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Prediction of Success in Teacher Training

Two of the most pressing questions regarding preparation of teachers continue to be how success in teaching can be predicted, and what the teacher training program should consist of. The following study attempts to look at some aspects of these two questions by an analysis of data available for 35 teacher interns in the MEET Project of McGill University.

For the academic year 1968-69, the second year of the experimental program, there were 35 MEET (McGill Elementary Education Teaching-teams) interns, selected from more than twice that many applicants. MEET operated as an experimental unit separate from the several regular teacher training programs offered by the Faculty of Education of McGill.¹ It was distinguished from the other programs in the selection process used, and in its organization of the university program of studies and the student teaching experience.

The university program of studies included both required and elective subjects, scheduled two days a week throughout the university year. The student teaching experience, or internship, consisted of supervised teaching at a selected elementary school in the Montreal area three days a week throughout the local elementary school year.

success criteria

Supervision of the internship and counselling in teaching methods were provided by the cooperating teacher in the internship school and by a faculty supervisor and methods instructor from McGill. Each faculty supervisor was responsible for from six to eight interns throughout the school year. Supervisors were expected to meet weekly with their groups of interns for discussion, and to visit each

intern on a regularly scheduled basis in the school. Faculty supervisors met together regularly with the coordinator of MEET supervision and the MEET Project Director for review of individual student progress and for planning of future activities to meet individual or group needs. It can be recognized that this program of supervision provided the faculty with a great deal of awareness of the progress, the problems, and the potential of all 35 interns.

The estimation of the progress of individual interns arrived at through such discussions provided one major source of information upon which the final mark for the student teaching experience was assigned by the MEET Project Director. In addition the Project Director received and considered reports from the training school, evaluating the intern's success as a student teacher in the school setting. Ratings from 1 (Unsatisfactory) to 6 (Outstanding) were submitted by the principal of the internship school and by cooperating teachers who had worked closely with the intern throughout the year. The final rating of success in student teaching was assigned to each of the 35 interns by the Project Director and was reported on transcripts as the mark earned for Education 520, Student Teaching.

All interns were required to take courses in educational psychology, the history and philosophy of education, methods of teaching mathematics in the elementary school, and methods of teaching reading in the elementary school. They completed their program of studies by selecting optional methods courses in areas of special interest, as for example in elementary science, geography, music, and art.

Many student complaints had been received regarding the "lack of relevance", to the actual business of teaching, of required subjects. University faculty members were inclined to consider such complaints seriously and to reexamine the rationale for specific elements of the coursework component of the teacher training program. The coursework results of the interns were, therefore, considered in two separate categories, required subjects and elective subjects. A grade point average (GPA) was computed for each intern in each category. These averages were then considered both as predictor criteria (possible predictors of success in Student Teaching), and as success criteria (measures of success in the university teacher training program).

the selection process and predictor criteria

The McGill requirements for entry into a teacher training program beyond the undergraduate level are second class standing or better (65% +; that is "B" or better) in a four-year undergraduate degree program at a recognized university, and a teaching subject specialization. MEET applicants were required in addition to furnish letters of recommendation and curriculum vitae, and to undergo a pre-selection interview visit at one of the cooperating MEET schools in the late spring of 1968. This interview visit lasted two or three days. At the end of the visit, the principal and interested staff members of the interview school were invited to send to the MEET Project Director reports of their estimate of the applicant's potential for the MEET internship training program. Each report included written commentary and a rating from 1 ("definitely disregard as a candidate") to 6 ("highly recommended as a candidate").

The report from the school played an influential role in the selection of MEET interns for the year 1968-69, even in some instances counterbalancing a lower than standard academic average. There was some inclination on the part of the selection committee at the university to assert that the capacity for effective inter-personal interaction with students and fellow teachers could be assessed in such an interview, and that it would be a better predictor of teaching potential than would academic success in the undergraduate programs. The scaled rating provided by the interview school has been included in this study as one of the predictor criteria.

