine the amount of time it takes individual students to complete a task under test conditions. The hypothesis was that the time it takes to successfully process and produce discipline-specific language is an indication of students' situated language

proficiency. It was important to test this hypothesis for at least two reasons. Firstly, the impact of time limits in examinations in this situation has not been established. Although assessment techniques like take-home examinations and continuous assessment are becoming more popular, especially in advanced courses, tertiary institutions still invest large amounts of time and other resources in time-limited, fixed-location semester tests and examinations. There is a firm belief in the value of time limits and performance under pressure as evidence of quality of learning; i.e. it is assumed that somebody with ready knowledge and steady nerves also understands the work better. Secondly, extra time for examinations or tests can usually be requested only for clinical problems, like physical incapacity or identifiable and previously diagnosed learning problems. Empirical evidence of the need for more time for students whose proficiency in situated language is limited would be needed to change this situation.

The second step was to explore the possible link between situated language proficiency, time-on-task and academic performance, especially as the stress that accompanies a fixed-time examination may intensify difficulty in processing not only linguistic, but also conceptual and contextual features of texts. In exploring this theme, we make use of the *working memory* theory of Kiwan, Ahmed & Pollitt (2000:2). They explain that individual students' *working memory* capacity, described as a system that is limited in its ability to simultaneously store and process information, is susceptible to the negative effects of time-induced stress. They found that a higher reading level could be linked to increased working memory capacity, and by implication improved comprehension (Kiwan *et al.*, 2000:14). The extent to which working memory capacity is related to situated language proficiency in a specific language and might influence academic performance in that language is an important concern in our research.

Pursuing the question requires a nuanced sense of the complexity of the issues at stake. Martin (1993), Bhatia (1993) points to the genres or varieties of abstract and technical language associated with each discipline. In order to acquire ownership of appropriate academic genres, students need to control the 'code' in each case. Such control engages specific reading and writing skills, including the ability to think, organise responses, and choose appropriate lexico-grammatical realisations for communicative purposes (Bhatia 1999:32). Students who are unable either to recognise when such choices have been made or to select appropriate forms to realise their own communicative purposes are at a disadvantage. Complicating the picture in the case of the target group is that most of their learning of English or Afrikaans would have been focused on a reductive model which has language 'pattern' defined exclusively as accuracy at its centred (see Ivanič, 1988). Such a model does not take account of the functional linguistic knowledge which learners need in order to recognise and make appropriate linguistic choices relating to genre or discourse. The literature points to a more complex view of processing and production than such a limited skills perspective allows. Not only does it highlight the importance of hyperstructural features like genre, but it also indicates the need to be aware of internal forces that may influence students in an academic situation. Flower (1987) and Raffini (1996), for example, point to psychological factors such as motivation, self-concept and confidence, values and goals and even personal goals.

The New Literacy Studies and Critical Discourse Analysis have influenced much recent thinking on academic literacy. The New London Group (1996:60) argue that the 'multiplicity of communication channels and increasing cultural and linguistic diversity in the world today' call for a much broader view of literacy than that portrayed by traditional language-

based or skills-based approaches. Success at university (particularly in the sciences) depends on acquiring what is known as situated academic literacy or the particular manner of organizing concepts or knowledge and the particular processes and methods of critical enquiry (Gee, 1999). The new 'social discourse' (Gee, 1999) is embedded in social practices and assumptions (Fairclough, 1989:1). One of the steps in acquiring this 'social discourse' involves acquiring a situated identity: an identity that is enacted in particular settings. This social discourse is a vital tool in constructing and reconstructing a particular world and its meaning. Ability to interpret or make meaning within a particular context is dependent on the person's having a confident identity in relation to that context, and is not just the product of an ability to read language in general.

There is an even larger dimension. Gee (1999:43) speaks of cultural models which allow students to mediate between the *micro* level of interaction and the *macro* level of institution. Situated meanings of a word are relative to a particular discursive context. Thus the student who lacks the social language to enact and recognise different identities in different settings is unable to construct the situated meaning in and for a particular context remains an outsider (Gee, 1999:46-63).

Critical Discourse Analysis highlights some of the ways in which social inequalities are reflected and constructed in and through language, especially in the case of those who are 'outsiders'. Language as discourse or 'social practice' (Fairclough, 1989: 1) is socially determined. In this sense, discourses comprise complex, historically-based ways of constructing knowledge, social practices, subjectivity and the power relations which are implicit in these knowledges and entrenched by broader social and ideological conditions (Kress, 1985; Fairclough, 1989, 1992, 1995; Fairclough and Wodak, 1997; Gee, 1996; Mills, 1997; Pennycook, 1994, 1995; van Dijk, 1997).

This overview suggests many longer-term challenges. However, in the short-term it has offered ways of strengthening the research. In this article we report on the aspect of time as related to situated text processing. We also refer to some preliminary findings in respect of social identity.

