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CLOSING THE GAP

By St. J. B. NITCH

ONE of the tasks with which High Schools are concerned is the preparation of candidates for the examination which will admit them to a university. The high rate of failure of first year students at university arouses frequent criticism of the product of our Transvaal High Schools and complaints that academic standards in the schools are falling.

If then the failure rate at the University is excessive, is the University expecting too much from school leavers, or is the school examination inadequate?

In the first place it must be realised that the intake to the university from high schools in South Africa is relatively high. In the article by Professor Gourlay and Mr. Tunmer, "The Matriculation Certificate and Performance at University", in last year's *Symposium*, comparative figures were given for England and Wales on the one hand and South Africa on the other for the year 1957-1958. Of the normal age group 3.8% entered a university in England and Wales, whereas in South Africa it was 14.5%—almost four times as many.

In the Transvaal over the past fifteen years the number of pupils entering for the examination at Standard X has risen steeply. In 1945 there were 2,579; by 1960 this had risen to 7,829. The average increase per annum from 1945 to 1950 was 47; from 1950 to 1955 this jumped to 349 and from 1955 to 1960 to 663. The year 1960 was the last in which all the candidates wrote the same examination, matriculation exemption being granted to those who conformed to the requirements laid down by the Joint Matriculation Board.

In the last six of these years the number qualifying for matriculation exemption, and the percentage this represented of total candidates, was as under—

Year	Matriculation Exemption	% of Total Candidates
1955	2,702	59.9
1956	2,931	57.2
1957	3,278	58.3
1958	3,506	57.3
1959	3,793	56.4
1960	3,837	49.0

In view of the large increase in the total number of candidates, many of whom were not potential university material, the variation in percentage up to 1959 would not appear to be unduly significant. The sharp drop in 1960 was due to the fact that in this year the Joint Matriculation Board raised the aggregate mark required to obtain matriculation exemption.

The Gourlay-Tunmer article further showed that the university failure rate at all stages in England and Wales amounted to approximately 15%, whereas in South Africa it was approximately 50%—slightly over three times as high.

There would seem to be several reasons which may account for this difference.

Transvaal pupils write the examination at an average age of about 17½, though the more intelligent ones, who intellectually are likely to prove the best university material will, in many cases, be six months or more below this. Compared with students entering the universities in England and Wales our students are a year or eighteen months younger, and the overseas student has had that much longer at school where his time has been spent in a Sixth Form doing post basic matriculation work and a certain amount of specialisation. The overseas student has therefore the advantage not only of more time to study in preparation for the university, but he arrives there more mature and better able to grapple with the greater demands of university study. Compared with our pupils they leave school having already done a good deal of what would be found in the first year of our University courses.

Secondly, there is little, if any, sorting out after pupils have passed the matriculation examination. Unlike England, South African universities do not require students to write a further special entrance examination, there is no regular practice of interviewing them prior to acceptance, and seldom are schools asked for any specific report on their suitability either for university study or the course for which they apply. Selection only occurs in those faculties where numbers have to be limited owing to restricted accommodation.

Thirdly, as long as the white population of 3,000,000 is expected to provide almost the entire professional, technical and administrative personnel

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for a population of 15,000,000, the attempt has to be made to train as many as possible for these fields, a task which would be formidable enough even if the whole of the 3,000,000 consisted of an intellectual élite.

Almost every country has become increasingly aware of the importance of education for all aspects of its development. In a report prepared by a Special Studies Project of the Rockefeller Brothers' Fund in 1958 it was stated "One still hears arguments about 'Quantity' versus 'Quality' education. Behind such arguments is the assumption that a society can choose to educate a few people exceedingly well, OR a great number of people less well—that it cannot do both. A society such as ours has no choice but to do both well; it calls for the maximum development of individual potentialities at all levels."

True though this may be, it is open to question whether this task must necessarily be laid entirely upon the university. The university cannot be expected to lower the standard of its degree if the standing of its graduates is to be comparable with that of other countries of the western world. That so many South Africans have distinguished themselves in the academic and scientific fields and at universities overseas is proof that the South African universities are jealously maintaining their degree standards. Any cheapening of degrees to create the impression that we have an exceptionally high proportion of graduates would not only be a fatal act of self-deception but be bound eventually to discredit the South African degrees.

