Language Proficiency and First year University Achievement: A case Study at the University of Dar es Salaam

Sarah North, Lecturer
Communication Skills Unit,
University of Dar es Salaam

Utafiti Vol. VII No. 2, 1985, Journal of the Faculty of Arts and Social Sciences, University of Dar es Salaam.

1. Introduction

The University of Dar es Salaam, like tertiary institutions in many other African countries, uses English as the medium of instruction, thus requiring students to learn through what is at best a second language, and for some a third or even fourth language. This situation makes great demands on a student's language proficiency, not only in terms of the command of general English, but also the ability to apply it in the exercise of such sophisticated skills as lecture comprehension, notetaking, writing academic essays and reading advanced textbooks in specialist subjects. For lower levels of education, there is considerable evidence of the close relationship between language ability and intellectual development.[2] If such a relationship holds also for tertiary education, then a student's command of English and ability to use it effectively as a tool for academic study may be a crucial factor contributing to his success at the university.

As yet there is, however, no conclusive evidence that language ability does greatly affect performance at university. Various studies have looked at the association between language test scores and academic results. Research in the United States on the predictive validity of language tests for overseas students[3] generally reveals that although there are correlations with academic grades, the relationship is relatively weak.[4] Success does not appear to be dependent on language proficiency. Similarly, a survey of students receiving American aid grants[5] showed that English language tests were not in themselves a satisfactory predictor of academic achievement, although they did correlate significantly with performance, particularly if the quantity as well as the quality of work was considered. In Britain, A. Sen (1970) investigated the academic results of 2300 overseas students who had taken the EPTB (Davies) Test, and found the correlation so low that it 'seems to indicate that the extent of the use and familiarity with the English language has little relevance to final performance.'

In all these studies, the results have been reported in correlational terms, thus indicating the strength of association through the whole range of language ability. It has been suggested, however, that such an approach is inappropriate, and that for practical purposes, it is more important for a test to distinguish between students whose language proficiency is adequate and inadequate for their studies.[7] Using banding criteria of this kind, E. Ingram (1973) and K. James (1980) have claimed success in identifying students 'at risk' of failure through linguistic deficiencies.[8]

From the research reported above, it appears that although language plays some part in determining the success of an overseas student, it is not a crucial factor. However, the findings of A. Davies (1967), obtained at different institutions in Britain and elsewhere, indicate that the association between

language ability and academic performance may show great variation from place to place.' These results should alert us to the danger of overgeneralisation. It is highly likely that the relationship is not consistent, but differs according to the circumstances of the particular educational situation. Thus results obtained under one set of circumstances cannot be assumed to apply under another set of circumstances.

The studies mentioned above primarily concerned overseas students in English speaking countries, and we may therefore question their applicability to English medium institutions in other parts of the world, since the situation will vary in several important respects. Firstly, students in a foreign country will face very different problems of social and cultural adjustment which may affect their performance. Moreover, the selection process is likely to ensure that such 'overseas' students are not representative of the student population in their home country, and language ability may be one important point difference. Finally, the composition of staff and student bodies 'at home' and 'overseas' will differ considerably, so that there will be great variation in the attitudes and expectations of lecturers towards their students, with consequent effect upon teaching styles and criteria for evaluation. These differences will probably affect the extent to which language proficiency is a significant variable for 'home' and 'overseas' students; and therefore make it necessary for each country to assess the importance of the language factor in its own educational institutions.

Data from non-English speaking countries shows a more consistent relationship between language test scores and academic results. A. Heron (1970) found that mid first year grades at the University of Zambia were strongly correlated with English proficiency in the Humanities and Social Sciences, but not in the Natural Sciences (with the exception of mathematics).[10] At Haile Selassie I University, English language tests were found to be the best predictors of first year grades, while most other educational and social factors failed to show any significant correlation.[11] Similar results have been obtained at the University of Khartoum, where School Certificate English and the preliminary year examination in English correlated most highly with examination results in academic subjects.[12]

Unlike the research on overseas students in English speaking countries, these studies indicate a clear association between language ability and academic achievement, at least in the first year of university. Such a relationship has not, however, been demonstrated at the university of Dar es Salaam. In 1967, E.L. Klingelhofer conducted a survey of first year students involving a language-free intelligence test and a questionnaire. He found that neither the intelligence test nor Higher School Certificate results were accurate predictors of examination performance, and concluded that:

> *achievement in the University College is Probably more importantly a Function of Proficiency in English than any other single factor*[13]

This claim, however, was not based on empirical evidence, and later attempts to corroborate it failed to establish such a relationship.