METHOD

The project described here is an interdisciplinary venture of the Faculties of Education and of Health Sciences. An important initial consideration for the researchers of these divergent research backgrounds was to find common ground. This meant that a method or instrument to test situated language use would have to satisfy Health Sciences, which is oriented more towards quantitative research methods, while giving a reliable and valid picture of performance, which is usually expressed in more qualitative terms in an Educational Linguistics environment. Furthermore, the challenge was to find an instrument that would measure performance in a situation where reading as well as writing would come into play in the context of a specific subject, while providing valid evidence of the effects of time constraints on the performance of L2 users of the language of the test. In the light of the number of students involved and other time constraints, it was also important that this method or set of instruments should be relatively easy to develop, administer and score.

Since the focus was on *processing* speed and not only comprehension and production of language, cloze tests appeared to meet most requirements, particularly the need to create an

opportunity for students to demonstrate receptive and productive competence in relation to complex properties of text (Oller, 1979:347; Hale, Stansfield, Rock, Hicks, Butler, & Oller, 1989:48; Chappelle and Graham, 1990:121). In this case the C-test was chosen because of the claims made for it in an extensive study by Grotjahn and Klein-Braley (1995) and the subsequent application in a university environment to determine cognitive academic language proficiency (Daller and Grotjahn, 1999; Ikeguchi 1998). The C-test is described as involving 'a test from four or five thematically distinct segments of connected discourse in which the second half of every second word (usually 100 words in all) is deleted, and the examinee gets credit for exact word restoration' (Ikeguchi 1998). The text would then look like this example: *Fifty per___ of ev___ second wo___ is le___ out.* In Grotjahn and Klein-Braley's extensive application of the test, they limited the number of restorations to 25 per text. This is the procedure adopted in this study.

Construction of the C-test

Cloze tests of language proficiency have been investigated extensively¹, and have also been criticised because researchers found that there is little or no correlation between cloze-test scores and *general* language proficiency (see Jafarpur, 1995). The same then could be said of the relation to situated language proficiency. Distinctions made earlier by Brown (1988) may help to resolve this difficulty. The single most important variable in the effectiveness (reliability and validity) of cloze, he suggests, may be how well a given passage fits a given population. In other words, it may be necessary to provide a reading passage that is chosen for the specific learner population in order to obtain reliable and useful results (Brown, 1988:20). This is the procedure followed by Daller and Grotjahn (1999) in exploring the two dimensions of language proficiency identified by Cummins (1991): *basic interpersonal communication skills* (BICS) and *cognitive academic language proficiency* (CALP). Daller and Grotjahn, like Ikeguchi (1998), choose academic texts for a specific population to test *situated* rather than general language proficiency.

On the basis of these studies a similar construct was used in the current investigation so that students' language proficiency would be tested in the context of a specific discipline and in keeping with current insights into situated literacy. As a means of control, a standardized test of a general nature was included as a contrast to the specialized tests derived from the physiotherapy texts. The purpose of this test was to provide evidence of 'general' language proficiency. Despite the objections to this method of determining general language proficiency (as mentioned by Jafarpur, 1995) it was included as a measure of proficiency that was not dependent upon prior knowledge of the subject matter, like the other tests. Since the object of the test as a whole was not to make pronouncements on 'general language proficiency', we decided to include it as a kind of foil to the other tests. The final test therefore, had four sub-tests: a general language test (C-test 1,) and three tests based on second-year Physiotherapy study material (C-tests 2, 3 and 4, to test situated, academic language proficiency). The 'general' language proficiency text was drawn from Daller and Grotjahn (1999). They standardised it using first-year level higher education students in Europe. Their text deals with higher education studies and why people do them. The three Physiotherapy tests range from fairly general and non-technical to very technical and dense language use. The difficulty level of C-tests 2, 3 and 4 also increases: the first deals with a description of a practical situation, the second with a fairly abstract argument and the third deals with a research report on treatment.

Since one of the reasons for this study is to investigate the extent to which time-on-task is an index of situated language proficiency, students were asked to write down their start and finish times on each sub-test. The time-on-task information provided a glimpse into students' working memory capacity in the language and proved to be crucial in predicting academic performance.

The best results were obtained with second year students from whose study material the tests were constructed. This seems to confirm that the fit between the reading passage and the given population is the most important variable in the reliability and validity of the cloze.

Procedure

The test was taken by Physiotherapy students in their second, third and fourth year during scheduled teaching time. Although there was no time limit for the tasks, the heading on the answer sheet indicated that this was a comprehension *test* but, to set them at ease, students were told that grammar and spelling were not the issue. When marking the tests, exact scoring was used, that is, there were no extra penalties for not being able to produce, for example, an important keyword as opposed to a relatively insignificant item. All the tests were in English. The second, third and fourth-year groups included a number of English (L1) students.