In addition to the interview rating, the source of quantifiable information available to the selection committee was the transcript of the applicant's undergraduate academic record. There was some tendency among members of the committee to look more seriously at the third and fourth year undergraduate record than at earlier records. The proposition was made that the more recent work may have been more demanding, that the student should have reached greater maturity and should have begun to be more self-propelling and self-directed during the third and fourth years of undergraduate study than in previous years, and that these developments within the personality would be reflected in the grade record. It was accordingly agreed that a poor early record was less important if the later work were relatively strong. Conversely, a poor record in the final two years of undergraduate degree work carried implications, for the committee, of the present state of productivity of the applicant, and also carried implications regarding his or her "staying power".

Three measures of academic success in the undergraduate program were computed, namely, third-year academic grade-point average (or GPA), fourth-year academic average, and an academic difference score which was computed by subtracting the third year average from the fourth year average. The scores obtained for the academic difference indicator ranged from -16% (indicating a drop in average from third to fourth year) to +14%.

results

Table 1

Correlations Found between Predictor Measures and MEET Program Success Measures ⁽¹⁾				
	School Evaluation of Student Teaching (2.0-6.0)	Ed 520: University Mark for Student Teaching (3.00-1.00) ²	University Program Compulsories GPA (3.00-1.00) ²	University Program Electives GPA (3.00-1.00) ²
School Evaluation of Student Teaching (2.0-6.0)		0.811** (35)		
3rd Year UG-GPA (55.00-84.99) ²	0.135 (29)	0.054 (29)		
4th Year UG-GPA (55.00-84.99) ²	0.705** (26)	0.361 (26)	0.383 (26)	0.440* (26)
Academic Difference Score: 4th Yr. minus 3rd Yr. UG-GPA (-16.00- +14.00)	0.548** (26)	0.451* (26)	0.374 (26)	0.293 (26)
School Interview Rating (4.0-6.0) ³	-0.056 (34)	0.032 (34)	0.108 (34)	0.139 (34)
Program Compulsories GPA (3.00-1.00) ²	0.433* (35)	0.370* (35)		
Program Electives GPA (3.00-1.00) ²	0.107 (35)	0.086 (35)		

**p < .01
 * p < .05

1. N's (shown in brackets within each cell) differ because data were missing or were not reported in comparable form.
2. In general, practice in Canadian universities prior to 1965 was to report course marks in percentages, with 80% considered exceptionally high, or in Class Marks: 1, 2, 3, or 4. A mark of "1" represented high standing.
3. School interview ratings were reported from 1.0-6.0, but no candidates were admitted to the program with an average rating below 4.0.

The emphasis of the program was on training carefully selected interns to be successful teachers, not on screening out potentially unsuccessful teachers. All MEET Interns for the year 1968-69 were granted McGill Diplomas in Education and provincial teaching permits. Criterion data, under these circumstances, could not be examined to determine potential for predicting "success" versus "failure", but solely to determine potential for predicting *degree* of success as indicated by the ratings in student teaching and by program GPA's.

Pearson product-moment correlations were computed for all comparisons noted. Table 1 reports correlation coefficients obtained and results of tests of significance. The finding of a high positive correlation (0.811 —statistically significant at the .01 level) between the school evaluation of student teaching and the university mark for student teaching, Ed. 520, was to be expected. The reports from internship schools provided one of the primary sources of information about the success of the intern in the school setting upon which the Project Director determined the final mark in Student Teaching.

The finding of a high positive correlation (0.705 —statistically significant at the .01 level) between the fourth year undergraduate GPA and the school evaluation of student teaching, and the low correlation between third year undergraduate GPA and the school evaluation (0.135), supported the proposition of the selection committee that the more recent academic standing would be a better predictor of success than earlier records.

In addition, positive correlations statistically significant at the .05 level were found between Program Compulsories GPA and the two measures of success in student teaching. Correlations between Program Electives GPA and measures of success in student teaching were low; in fact, virtually nonexistent. It may be that such subjects as psychology and philosophy have more relevance to teaching success than is immediately discernible.

Whereas it has long been known that the best predictor of academic success is academic success, the findings of strong positive relationships between success in fourth-year undergraduate work and success in student teaching, and between success in required subjects in the training program and success in student teaching, were unexpected. Principals and teachers in the internship schools were not informed about the university academic standing of interns. They were not under pressure to establish any particular set of criteria for assessing success in student teaching. Yet the fact

remains that that group of educators separately held the more able academic students to be the better teachers.