In 1969, W.H. Whiteley tested all first year education students in listening skills and comprehension in English, and conducted a survey of their linguistic and educational background. This study was not reported because the results were entirely negative. The findings, briefly given in K. Anderson (1975),[14] were that first year final results showed no correlation with the language tests, with

attitudes to English, with self--assessment of language skills, or with School Certificate English (written paper). Anderson took a different approach, investigating features of students' written work in relation to their first year results. Again the findings were largely negative; the only significant correlation was that students who wrote with greater grammatical simplicity tended to perform better.

These findings are surprising in view of the positive results obtained in Zambia,[15] Ethiopia,[16] and the Sudan.[17] One problem may have been the failure to control for different subject combinations contributing to the overall first year results for different students. J.A. Upshur (1967) has shown that prediction by language proficiency tests may vary from one academic course to another,[18] and the results of Heron support this observation.[19] If a final academic result is derived from different course combinations for the individuals in the sample, then these variations may obscure the relationship between language ability and academic achievement in each course.

In discussing the more positive results of earlier studies, Anderson himself suggests that they may have been affected by the test format used, claiming that:

> *an English test will predict the results of another test in English if it is similar in form when the individual's language performance ..... is measured in a way which is not related to the examinations or tests used to measure educational achievement then the results will be inconclusive*[20]

Although his study avoided the possible distortions caused by similarity in test format, this was achieved by concentrating exclusively on writing. Since details of Whiteley's tests in listening and comprehension have not been given, it is impossible to determine the reasons for the failure to find a significant association between language proficiency and academic performance at the University of Dar es Salaam. However, in view of the general belief that such an association does exist, and the consequent concern about the language standards of University students,[21] it is appropriate to look again at the effect of language factors on students' academic achievement.

2. Method

This study investigates the extent to which language proficiency is related to academic performance among first year students of medicine and dentistry. The advantage of limiting the scope of the research in this way is that these students follow the same courses and are assessed by the same criteria, thus avoiding the problem of comparing non-equivalent results. Excluding those students who left the university during the first two terms, the sample of 57 students comprises 78% of the total first year intake in the two courses. (The remaining 16 students missed one or both of the language tests due to late arrival, and thus could not be included in the sample).

Academic achievement is measured by the mid-year coursework results (CWA), which are based on tests in anatomy, biochemistry, physiology and behavioural science, administered at regular intervals throughout the first two terms of study. For each course, an average score is given outof 100, and these scores were averagedtoprovide an overall measure of performance. The use of coursework tests as the criterion has the advantage that, since they consist almost entirely of multiple-choice items, they require, in themselves, less

linguistic ability than most other forms of assessment. In an essay, for example, it is often difficult to determine whether a student has done badly because of poor expression, or because of inadequate understanding of the subject.[22] In a multiple-choice test, however, poor performance is more clearly related to inadequate knowledge. Thus a correlation with language ability is unlikely to indicate merely skill in 'test-taking in English', and may provide evidence that linguistic deficiencies contribute to difficulties in actual learning, rather than just expressing what has been learnt.

Coursework results were compared with scores in two language tests, both administered in the first week of term 1. The University Screening Test (UST) is a test of English grammar, designed to reflect the student's ability to use the grammatical system in academic discourse, rather than theoretical knowledge of the language. This test is applied throughout the university, and is not oriented towards any particular discipline. The Study Skills Proficiency Test (SSPT), on the other hand, is designed specifically for the Faculty of Medicine, and measures the student's skill in visualising written information, taking notes from an aural input, reading comprehension and writing, as applied to specialist subject matter. Both these language tests differ substantially in format from the coursework tests (and from each other), thus eliminating the possible effects of test similarity mentioned in the previous section. To provide an overall measure of language ability, UST and SSPT scores, each of which is given as a percentage, were standardised and summed to produce a total score out of 200, indicated below as LA(language ability).

The study also considers the influence of type of entry (mature or direct), and the Form VI results offered as qualifications for entry. Most students had offered biology, chemistry and physics at Principal Level in the Form VI examinations, and mathematics at Subsidiary Level. A score was allotted to each letter grade as follows: A—6, B—5, C—4 D—3, E—2, S—1, F—0, and the total (out of a theoretical maximum of 19) was recorded for each student.

Means and standard deviations of the main variables are shown in Table 1 below. It should be noted that these figures are not directly comparable, as the rating scales differ.