The scores and the time it took students to complete the sub-tests were captured electronically so that the first hypothesis of this study could be tested. In response to the second hypothesis of this study, which is to link situated language proficiency and time-on-task to academic performance, the marks that students scored on routine scheduled tests at the end of the first semester on Physiotherapy practice were correlated with the C-test data, because this subject is the closest to the discipline-specific texts that were used for the C-tests. In the case of the second-year students, first-semester marks for their Anatomy and Histology module and second-semester marks for Physiology were also keyed in for possible correlation.

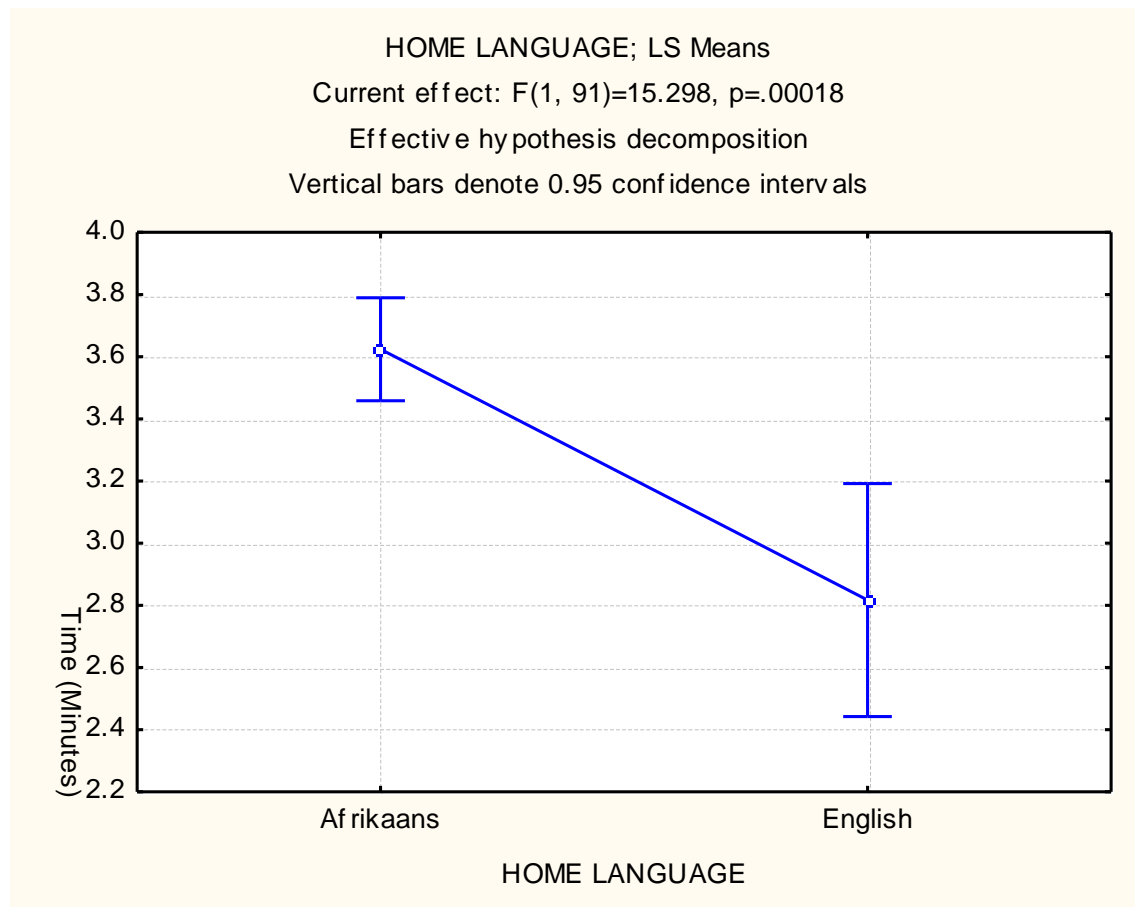
The data were analysed using multivariate adaptive regression splines (MARS) with a view to determining which variables are most significant. Then regression tree analyses were done to identify groups of students whose academic performance differed significantly from others.

RESULTS

In the discussion below the focus is on processing speed and the degree to which the results of the tests correlate with students' performance on other academic tests. It must be remembered throughout that the group of L1 English-speaking students is relatively small, reducing the statistical value of their results. However, their performance on the language tests is noticeably better than that of students who use English as an additional language. The L1 English-speaking students also completed the language tests much faster (see Graph 1).