Shortage of staff at the university imposes, however, a heavy burden on professors and lecturers in dealing with the increasing number of students demanding admission, a number which the failure rate shows is twice that which can successfully complete the course. It has therefore been contended that much time and man power could be put to better use if the university exercised greater selection in admissions either by some special university entrance examination or other form of screening.

The standard to which the school works is determined partly by external and partly by internal influences. The chief external influence is that of the Joint Matriculation Board which lays down the grouping of subjects and percentage of marks required to qualify for matriculation exemption. In addition, it moderates the question papers and reviews the marking of the examiners appointed by the various examining bodies. A further external influence is the syllabus for each subject prescribed by the Education Department. The internal influence is the experience and academic background of the teaching staff.

The failure rate at the university is therefore largely, though not entirely, due to the extent of the gap between the examination standard and the university first year requirements. There has been an awareness of this gap for a number of years and various proposals for closing it have been or are being made and in some cases have been adopted.

One of these proposals was to introduce a "freshman's year" at the university. This was to have the two-fold object of acclimatising the student coming straight from school and of assisting in deciding whether his chosen course was the right one. For various reasons this has not been adopted. In university circles, however, there is a body of opinion that the period to complete degree courses should be lengthened by one year.

In the schools the standard to which teachers work is generally limited to that which is necessary to meet the requirements of the examination, i.e. the governing factor is an external influence. Although there is nothing to prevent a teacher from doing work in advance of this and going beyond the prescribed syllabus, he is faced with a number of difficulties if he wishes to do so. He is limited by the time allotted to his subject in the time table. There is the pragmatic attitude of many pupils today who regard any departure from the letter of the syllabus as quite unnecessary. Pupils are not all of equal potential ability, nor are they probably all equally interested in the particular subject to wish to do more than the minimum required. Since success in the examination may well be vital for the pupil's future a considerable part of the teacher's time and energy comes to be given to the less advanced group who need greater help. Consequently the examination standard is apt to become the maximum aimed at, whatever may be the teacher's view of the adequacy of this for university work or the wish of the higher intelligence group to do more advanced work.

It appears to have been accepted almost as an axiom in Britain today that in any external examination the standard invariably declines in course of time, and to overcome this it is necessary periodically either to introduce a revised form of the examination or to raise the requirements for passing.

Two steps taken recently in this country seem to bear out the contention that the standard of the external examination, at any rate as far as matriculation is concerned, was in need of revision.

One of these has already been mentioned—the raising of the aggregate mark required for matriculation exemption. The second is the introduction in the Transvaal of a University Entrance Examination as distinct from the ordinary Transvaal Secondary School Certificate Examination. This is a direct consequence of the "streaming" in our High Schools, and is for the "A" stream pupils. It operated for the first time in 1961 and affected results as follows.

(a) Total number of pupils entering for public examinations ("A" and "B" streams) 8,461.

(b) Number writing the University Entrance Examination ("A" stream) 4,462 (52.7%).

(c) Number writing the Transvaal Secondary School Certificate Examination ("B" stream 3,999 (47.3%).

(d) Number of "A" stream who qualified for matriculation exemption 3,513 (78.7% of 4,462) (41% of 8,461).

It is of course too soon to tell whether this new examination will significantly influence the rate of first year university failures, but together with the raising of the aggregate mark the effect in 1961 has been to reduce the total number qualifying for university entrance by 324 over 1960, and to that extent eliminating some of the weaker candidates.

The success of the scheme will depend upon the extent to which it is possible to determine which pupils will write the University Entrance Examination and ensuring that the syllabus in each subject is sufficiently "enriched", advanced and overhauled to bring the standard nearer to that which will make success at the university more probable.

Two other proposals have been the introduction of a post-matriculation class and some method of taking the examination in two stages. Although hitherto the Province has not been prepared to establish post-matriculation classes on lines similar to that of some of the private schools, which would involve adding a year to the high school course, the suggestion has been made that a School Leaving Examination be written in Standard IX, the "A" stream candidates then carrying on in Standard X, at the end of which they would write the University Entrance Examination. This would revive a system something like that of thirty years ago with a Stage I and a Stage II. Although this would enable undivided attention to be given to the "A" stream in the final year, the standard of the School Leaving Certificate is likely to be lowered, which in the light of the needs of the country seems undesirable. Alternatively the whole scheme might be an adaptation of the English G.C.E. with "O" level papers at Standard IX and "A" level papers at Standard X. As such it has possibilities if the necessary adjustments to the present conditions for matriculation can be made and there is not undue specialisation in Standard X.