Table 1: Means and standard deviations for the 5 main variables

	CWA	UST	SSPT	LA	VI
Mean:	56.1	71.7	51.5	99.5	8.5
SD:	8.0	13.7	13.6	18.1	4.6

Correlations were studied between these five main variables, and the component parts of CWA (coursework results in each subject), SSPT (scores on each section of the Study Skills Proficiency Test), and VI (grades in each subject at Form VI). The results of this analysis are presented in the following section.

3. RESULTS

A correlation matrix for coursework results (CWA), language test scores (UST, SSPT and LA) and Form VI results (VI) is given in Table 2 below.

Table 2: Correlation matrix for the 5 main variables (n = 57)

	CWA	UST	SSPT	LA	VI
VI	.304*	.252	.258	.286*	—
LA	.669**	.902**	.901**	—	.286*
SSPT	.622**	.626**	—	.901**	.258
UST	.578**	—	.626**	.902**	.252
CWA	—	.578**	.622**	.669**	.304*

* Significant at 5% level **significant at 1% level

These results indicate that all three language measures are strongly related to mid-first year coursework results in medicine and dentistry, with less than 1% probability that this association has occurred by chance. Form VI results showed only a low correlation with coursework, though this was still significant at 5% level. The language tests correlated highly with each other, but not with results in Form VI, suggesting either that performance in Form VI examinations is not related to language ability, or possibly that changes in language proficiency have obscured such a relationship by the time a student enters university. Despite the direct relevance of subjects taken at Form VI to first year courses in medicine and dentistry, it appears that these examinations are poor predictors of academic success, and language proficiency is a more important factor.

Form VI results

Further investigation of Form VI performance involved correlation of the scores in individual subjects. The results, presented in Table 3, indicate that Form VI physics was the best predictor of mid-first year achievement, followed by chemistry. The correlations, however, remained below the level obtained for language proficiency.

Surprisingly, there was no significant correlation with Form VI biology Mathematics, however, correlates with scores in biochemistry, which was in general the subject for which Form VI results were the best predictor. In every other subject, language ability proved to predict success more accurately than Form VI results.

Mature and direct entrants show considerable variation in the qualifications offered at entry, and this may have affected the results discussed

Table 3: Correlation matrix for Form VI results (n = 57)

	CWA	physiology	Anatomy	Biochem.	Beh. Sc.
VI	.304*	.086	.302*	.573**	.117
Biology	.062	.027	.084	.154	-.059
Chemistry	.271*	.061	.281*	.504**	.147
Physics	.352**	.130	.355**	.584**	.141
Maths	.040	-.125	.053	.302**	-.047
LA	.669**	.413**	.610**	.572**	.589**

* significant at 5% level ** significant at 1% level

above. To check for such an effect, correlations were also calculated for each group of students separately. It was found that Form VI results were a more accurate predictor of success with direct entrants, correlating at the 5% level of significance. In contrast, there was no significant correlation for mature entrants. Since some mature entrants do not offer Form VI qualifications, results at Form IV were also considered in these cases. Again, the correlation with coursework performance was not significant; in fact the figure obtained was negative. As the mature entry scheme is designed to free university admissions policy from dependence on examination results, this lack of association is to be expected.

Type of entry

In view of the concern about the academic performance of mature entrants in the Faculty of Medicine,[23] it seems appropriate to consider the relative achievement of both groups of students. Coursework results were in general lower for mature than for direct entrants, but the correlation between type of entry and coursework was .269, which only just reaches 5% significance level. However, mature entrants also scored lower on the language tests, so at least part of the variance may be attributed to language proficiency. To check for this relationship, the t-test was used to measure whether the difference between the two groups was significant, when the language factor was controlled. The average CWA scores are shown in Figure 1 below, according to whether students passed or failed the SSPT.[24]

It will be seen that for both types of entry, there was a consistent relationship between language ability and coursework results. The difference was significant at the 1% level for direct entrants ($t = 2.83$, 14 df), and at the 5% level for mature entrants ($t = 4.31$, 39 df). Although direct entry students performed better than mature entrants at both levels of language proficiency, the difference was not significant either for those who passed SSPT ($t = 1.3$, 30 df) or for those who failed ($t = 1.0$, 23 df). In short, the lower results of mature entrants compared to direct entrants seem to be largely a function of