It is tempting to elaborate on this finding and to attribute it to possible causes. One could propose, for example, that perhaps it is through such studies as philosophy, psychology, history, reading, and mathematics that the student learns the criteria for analysis and the bases for synthesis, and develops the capacity to observe discrete behaviours and yet view the child as an integrated whole. Such a proposition is intuitively satisfying to those of us who view all learning as an intellectual process, not simply as behaviour modification. Both the finding itself and the proposition of possible cause suggest further study.

The finding of a low negative correlation between school interview ratings and school evaluation of success in student teaching was unexpected. It had been generally assumed by the screening committee that the interview data would provide a more accurate predictor criterion of potential for teaching success than academic GPA. Such was not the case. Every measure of academic achievement computed for this analysis bore a stronger relationship with success in student teaching than did the interview data.

summary and conclusions

The analysis reported here was conducted on data available from the 1968-69 MEET internship teacher-training project. Candidates for the project had been carefully screened on academic criteria and on interview data. Data were, therefore, examined only for potential for predicting *degree* of success in the program, not for potential for predicting either success or failure.

Two sources of possible predictor criterion measures were available: ratings reported from two-day, in-school interviews, and academic achievement averages. Findings of the analysis can be summarized as follows:

1. Fourth year undergraduate GPA was the best predictor of success in student teaching as rated by the internship schools.
2. Pre-selection interview ratings made by staff members of cooperating schools bore no relationship to final evaluations of success in student teaching as rated by the internship schools.

3. The academic GPA for compulsory subjects taken during the MEET program bore a positive correlation with both measures of success in student teaching, but the academic GPA for elective subjects in the program did not.

These findings in part support the propositions upon which the screening committee had acted in selecting candidates. The findings of no correlation between interview data and student teaching success evaluations were unexpected. Several explanations of this phenomenon are possible.

One possible explanation is that the interns were not assigned to teach at the school in which they had spent their pre-selection interview period. It seems evident that the prediction criteria differed across schools. If both interview ratings and success ratings for the interns had been submitted by the same school staff, it could be predicted that a positive correlation would have been found. Strangely enough, however, success criteria seemed relatively consistent across schools and correlated positively with academic ability as reflected in university GPA's.

Another possible explanation for the low correlation of interview ratings with success ratings is the fact that interview ratings served as a screening mechanism while success criteria did not. No candidate with an interview rating below 4.0 (above average on a scale of 1.0—6.0) was admitted to the program. Academic GPA was used as a more flexible indicator of potential success, and the GPA range of candidates admitted reflected a somewhat wider segment of the possible range. If a blanket admission policy had been employed on both criteria, a better test of potential for predicting success would have existed. Such questions are worthy of further study, particularly in view of the unexpectedness of the findings of this analysis.

It is important to remember, also, that pre-selection interviews with possible candidates for the MEET program were seen as having many values other than simply predicting potential for teaching success. The values of rapport between the university and local schools, and of cohesiveness and commitment of school staffs within the program, could not be examined through the data available, but played an important role in the overall success of the project, and in the later development of a modified version of the MEET internship training program as the basic teacher training program for elementary teachers at McGill for the one-year postgraduate offering.

note

For a fuller description of the MEET project, see reports by the initiator and director of the experimental project: Myer Horowitz, "Project MEET," *McGill Journal of Education* II (2): Fall 1967, pp. 183-185; and Myer Horowitz, "Teacher Education: Soufflé de fromage, or Cheese Omelet?" in Douglas Myers and Fran Reid, eds., *Educating Teachers: Critiques and Proposals*, Symposium Series No. 4, The Ontario Institute for Studies in Education, 1974, pp. 81-92. See also Gary J. Anderson, "An Exploratory Analysis of the Elementary School Internship", submitted to the Institute of Research in Education of the Province of Quebec under conditions of Contract No. 68-AS-11-11, August 1969.

In the next issue

Winter 1978 (March)

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