Students' scores on C-tests 2, 3 and 4 (those based on Physiotherapy class notes), confirm that the texts were indeed experienced as increasingly difficult by students in the second and fourth years. For some reason the third years found the second language test the most difficult, but the difference is not big. The time spent on the general language proficiency test

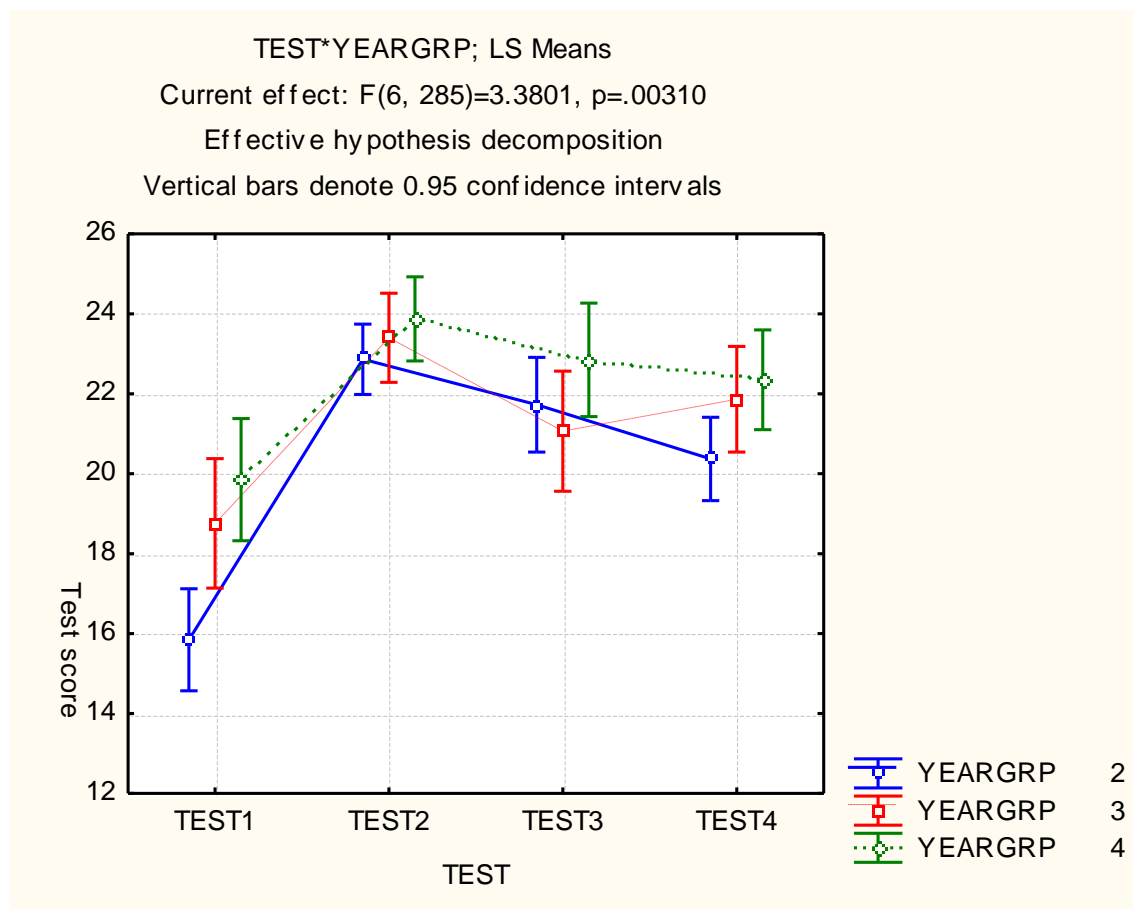
(C-test 1) indicates that this, too, was experienced as difficult by the students. Overall, students spent more time on the more difficult tests.



Graph 1: Test performance in terms of average time spent on all four C-tests, by home language.

The data shown in the graph 2 below, together with the data in Graph 1 provide evidence that supports the first hypothesis: L2 users of a language take longer to process the text and obtain lower scores than L1 users. This suggests that L2 users tend to be less proficient in situated language use. More evidence is provided when the data are correlated with students' general academic performance.