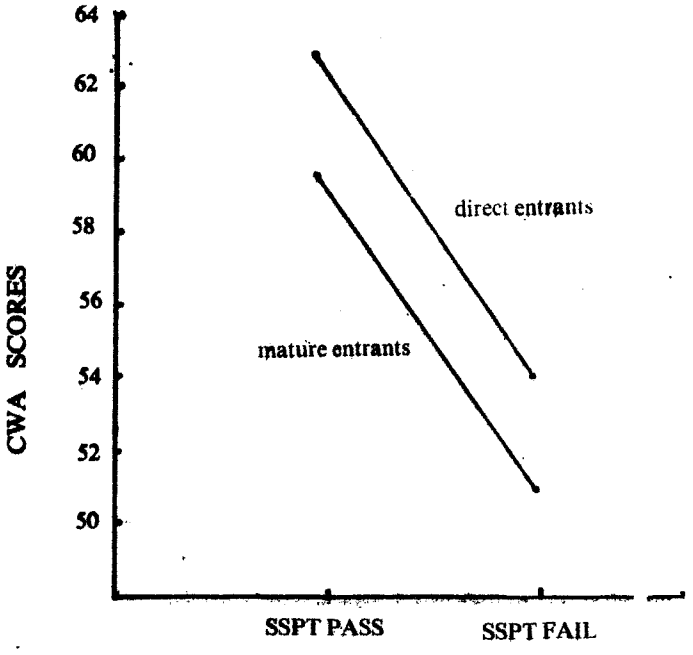


Fig. 1: The relationship between CWA results, type of entry, and SSPT *scores*

their language ability. The explanation may be that mature entrants have generally spent some time away from an English speaking environment, and in particular, have not been required to use their language skills for academic study. It is therefore likely that both their linguistic competence and their study skills in English have declined in the period between leaving school and entering the University.

Language

Both language tests were strongly associated with coursework results, and when combined, showed a correlation of .669, which is well above the 1% level of significance. Language ability appears, therefore, to be a fairly accurate predictor of academic success in first year studies. This relationship is illustrated in Figure 2, in which language and coursework scores are plotted against each other.

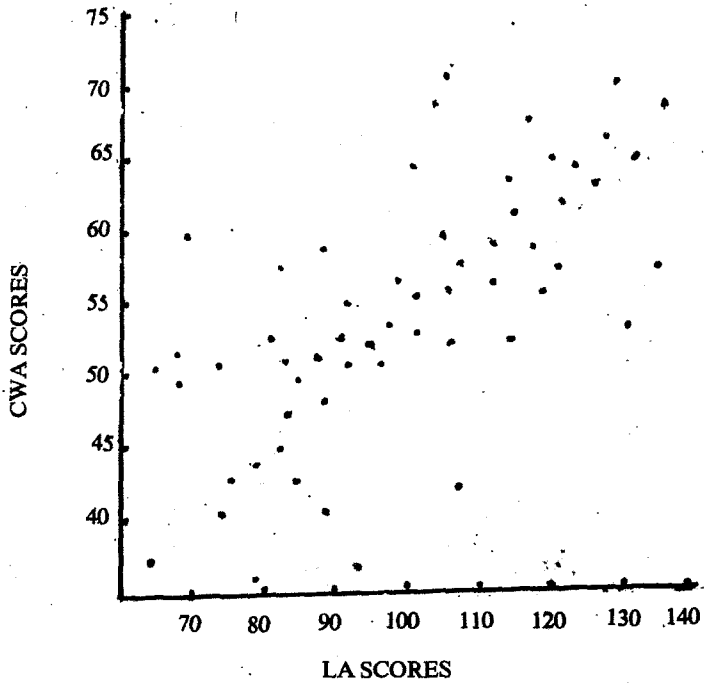


Fig. 2: The relationship between coursework results (CWA) and scores of the language tests (LA)

In addition, the language tests clearly serve the purpose for which they were designed, in successfully identifying students 'at risk'. If we compare those scoring above and below half marks on the tests, we find that only 3% of the first group had a failing average in coursework, whereas for the second group, the corresponding proportion was 32%.

As would be expected, the Study Skills Proficiency Test, which is directly related to the communicative demands of courses in the Faculty of Medicine, is a more accurate predictor of achievement than the University Screening Test, which measures grammatical ability in general academic English. Of the various components of the SSPT, reading comprehension (section C) was most highly related to coursework results, followed by notetaking from an aural input (section B) and paragraph writing (section D). Section A, on the visualisation of written information, had relatively low correlation with CWA, and with the other measures of language proficiency.

Table 4 below shows the correlations of the different components of the language tests. This data indicates that the SSPT correlates highly within itself and with the UST, supporting the assumption that these tests do in fact measure the same thing, namely overall language ability in English. The only exception is section A, which is not significantly correlated with scores on

either SSPT or UST. It appears that this section may have involved a visual skill not highly associated with language ability.

