

MATRICULATION RESULTS AS A BASIS FOR SELECTION TO A UNIVERSITY

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A Survey of Performance of Students in Terms of Their Matriculation Results in the School of Physical Sciences at La Trobe University.

ONE of the continuing problems faced by universities is that of selection of new students into the different faculties at the commencement of each new academic year. Selection in Australian universities is usually based on the previous academic performance of the students at their final year in high school. Exemptions to this rule include an admission policy based on teacher recommendation such as that practised by A.N.U. and the University of Queensland, and the use of a less formal admission policy for mature age students by many faculties.

The percentage of applicants admitted to an individual university or to a school within a university is dependent on the number of places available and the student demand for those places. Both factors are constantly varying; the number of places available being determined by the rate of expansion of departments or the generation of new departments or universities, all of which is dependent on the economic climate. Student demand appears to be a less predictable factor; in some areas, the demand is constantly high, e.g., in the faculties of medicine, law and architecture, but in other areas the demand may fluctuate considerably over a number of years, depending on the popularity or otherwise of the subject. This has been the lot of most of the science subjects over the last twenty years.

La Trobe, Melbourne and Monash Universities, through the auspices of the Victorian Universities Admissions Committee, a body created to streamline the admission of students to universities in Victoria, implemented during 1967 the recommendations of D. S. Anderson¹ for the formulation of a single Entry Score for each applicant based on the results obtained at the Higher School Certificate (H.S.C.—matriculation) examination. In general form, the score, which has become known as the Anderson Score, was determined by totalling the results of the best three subjects, excluding

English Expression, taken at the H.S.C. examination. A pass in English Expression was also required as a condition for selection to a university but did not necessarily contribute to the overall score. Bonus points were added for extra subjects passed (generally, 10 per cent of the grade for each additional subject in which 40 or more marks were obtained) and deductions were made for repetition of the H.S.C. examination as a whole (10 per cent of the grand total). Prior to 1967, the Victorian universities had independently used a basic three-subject score to select incoming students. Minor changes to the formula for obtaining the Anderson Score have been made and alternative formulas suggested;² a fact which, in itself, is symptomatic of the difficulty of devising an ideal selection procedure, i.e., one which will select from all the candidates the maximum number of students who will perform well at a university. The minor changes³ do not significantly alter the entry scores reported below.

We wished to look at the performance of the first-year students admitted to the School of Physical Sciences at La Trobe University since the University commenced teaching in 1967, and also to examine the overall performance of those students who were admitted between 1967 and 1969 and to relate their performance to their matriculation results.

We carried out a survey of the first-year performance of 577 students admitted to the School of Physical Sciences in 1967-1972, and also of the four-year performance of 223 students admitted to the school in 1967-1969. The students listed are those admitted on the basis of their performance in the Victorian H.S.C. examination in the previous year; overseas students and those who were seeking entry to a university other than directly from their final year at high school are not included. Students who changed schools within La Trobe University after their first year are also excluded from tables relating to continuing courses. For this reason, the latter tables cover a few less students than those referring only to first-year results.

Most students who entered the School between 1967 and 1972 had taken English Expression and four other subjects, of which at least three were science based. An analysis of the subjects taken at matriculation by the successful entrants showed that most had sat for Pure Mathematics, and Calculus and Applied Mathematics. The relatively few students who sat for only General Mathematics performed as well at La Trobe as the other group. The courses and the examination do not appear to have changed markedly over

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¹ Suggestions for a university admission formula and procedure, D. S. Anderson, University of Melbourne, Ed. Res. Office, 1st April, 1964.

² An evaluation of university selections formulae, D. Fitzgerald, University of Melbourne, Ed. Res. Office, May, 1969.

³ Available from the authors on request.

the period of interest. Thus, the Anderson Score should provide a reasonable basis for comparison of matriculation attainment.

PRESENTATION OF INFORMATION

The following tables list full-time students in terms of their matriculation score. The number of subjects (which for a full-time student consists of four units) passed by each group at the end of the first year is shown, together with the percentage passing only one or no subject since these latter students are usually excluded or asked to show cause why they should not be excluded from enrolling in further courses in the school. Students who left after embarking on the course are included since many of them may have found the going too hard and are of interest in the survey. (These students are considered to have failed four subjects.)

SUMMARY OF RESULTS

A. FIRST-YEAR PERFORMANCE OF THE STUDENTS ENTERING IN 1967-1972 NO. OF SUBJECTS PASSED

Entry Score	No. of Students	4	3	2	1	0	Passed 0 or 1
>220	80	74	4	—	1	1	3%
200-219	81	58	7	4	2	10	15%
190-199	83	42	13	7	9	12	25%
180-189	185	83	31	20	15	36	28%
170-179	93	37	14	4	20	18	41%
<170	55	16	9	6	7	17	44%
Total	577	310	78	41	54	94	

B1. DEGREE PERFORMANCE FOR STUDENTS ENTERING IN 1967, 1968, 1969

(This refers only to the requirements for the pass B.Sc. degree. The years refer to progress by Calendar Years.)

Entry Score	No. in Yr. 1	Yr. 2 Cont.	Yr. 3 Cont.	B.Sc. in 3 Yr.	Yr. 4 Cont.	B.Sc. in 4 Yr.	Yr. 5 Cont.*
>220	39	37	36	28	6	5	1
200-219	35	31	29	13	14	7	3
190-199	30	23	25	9	9	8	—
180-189	60	41	41	17	18	11	4
<180	57	36	30	8	19	12	7
Total	221	168	161	75	66	43	15

* Or eligible to do so in the case of 1969 applicants. These numbered 10 of the 15; 4 of the other 5 passed their B.Sc. requirements in five years and the remaining student has left.