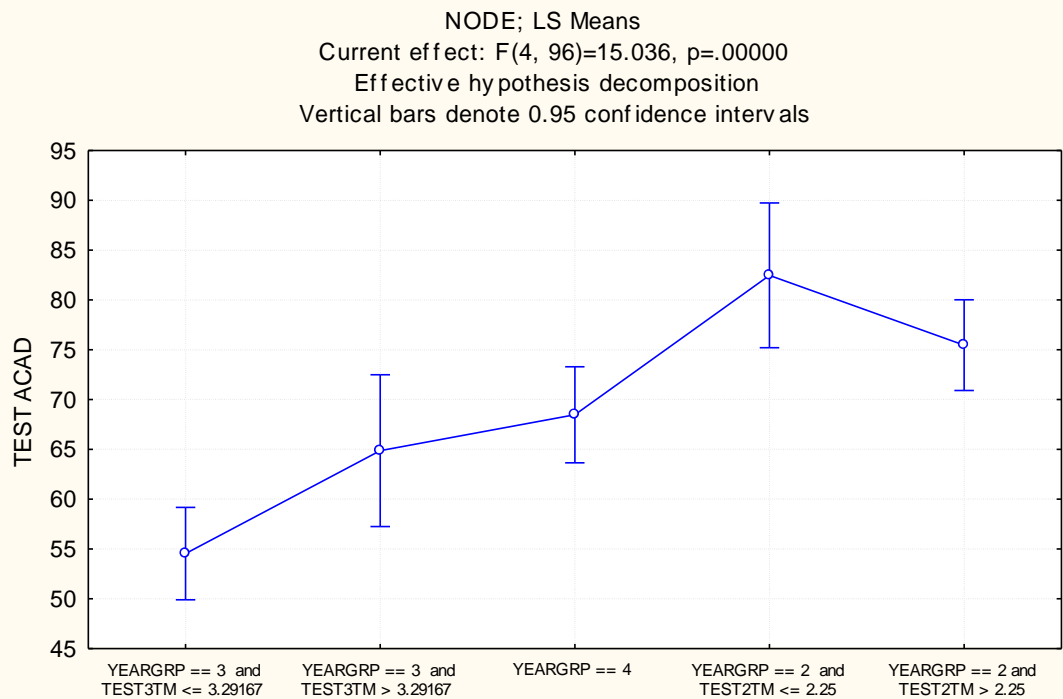
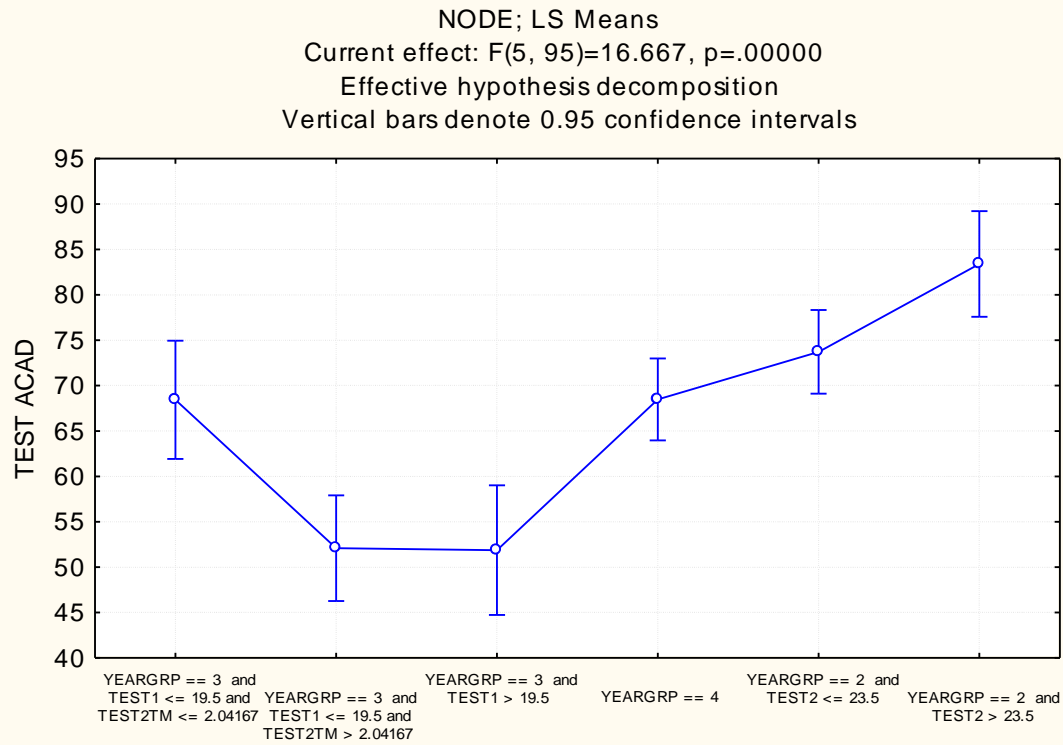
The most interesting results can be seen when comparing the results on the C-tests to the test results of a module offered outside the Physiotherapy Department. In the first semester this module is Anatomy and Histology. C-test 2 (the subtest based on the simplest of the extracts from the class notes for the second year group) seems to have the potential to predict academic performance in this case. When the scores from this C-test are compared to students' performance on the Anatomy and Histology module, a regression tree analysis indicates that second year students who score above 23.5 on C-test 2 score higher on the academic test than those who score below 23.5 (Graph 2). This result is not statistically significant, but it shows a definite tendency. To some extent this supports our hypothesis that situated language proficiency is a factor in academic performance, i.e. that students' whose situated language proficiency is low will probably also struggle academically.



Graph 2

To see whether this tendency would repeat itself, the comparison with results for C-test 2 was repeated in the second semester with Physiology, and the same results were found (see Graph 3).

In the second year group, the time spent on each language test correlates **negatively** with the academic test results: the more time students spent on the language tests, the weaker they were on the academic tests. These results confirm the second hypothesis too: students who are not proficient in the discourse of a specific subject (on the basis of C-tests 2, 3 and 4) will take longer to process text. The lack of proficiency leads to longer time-on-task and impacts negatively on their academic performance. As can be seen in Graph 2, the second year students with scores lower than 23.5 on C-test 2 obtained significantly low scores on the academic test. Conversely, second year students who took less than 2.25 minutes on C-test 2 scored significantly higher (Graph 4).