Table 4

Table 4: Correlation matrix for components of the language tests (n = 57)

	UST	*SSPT*	*A*	*B*	*C*	*D*
CWA	.578**	.622**	.373**	.463**	.544**	.455**
UST		.626**	.199	.495**	.570**	.527**
SSPT	.626**	—	.530**	.844**	.735**	.785**
A	.199	.530**	—	.208	.303*	.304*
B	.495**	.844**	.208	—	.400**	.634**
C	.570**	.735**	.303*	.400**	—	.454**
D	527**	.785**	.304*	.634**	.454**	—

*significant at 5% level **significant at 1% level

Considering the results for each academic course separately, we find that in anatomy, biochemistry and behavioural science, sections B, C and D of the SSPT were strongly correlated with coursework performance, while the correlation for section A was considerably lower. For physiology, however, the pattern was reversed, and section A was the most accurate predictor of performance. Physiology also showed the lowest correlation with the language tests, suggesting that it may be less dependent on language ability than the other courses. It should be stressed that language was a highly significant variable in the coursework results for all subjects, but nevertheless this variation indicates that its importance may differ from course to course.

4. DISCUSSION

The results of this study indicate that language ability is a good predictor of success in first year studies of medicine and dentistry, as measured by mid-year coursework results. The tests of grammatical ability and study skills in English each correlated with CWA at the 1% level of significance. By contrast, the association between CWA and Form VI results, in subjects closely related to the first year syllabus, was relatively weak, and in the case of mature students, not statistically significant. These findings lend some support to Klingelhofer's suggestion that English proficiency may be the most important factor in academic achievement at the University of Dar es Salaam.[25]

We would not, of course, expect to find that academic achievement is wholly predicted by language ability; if this were so, no native-speaking student would ever fail at university. Clearly other factors must play a part,

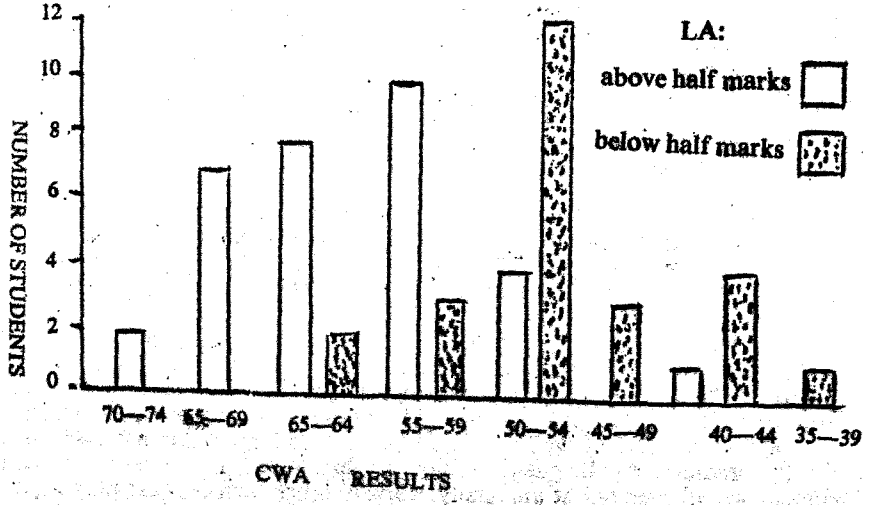
and a more extensive study would need to consider the contribution of variables such as motivation and reasoning ability. In addition, it would be desirable to investigate the role of basic scientific knowledge; it seems unlikely that its importance is as low as suggested by the findings on Form VI examinations, which are perhaps not a valid measure of students' subject knowledge at the time of university entry. Allowing for the effect of other factors, it nonetheless appears that language proficiency is a highly important factor in university success.

The purpose of the language tests described here is to identify students 'at risk' of failure due to linguistic deficiencies. This purpose itself presupposes that there is a 'threshold level' — a minimum standard of English proficiency necessary for satisfactory academic performance. We would not necessarily expect that every student whose language ability is above this threshold level will perform well in his studies, since other factors will also play their part. Similarly, a student with a weak command of the English language may be able to compensate by, for example, putting in more work than his fellow students. However, we would expect that students who show weaknesses in language proficiency will have a far greater failure rate than those whose language ability is adequate.

This hypothesis is supported by the results of the present study. As Figure 3 shows, students who obtained less than half marks on language ability (LA) were far more likely to perform poorly in their coursework.