One of the criticisms levelled against first year university students is that they often do not seem able to work on their own or think for themselves. The urge to obtain good examination results, and the limited teaching time available in school undoubtedly leads to an undue amount of ex cathedra instruction. There is the bitter comment of one teacher that not only did many of the pupils expect to be spoon-fed, but some of them even expected him to pinch their noses so that their mouths could be opened to receive what he was giving them. This was probably an extreme view wrung from him in a moment of particular exasperation, but there are undoubtedly many teachers who feel that they would like to have much greater freedom from the restrictions of the syllabus and the external examination where the fate of candidates may be decided by such things as a too stereotyped or limited interpretation of the syllabus, by the importance that may be given to having used a particular text book or by some idiosyncrasy of the examiner. Their contention is that internal assessment would be a fairer test of ability, would obviate cramming and afford the opportunity of doing something which would really educate pupils.

The arguments for and against external examinations were fully and clearly set out in the 1911 Report of the Consultative Committee on Examinations in Secondary Schools in England. These arguments are still equally valid in 1962. The Committee came to the conclusion that external examinations were not only necessary but desirable. It is significant that almost without exception external examinations have been retained in countries where educational bodies have had to decide on the form of tests to be applied for admission to a university. Accredited schools are found in New Zealand, but even these make use of the external examination in doubtful cases. They were also found in some of the Australian states, but since 1947 all entry to a university in that country has been by public examination. In the U.S.A., where the credit system has been fairly extensively used, there is today a swing away from this to some form of external examination.

The proposal of the Transvaal Education Department to introduce an experimental accrediting scheme is therefore somewhat unexpected, and details of how it is to be implemented will be examined with interest.

Obviously there will have to be machinery for controlling the experiment, but it is to be hoped that the control will not be too rigid, that, having selected the schools for the experiment, sufficient confidence will be placed in them to give them a free hand to get on with it on their own and that it will be given a reasonably lengthy trial.

There are two immediate problems which seem to stand out in applying the scheme. The first is how and where the line is to be drawn between success and failure. The border line case is always a difficulty, and if one is to err on the side of leniency the object of the scheme would be defeated. It would seem therefore that the external examination would have to be retained for border line or doubtful cases.

The second problem is to maintain a standard.

With all its actual and possible defects the external examination does provide an Assize Department for the schools' products. Without it, maintaining a standard will have to rest fairly and squarely on the internal factor mentioned earlier—the experience and academic background of the teaching staff. Even this, without some periodical yardstick to check it, may not be enough. Such a check could be provided by a form of rota in which, after the initial period, a proportion of the accredited schools wrote the external examination each year so that each one would have its standard checked say once in five or six years.

Whatever is done to raise standards in the school or to close the gap between school and university can only be effective in proportion to the quality of the teaching staff. The report of the National Bureau of Social and Educational Research into teacher shortages revealed, however, that there is a serious shortage of qualified teachers. The investigation, which gave data for 1958, covered all the Education Departments and examined the situation under many headings such as qualifications, medium of instruction, extent of academic training of teachers, and the position in various subjects.

The analysis shows, inter alia, that nearly 34% of all high school posts in the Transvaal were filled by teachers who had no university or equivalent training in the subjects which they were teaching. In Mathematics 35.8% of the total teaching strength in this subject had no instruction beyond their own high school training, and 11.8% had only one year university training in Mathematics.

Even allowing for the large increase in enrolment at the Colleges of Education in the past four years, the number in the graduate groups is still inadequate. It was to meet this situation that Junior Secondary Courses have been instituted at the Colleges. Some of those who take these did not obtain matriculation exemption themselves, and though the idea is that they are to be equipped to teach high school subjects up to Standard VIII, the course has no university training, and in practice, owing to the shortage of fully qualified university trained graduates it is more than likely that they will be called upon to teach in Standards IX and X. The anomalous position can thus arise of their having to teach pupils to reach a standard which they themselves were unable to attain.

If our universities are to be supplied with material of the requisite calibre, it is more than ever necessary to ensure that the maintenance of standards in our high schools will be in the hands of men and women with a university background and the full qualifications of a degree in the subjects they teach.

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