Graph 3 and Graph 4

INTERPRETATION

It seems that the C-tests provide adequate and basic information about situated language proficiency and the role of time in text processing. In addition, they are easy to develop, administer and score. One of the three C-tests based on student study material proved to be a good predictor of academic results.

Graph 1 clearly shows a difference in performance between English L2 and L1 students on texts in English. English L1 students scored higher than English L2 students and completed the test in a shorter period of time. While the number of English L1 students involved was small, it is possible to conclude that these results suggest the influence of using a language other than L1 on processing speed.

The positive correlation indicated in Graph 3 has to be treated with care, because there may be other factors that influence these results. The fact that C-test 2 (the easiest of the Physiotherapy language tests) correlated well with academic test results, made us look at the average that students got on the academic tests. For the first semester the average for the Anatomy and Histology module was quite high (68%) which may indicate that students were dealing with the more basic subject content in the first part of the year. If this is the case, it explains why the least technical C-test correlates well with the generally high average. However, in the second semester the average for the Physiology module was 63%, which is still high. This means that the level of difficulty of the academic subjects may not be such a big factor and that C-tests may not need to be technically dense to predict academic performance.

When C-tests based on academic texts are used to predict difficulty in using situated language in academic performance, it is advisable to include tests that range from easy to more difficult (as was done in this study). On the basis of this study, a student's worst score seems likely to predict his or her performance on highly technical subject matter. If the standard of tests and examinations remains stable from one year to the next, then the degree to which C-tests can predict academic performance is likely to be high.

It is clear that, with a view to predicting academic performance, academic texts are a better source for C- tests than general ones. The results of the general language proficiency test (C-test 1) do not correlate at all with academic test results. Moreover, it seems as if the predictive value is not dependent on textually dense or very technical texts (like C-tests 3 and 4). The ability to make sense within a discourse is primary, and can be distinguished from the ability to handle textual or lexical complexity

Graphs 3 and 4 indicate that the comparison of C-test 2 with academic results is statistically significant for the second year students and the fact that it is noticeably less significant for the third and fourth years may indicate that language influences academic performance more in the early years of study. If the students who do not perform well on the academic tests also take longer to complete the cloze tests, a tentative conclusion could be that their working memory and language processing skills are relatively limited. In this sense, too, the cloze suggests both that the time limit is significant in tests and examinations, and that it is not definitive. Those who take longer generally do not do as well.

FUTURE DIRECTIONS FOR RESEARCH

A number of practical concerns have arisen in attempting to address the central research question. In the last part of this paper two of them are dealt with: firstly exploring the trustworthiness of the C-test as a diagnostic instrument, i.e. an instrument that can provide information about specific weaknesses in students' situated language proficiency, and secondly examining the possible value of think-aloud protocols in the critical interpretation of student performance.

While it is true that one C-test correlated positively with academic test results it is clear that further research is necessary to find other instruments to provide more precise information about the nature of situated, academic proficiency. Chapelle and Abraham (1990:122-127) offer a possible avenue to explore: they argue that although semantic processing is essential for good performance, it is likely that C-tests emphasize grammaticality rather than textual competence because of the shorter segment of text used. Although the C-tests can provide a broad overview of situated proficiency, traditional methods of interpreting comprehension and extended writing abilities could provide a more illuminating understanding of what is needed by way of academic support. Tests such as PTEEP and TALL can be used to obtain a more nuanced understanding of the situated language proficiency demonstrated by the group of students under investigation.

A second strand to the investigation relates to *situated identity*. One instrument that may prove useful is think-aloud protocols which have been used for some time now as a way of helping both learners and teachers to understand the processes involved in understanding concepts or in general comprehension (see Cazden, 1988). Consequently, think-aloud protocols are being employed with a view to the critical interpretation of student performance within what may be termed *exclusive* literacy practices.

The first effort in this direction involved a third-year student (referred to as David) who has had difficulty in passing modules in the physiotherapy programme at university. During the interview, he was guided to explore some of the reasons for his difficulties. As Cohen and Scott (1996) have pointed out, however, think-aloud protocols are not without problems. There is a strong likelihood that comments will be made which the informant perceives to be what the interviewer would like to hear. For David (a home language speaker of Xhosa) this appeared to be the case. For instance, he spoke of the code-mixing which characterised his school life as well as his home life. During a later question to test the trustworthiness of this, he attested to the quality of his parents' Xhosa and the fact that only Xhosa was used in his home. He also referred to the way in which he sought out English mother-tongue speakers at school. Significantly, he revealed that the most influential teacher that he had had was a stickler for accuracy:

We had a wonderful teacher in 8, 9, and 10 – he made sure that we wrote correctly – no mistakes were allowed.

This teacher seems to fit the description given by Ivaniç (1988) of someone for whom language 'pattern' is centred on accuracy.