Figure 3

Fig. 3: Relative performance on CWA for those scoring above and below half marks on LA



It would be rash, however, to try to draw any firm conclusions from this data as to the precise score corresponding to the 'threshold level' required for satisfactory academic study. Firstly, the scope of the investigation is too small; research is needed on a larger sample of students over a longer period of time, and this work is still in progress. Secondly, the language tests are used as a basis for recommending students to follow courses designed to improve their English proficiency, and we would need to consider the effect of this additional teaching on academic performance. Although it is too early to assess the impact of these courses on students in this sample, the data available does suggest that those who participated tended to do better in the coursework tests. Finally, it is premature to identify a student as successful or unsuccessful on the basis of mid-first year results alone, since those whose initial performance is relatively weak may in time catch up with their fellow students. Ingram has noted that the relationship between language proficiency and academic results is more marked in first year examinations than in finals.[26] This is partly explained by the fact that some of the weaker student drop out without completing their studies, but another factor is that during their course of study, students with a poor command of English on entry may improve sufficiently to perform well at a later stage.[27] For these reasons, it is not possible to state categorically that a specific language score represents the minimum requirement for academic success. We can only say that below a certain level, linguistic weaknesses may seriously jeopardise a student's chance of satisfactory performance in his studies.

In practice, academic success depends upon the ability both to learn relevant skills and information, and to demonstrate adequate learning through the forms of assessment which apply in a given course of study. If students are assessed in a way which makes great demands on their language skills, this may be reflected in a close correlation between academic results and scores on a language test. As noted in section 2, the criterion for academic performance used in this study was a series of multiple-choice tests, and it seems likely that in the testing situation itself, language ability is less crucial than, for example, in an essay-type examination. Nonetheless, poor performance in coursework may be partly attributable to the effects of being tested in a foreign language. In a study of Spanish-speaking students, D.L. Alderman (1981) found that a minimum language score was needed before an academic aptitude test given in English reflected the student's true ability as measured by a similar aptitude test given in Spanish, and concludes that this is because:

> ***foreign examinees with a poor command of the English language... may lack the language skills necessary for demonstrating their ability.*** [28]

It would be interesting to investigate whether this effect is found in tests and examinations of the University of Dar es Salaam. If, for example, students with low scores on UST performed better on coursework tests conducted in Kiswahili than on similar tests conducted in English, this would indicate how far the fact of being ***tested*** through the medium of English obscured their true academic attainment. On the other hand, if they performed poorly in both tests, this would suggest that their difficulties were more closely related to ***learning*** through the medium of English.[29]

In the present study, testing effects were minimised not only by the use of multiple-choice coursework tests, but also by the considerable differences in format between coursework and language tests. The findings clearly

contradict Anderson's claim that in such a case, evidence for the association between language performance and academic achievement will be inconclusive.[30] On the contrary, the strength of the correlations obtained makes it unlikely that they show the effect of language in the testing situation alone. More probably, achievement in coursework has been also affected by the students' ability to use English effectively in the process of learning.

In the learning process, the receptive language skills of reading and listening would appear to be of more importance than the productive skills of speaking and writing. Although a student's language ability is most evident to lecturers through his speech and writing, the less observable receptive skills account for a much greater proportion of his study time, and constitute the major learning activities.[31] Some support for this order of priority is provided by the results of the SSPT, in which reading comprehension proved to be the best predictor of academic success, followed by notetaking from an aural input (involving a large element of listening comprehension), and paragraph writing. Although differences in predictive validity between these skills were not great, it would clearly be unwise to focus on writing as requiring particular attention. A course in study skills in English should rather emphasise reading and listening comprehension.

Results obtained in the Faculty of Medicine should not be assumed to apply equally to all faculties. The overall importance of the language factor in both testing and learning situations may be greater or smaller, the 'threshold level' may be higher or lower, and the relative weighting of language skills may also vary. As Upshur has shown, the prediction of academic success from language ability differs according to the teaching situation and the type of language to be comprehended.[32] In general, the highest correlations were found when the language used was relatively unrestricted expository prose, with literary language showing lower correlations, and specialised expository prose least of all. Laboratory courses showed lower correlations than seminar or lecture courses. The situation in the Faculty of Medicine lies towards the lower end of this scale, since it involves mainly laboratory and lecture work, using specialised expository language. Thus, if the pattern described above holds true, we might expect to find an even stronger association between language proficiency and academic achievement in, for example, the Faculties of Arts and Social Sciences, and Commerce and Management.