B2. DEGREE PERFORMANCE EXPRESSED IN PERCENTAGES 1967-1969 ENTRANTS

Entry Score	B.Sc. in 3 or 4 Yr.	B.Sc. as % of Yr. 1	B.Sc. as % of Yr. 2
>220	33	85	89
200-219	20	57	65
190-199	17	57	74
180-189	28	47	68
<180	20	34	56
Total	118	53	70

DISCUSSION

First-year Performance (Table A)

With the exception of some people who left during the year for undetermined reasons, it appears that a student with an entry score of 200 or more has a low likelihood of failing (obtaining 1 or 0 unit). On the other hand more than 40 per cent of those with entry scores below 180 failed. The percentage passing the whole of the first year (4 units) was 82 per cent for entry scores above 200, but 36 per cent for those with scores below 180. Students with entry scores below 170 have generally been selected on the basis of their matriculation subjects chosen. The statistical evidence does seem to suggest that this careful selection avoids a further deterioration in the pass rate among students with such low entry scores.

Degree Performance

Overall, 34 per cent of the students obtained their pass degree in the minimum time (three years) and another 19 per cent by four years. This compares with 36 per cent and 16 per cent over all science faculties in Australia for 1961 entrants⁴ and 80 per cent and 5 per cent for British universities.⁵ For candidates with entry scores below 180, the B.Sc. pass rate was only 14 per cent within three years and another 20 per cent passed within four years; without these candidates the overall rates would have been 41 per cent and 19 per cent respectively. However, if one expresses the percentages in terms of students continuing to year 2, within four years 70 per cent have met their degree requirements. For students with entry marks below 180, the corresponding rate is 56 per cent. Bearing in mind the number of these latter students still continuing, it appears that first-year performance is a good guide to degree success independent of matriculation score.

Table B2 shows that more than 70 per cent of the candidates with an entry score above 200 meet their degree requirements within four years, while Table A indicates that less than 10 per cent are likely to be excluded on the basis of their first-year results. The figures for candidates with an entry score of less than 180 are 34 per cent and 42 per cent respectively.

SUMMARY

What conclusion one reaches depends partly on educational aspects and partly on university finances and the resultant places available. Certainly there are about a third of the entrants with scores below 180 who will achieve a degree in three or four years.

⁴ The 1961 Study, Commonwealth Office of Education, 2nd Report, 1966.

⁵ Enquiry into Student Progress (University Grants Committee), HMSO, 1968.

Equally, many of those who fail to do so will only "waste" one year since they will either discontinue their enrolment or will be excluded at the end of the first-year course. The overall degree performance seems much in line with other Australian universities.

The entry score does seem to provide a reasonable guide to first-year performance. This is in line with the conclusions reached by Anderson.⁶ As might be expected, however, a better guide to overall success at completing a degree is the performance at the first-year level. This appears to be the major point of differentiation in the careers of the students between those who will subsequently perform well at a university and those who performed well at high school. This is supported by the figures in Table B2.

A grading system to control entry to a university is invariably implemented when the demand for places exceeds the supply or the quota available. In the situation where the two factors are equal or where the number of places available exceeds the number of students seeking entry, and this does appear to be the case in some Australian universities, then a more liberal policy of admission should apply. The selection process could then be delayed until the end of the first year. We would envisage that a university implementing an "open entry" policy would not require formal prerequisites for admission to a school or faculty. Instead, one would expect the university to state the recommended standards of achievement considered desirable to commence particular subjects. We feel that there are several desirable social and academic consequences of such a move:

- (i) The pressure to obtain a high entry score at the H.S.C. examination with the consequent rigidity in teaching and learning, all of which is designed "to beat the system", would be reduced.
- (ii) The necessity to repeat the 6th Form in order to obtain a better entry score, as is practised by many students, particularly at independent schools, would be removed.
- (iii) An open entry into first year would allow the "late bloomer", who might otherwise not gain admission, a place in a university.

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⁶ Report on evaluation of university selection formulas, D. S. Anderson, 18th September, 1969.

A COMPARISON OF MASTER'S DEGREE PROGRAMMES IN EDUCATION AT AN AUSTRALIAN AND A CANADIAN UNIVERSITY

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ABSTRACT

This article examines the regulations governing the award of Master's degrees in Education at two comparable universities in Canada and Australia, in the light of problems concerning equivalences of admission and programme requirements and areas of postgraduate specialisation. It suggests that the increasing interchange of staff and students justifies further serious consideration being given to the problems involved.

INTRODUCTION

WITH the advent of McLuhan's global village, and the increasing interchange of professional and academic staff, both administrators and prospective graduate students may well be confused by the problem of the equivalence of qualifications and of courses of study pursued abroad. The problem may be compounded when universities change programme requirements and/or academic designations. In an effort to shed some light on the problem, this article examines and contrasts the requirements for Master's degrees in Education at two comparable universities in the British Commonwealth.

The University of Calgary received its present status under the Universities Act of the Province of Alberta, 1966. It has its origin in 1945 when the former Calgary Normal School became a branch of the Faculty of Education of the University of Alberta, in Edmonton. In 1947 the first two years of a four-year Bachelor of Education programme were offered to education students, and in 1963 the Faculty of Education was established. In 1964 the university gained autonomy in academic matters with the appointment of its first president and the formation of its own General Faculties Council. The university became fully autonomous in 1966 and is one of three provincial universities currently operating in Alberta—those of Alberta, Calgary and Lethbridge—with a fourth due to open in 1974. The University of Calgary is divided into Faculties of Arts and Science, Business, Education, Engineering, Environmental Design, Fine Arts, Graduate Studies, and Medicine, together

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