An interesting illustration of his outsider status was that, unlike most of the students, he did not use the glossary that the department had provided, although his explanation suggested that he was an insider:

I thought I knew the words so I did not go through them.

He had not realised that words are situated in specific social and cultural practices (Gee, 1999:63). There were other indications of his outsider status. His studying was generally done alone in his first two years. Furthermore, he described himself as someone who could not distinguish the important aspects of a subject from 'the rest'. Consequently he worked long hours fruitlessly, attempting to commit everything to memory.

Clearly at this stage it is not possible to draw firm conclusions from this interview. However, it highlights the need for the researchers involved become more effective observer-participants. The interview has also provided interesting lines of future inquiry. One of these relates to David's talking aloud to explain the work to himself in Xhosa. Perhaps there is a link here to the emphasis in Canagarajah (2002: 36f) on maintaining and exploiting home language teachers and peers and to acknowledge students' need to 'take their identities, values and interests with them as they communicate in the academy'.

Another method that we have begun using in order to explore student interpretation processes is the focused interview. This will be reported on at a later stage.

CONCLUSION

The results reported in this article have clear implications for higher education practitioners. All students, irrespective of their home language background, have to acquire the discourse of their discipline and the literacy practices that are essential for success in higher education. Not surprisingly, since they have had more time to be initiated, students in their third and fourth year of study seem more able to operate in the situated language of their chosen disciplines. It follows then that intervention should occur in the first and second years.

Although this project will further investigate the needs of students for whom neither English nor Afrikaans is a mother tongue, it is fair to assume that the larger group, all of whom have to acquire a secondary discourse, would also benefit from these research results. Clearly more research needs to be conducted if academic and language support measures are to be tailored to specific groups of low-proficiency learners in the first year and beyond.

Instead of viewing students as deficient, every effort should be made to develop their ability to make meaning in new discourses. A broader question to pursue would be how lectures, class-notes and set textbooks can help meet subject-specific literacy demands. At present, Physiotherapy students are given certain words drawn from Bloom's taxonomy to help them identify what a particular question requires. This, however, reflects too limited a view of the elements in social discourse which act as obstacles. This research indicates the need for a much broader view of literacy (cf New London Group, 1996, 2000; Widdecombe, 1998; Baynham, 2000 & Street, 2001) and for establishing the degree to which working memory capacity is significant when time-limited texts are processed in a language that is not the students' home language. Determining the role of time as a constraint on students with relatively low situated language proficiency is the first step on a complex path.

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END NOTE

¹ See, for example, the website on recent publications on the C-test in particular, at <http://www.slf.ruhr-uni-bochum.de/biblio/ctbib.html> (as on 7 September 2004) where 224 articles are listed, covering, among others, applications of the test to German, French, Japanese, Chinese, ESL and EFL.

REFERENCES

- BAYNHAM, M. 2000. Narrative as evidence in literacy research. *Linguistics and Education*, 11(2):99-117.
- BHATIA, VJ. 1993. *Analysing genre: language use in professional settings*. London: Longman.
- BHATIA, VK. 1999. Integrating products, processes, purposes and participants in professional writing. In Candlin, C & K Hyland (Eds), *Writing: Texts, processes and practices*. London: Longman.
- BROWN JD. 1988. Tailored cloze: Improved with classical item analysis techniques. *Language Testing*, 5(1):19-31.
- CANAGARAJAH, S. 2002. Multilingual writers and the academic community: Towards a critical relationship. *English for Academic Purposes*, 1(1):29-44.
- CARRELL, P. 1989. Interactive text processing: Implications for ESL/second language reading classrooms. Carrell, P, J Devine & D Eskey (Eds). *Interactive approaches to second language reading*. Cambridge: Cambridge University Press.239-259.
- CAZDEN, CB. 1988. *Classroom discourse: The language of teaching and learning*. Portsmouth, N. H.: Heinemann Educational.
- CHAPPELLE CA & RG ABRAHAM. 1990. Cloze method: What difference does it make? *Language Testing*, 7(2):121-146.
- COHEN, AD & K SCOTT. 1996. A synthesis of approaches to assessing language learning strategies. In Oxford, R (Ed.), *Language learning strategies around the world: Cross-cultural perspectives*. Manoa, HI: University of Hawai'i Press.89-106.
- CUMMINS, J. 1991. Conversational and academic language proficiency in bilingual contexts. *AILA Review*, 8: 75-89.