A second source of variation between faculties is the nature of the student body, as determined by university selection procedures. D. Douglas (1977) draws attention to differences in the predictive validity of School Certificate English among the various faculties of the University of Khartoum, and warns that they do not necessarily indicate that English proficiency is less important in one faculty than another, but rather reflect differences in admissions policies.[33] If students are selected in such a way that their range of language ability is relatively restricted (if, for example, they are better than average), then naturally this feature will be less significant in differentiating between them than it would be when the range is less restricted.[34] Analysis of UST results throughout the University of Dar es Salaam suggests that language ability does vary from faculty to faculty, and this may consequently affect the correlation between language ability and academic performance.

Although further investigation may reveal varying language requirements in different faculties, it seems likely that English proficiency is a significant factor in academic achievement throughout the university, and research currently in progress on the validation of the UST does indicate an association

in all faculties between language ability and academic performance. Indeed, the results of this study merely provide support for the already widely held view that linguistic weaknesses contribute to underachievement at the University. As the preceding discussion has suggested, however, English proficiency should be seen as a factor relating not only to the student's ability to express himself in essays and other assessable work, but to the whole range of communicative demands imposed by tertiary study. Poor performance may be determined less by the ability to meet the specific linguistic requirements of essays, projects, tests and examinations, than by the student's overall ability to ***learn*** through the medium of English.

5. CONCLUSION

The language factor in university education is inextricably bound up with the whole education system, and in a multilingual society such as Tanzania, the situation is complex. An indication of the far-reaching issues involved is given in Macmillan's discussion of a similar state of affairs in the Sudan,[35] and a recent collection of papers from the University of Dar es Salaam.[36]

In the post-independence period, attention has rightly been given to the development of Swahili as the national language, which is gradually taking over many of the previous functions of English, including most educational functions. Though it will eventually become the medium of instruction at the University, English will undoubtedly retain a role as a means of access to internationally disseminated information, as in many other countries, both developed and developing. In particular, if the University is to maintain its academic standards, students will continue to need a high level of proficiency in reading in English.

Whatever happens in future, however, the needs of the present generation of students cannot be ignored. If English proficiency is as crucial a factor in academic success as this study suggests, then continuing attention must be paid to alleviating the problem of language deficiencies at the University. One approach is to raise the standard of English in secondary schools, and in a speech in 1982 to secondary school headmasters,[37] the Minister for Education called for greater emphasis on English at school, reaffirming its role as a tool for learning. A second possibility would be to change the university entrance requirements to include a minimum qualification in English. It is doubtful, however, whether this is a feasible step. The only available qualification is the Form IV examination in English, and as Macmillan points out,[38] it is not certain that such examinations are reliable, nor that they measure the skills relevant to university study. A third approach, and one currently followed at the University of Dar es Salaam, is to deal with the problem 'in situ', by providing remedial courses for students with basic weaknesses in the English language, and functional courses to develop relevant study skills in English.

Every student who fails to complete his university education represents a waste of national resources, and when failure is due primarily to linguistic rather than intellectual deficiencies, a waste also of individual talents badly needed in the national development of high level manpower. For this reason, development of the language skills required for academic study should be seen as an important part of the university curriculum, contributing to the successful training of specialists in all disciplines.