- CUMMINS, J. 2000. *Language, power and pedagogy: Bilingual children in the crossfire*. Clevedon: Multilingual Matters.
- DALLER, H & R GROJTJAHN. 1999. The language proficiency of Turkish returnees from Germany: An empirical investigation of academic and everyday language proficiency. *Language, Culture and Curriculum*, 12 (2):156-172.
- FAIRCLOUGH, N. 1989. *Language and power*. London: Longman.
- FAIRCLOUGH, N 1995. *Language and social change*. Cambridge: Polity Press.
- FAIRCLOUGH, N & R WODAK. 1997. Critical discourse analysis. In van Dijk, TA (Ed.), *Discourse as social interaction*. London: Sage Publications.258-284.
- FARHADY, H & MN KERAMATI. 1996. A text driven method for the deletion procedure in cloze passages. *Language Testing*, 13 (2):191-207.
- FLOWER, L. 1987. Interpretative acts: cognition and the construction of discourse. *Occasional Paper No. 1*. Center for the Study of Writing, Washington.
- GEE, JP. 1996. *Social linguistics and literacies: Ideology in discourses*. Second edition. London: The Falmer Press.
- GEE, JP. 1999. *An introduction to discourse analysis: Theory and method*. London: Routledge.
- GROJTJAHN R & C KLEIN-BRALEY. 1995. C-Tests: An overview Der C-Test. *Theoretische Grundlagen und Praktische Anwendugen*, 3: 2-33
- HALE, G A, CW STANSFIELD, DA ROCK, MM HICKS, A BUTLER, A & J OLLER 1989. The relation of multiple-choice cloze c-tests to the test of English as a foreign language. *Language Testing*, 6(1): 47-76.
- HALLIDAY, MAK. 1978. *Language as social semiotic: The social interpretation of language and meaning*. London: Edward Arnold.
- HALLIDAY, MAK. 1985. *An introduction to functional grammar*. London: Edward Arnold.
- HALLIDAY, MAK & R HASAN. 1989. *Language, context and text: Aspects of language in a social-semiotic perspective*. Second Edition. Oxford: Oxford University Press.
- IKEGUCHI, CB. 1998. Do different C-tests discriminate proficiency levels of EL2 learners? *JALT Testing & Evaluation SIG Newsletter* 2(1):3-8.
At http://www.jalt.org/test/ike_1.htm on 7 September 2004.
- IVANIČ, R. 1988. Critical language awareness in action. *Language Issues*, 2(2)2-7 (Reprinted in Carter, R (Ed.), *Knowledge about language and the curriculum: The Linc reader*. London: Hodder & Stoughton.122-132.

- JAFARPUR, A. 1995. Is C-testing superior to cloze? *Language Testing*, 12(12): 194-216.
- KELLOGG, J S, DR HOPKO & B ASHCRAFT. 1999. The effects of time pressure on arithmetic performance. *Journal of Anxiety Disorders*, 13(6):591-600.
- KIWAN, D, A AHMED & A POLLITT, A. 1999. The effects of stress on text comprehension and performance in examinations. Paper presented at the BPS London Conference, December 1999.
At <http://www.ucl.ac.uk/conferencepapers/BPS1999DKAAAP.pdf> on 7 September 2004.
- KIWAN, D, A AHMED & A POLLITT. 2000. The effects of time-induced stress on making inferences in text comprehension. Paper presented at the European Conference on Educational Research, Edinburgh 2000.
At <http://www.ucl.ac.uk/conferencepapers/ECER2000DKAPAA.pdf> on 7 September 2004.
- KRESS, G. 1985. *Linguistic processes in sociocultural practice*. Oxford: Oxford University Press.
- KRESS, G. 1987. Genre in a social theory of learning. In Reid, I, (Ed.) *The place of genre in learning*. Geelong Australia: Deakin University Press.
- MARTIN, JR. 1993. Genre and literacy: Modelling context in educational linguistics. *Annual Review of Applied Linguistics*, 13: 141-172.
- RAFFINI, JP. 1996. *150 ways to increase intrinsic motivation in the classroom*. Boston: Allyn & Bacon.
- NEW LONDON GROUP. 1996. *A pedagogy of multiliteracies: Designing social futures*. *Harvard Educational Review*, (66)1: 60-92.
- NEW LONDON GROUP. 2000. A pedagogy of multiliteracies. In Cope, B & M Kalantzis (Eds), *Multiliteracies*. London: Routledge.9-37.
- MILLS, S. 1997. *Discourse*. London: Routledge.
- OLLER, J. 1979. *Language tests at school*. London: Longman.
- PARAN, A.1996. Reading in EFL: Facts and fictions. *ELT Journal*, 50(1): 25-34.
- PENNYCOOK, A. 1994. *The cultural politics of English as an international language*. London: Longman.
- PENNYCOOK, A. 1995. Incommensurable discourses? *Applied Linguistics*,15(2):115-138.
- STREET, BV. 2001. Introduction. In Street, BV (Eds), *Literacy and development: ethnographic perspectives*.London: Routledge.1-18.

VAN DIJK, TA. 1997. Discourse as interaction in society. In Van Dijk, TA (Ed.), *Discourse as social interaction*. London: Sage Publications.

WIDDECOMBE, S. 1998. Identity as an analysis and a participant's resource. Om Antaki, C & S Widdecombe (Eds), *Identities in talk*. London: Sage. 191-206.

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