NOTES

1. I should like to thank the staff of the Computer Centre, University of Dar es Salaam for their assistance with the statistical calculations, and Prof. P.M. Rea for valuable comments on the first draft of this paper.
2. See, for example, J.W. Oller, "The language factor in evaluation of bilingual education". In J.E. Alatis (Ed.), *International Dimensions of Bilingual Education,* Georgetown University Round Table on Languages and Linguistics. Washington: Georgetown University Press, 1978.
3. These tests include the Test of English as a Foreign Language (TOEFL), the Test of English as a Second Language (ALI/GU), and the Michigan Test of English Language Proficiency.
4. B. Spolsky, "Do they know enough English? Some notes on the problems of assessing the proficiency in English of foreign students". In NAFSA, *selected Conference Papers of the Association of English as a Second Language.* New York: National Association for Foreign Students' Affairs, 1967.
5. AACRAO, *The AACRAO-Aid Participant Selection and Placement Study.* Washington: American Association of Collegiate Registrars and Admissions Officers, 1971.
6. A. Sen, *Problems of Overseas Students and Nurses.* London: National Foundation for Educational Research, 1970.
7. A. Moller, "A case for a crude test overseas". In A.P. Cowie and J.b. Heaton (Eds) *English for Academic Purposes: Papers on the language problems of overseas students in Higher Education in the U.K.* Reading: BAAL/SELMOUS, 1977.
8. E. Ingram, "English standards of foreign students". *University of Edinburgh Bulletin,* Vol. 9, No. 12, May 1973: 4—5.
   K. James, "Survey of University of Manchester overseas post-graduate students' initial level of competence in English and their subsequent academic performance: calendar year 1977". In the British Council, *ELT Document 109 - Study Modes and Academic Development of Overseas Students.* London: the British Council, 1980.
9. A. Davies, "The English proficiency of overseas students". *British Journal of Educational Psychology,* Vol. XXXVII, part 2, June 1967: 165-174.
10. A. Heron, "The relative importance of reasoning ability and of English vocabulary and comprehension in first year university achievement by Zambian students". In T.P. Gorman (Ed.), *Language in Education in Eastern Africa.* Nairobi: Oxford University Press, 1970.
11. M. King and J. King, "Some correlates of university performance in a developing country: the case of Ethiopia". *Journal of Cross-Cultural Psychology,* Vol. 2, No. 3, September 1971: 293-300.
12. D. Douglas, *From School to University: The Study Habits Research Project Final Report.* Khartoum: Khartoum University Press, 1977.
13. E.L. Klingelhofer, *Studies of Tanzanian Students.* Dar es Salaam University College, 1967 (mimeo): 2-34.
14. R. Anderson, "The language factor in educational performance at university level". *Journal of the Language Association of Eastern Africa,* Vol. 3, No. 2, 1975: 138-163.
15. Heron (1970), op. cit.
16. King and King (1971), op. cit.
17. Douglas (1977), op. cit.
18. J.A. Upshur, "English language tests and prediction of academic success". In NAFSA (1967), op. cit.
19. Heron (1970), op. cit.
20. Anderson (1975), op. cit.
21. This issue is reviewed in P.M. Rea, "The Communication Skills Unit: 1978-1980". In *Language for Education,* Vol. 1, University of Dar es Salaam, CSU, 1980.

22. Some problems associated with the interpretation of student essays are discussed in G. Taylor, "Error analysis: three types of high level language error". In *Language for Education,* vol. 2, University of Dar es Salaam, CSU, 1983.
23. Faculty Board Paper FBP 5.2b, Faculty of Medicine, University of Dar es Salaam, 1982.
24. SSPT scores alone are used in Figure 1. Since the purpose of the UST is to screen incoming students for *serious* grammatical problems, the majority of students score highly, and the resulting distribution of 'passes' and 'fails' makes it inappropriate for calculating a difference in means on this sample.
25. Klingelhofer (1967), op. cit.
26. Ingram (1973), op. cit.
27. In this connection, it is worth noting that while mature entrants in the Faculty of Medicine have a higher failure rate than direct entrants in the first year, this gap has disappeared by the final year (Faculty Board Paper EXFBP 1/11/82, Faculty of Medicine, University of Dar es Salaam, 1982). If, as suggested in section 3, the performance of mature entrants is affected by their lower level of language proficiency, then this improvement relative to direct entrants may similarly reflect an increase in language proficiency during their course of study.
28. D.L. Alderman, *Language Proficiency as a Moderator Variable in Testing Academic Aptitude,* TOEFL Research Report 10. Princeton: Educational Testing Service, 1981: 16.
29. Such an experiment would need to be designed to control for the fact that Swahili is itself a second language to many students.
30. Anderson (1975), op. cit.
31. In a survey at San Diego State University, instructors were asked to rank the language skills most needed in their courses. Reading and listening were placed well above the productive skills, with writing ranked third, and speaking lagging far behind (A.M. Johns, "Necessary English: A faculty survey". *TESOL Quarterly,* Vol. 15, No. 1, March 1981: 51-57)
32. Upshur (1967), op. cit.
33. Douglas (1977), op. cit.
34. J.P. Guilford and B. Fruchter, *Fundamental Statistics in Psychology and Education,* 6th edition. Tokyo: McGraw-Hill Kogakusha 1978: 325-327.
35. M. Macmillan, "Aspects of bilingualism in university education in Sudan". In Gorman (1970), op. cit.
36. H.R. Trappes-Lomax, R.M. Besha and Y.Y. Mcha (Eds), *Changing Language Media.* University of Dar es Salaam, 1982.
37. Reported in *Daily News,* Tanzania, 11th October, 1982.
38. Macmillan (1970), op. cit.