

## EXAMINATIONS: THE CONTRIBUTION OF THE SCHOOL

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At a time when the Province is taking a completely new look at education, it is wise to think again about the form and function of examinations. Why do we test and examine? Our reasons are many and varied. They will not be the same as those offered by parents or by students and we shall differ among ourselves depending on the age of the students we teach and the type of institution we teach in. Any one of us, if pressed, could perhaps advance three or four reasons in detail but we do not always realise that some of the functions we suggest are hardly compatible one with another. An examination devised to assess what a student has learned in high school is not necessarily the most efficient predictor of his success at university.

One of the most recent investigations in Canada is described by the Central Advisory Committee on Education in the Atlantic Provinces in Report No. 2 "C.A.C. High School Testing Project — Loss of Student Potential and Prediction of University Success" (1962). Marks in the external high school examinations in Grades Eleven and Twelve, scores on the School and College Ability Test (SCAT), and other objective test and examination marks at the end of the first year university course were all inter-correlated. It was found that the high school average mark was much the best predictor of the first year university average. The correlation for all participating Atlantic Universities and Colleges was between 0.6 and 0.7. Such a correlation implies that about a quarter of those admitted will fail and that a significant proportion of those not admitted would have stood a good chance of succeeding. At this level and for the numbers involved, this means that the high school leaving examination is a useful tool of selection but it is more than likely that ways can be found of improving the efficiency of selection. To this end we are looking for accurate instruments of prediction. Basically we test a student's ability to answer certain questions at one moment of time. It seems obvious to us that his score on this test is related to his past experiences. It is not so self-evident that his score provides a forecast of what he will do in the future. The predictive value of a test is really determined by the passage of time. In the past, experience may

tell us that performance on test A is well correlated with performance on examination B, say, four years later. With this evidence we can then say that A is a good predictor of B.

Perhaps these then are the two main functions of examinations, a "looking back" and a "looking forward." Both tend to be confused and merged in our thinking of examinations. If a high school leaving examination is to have status, if it is to be recognised by the business world, by parents and by institutions of higher learning then it must be an efficient predictor. This is really how an examination is judged.

In England the introduction of the new Certificate of Secondary Education (taken at age 16+) has aroused understandable fears. Will it have status? Can its introduction into secondary schools be justified as a replacement for the more academic and long-established Ordinary Level of the General Certificate of Education? The outcome rests on whether or not it will be used as a measure of selection for later stages of training. The University of Oxford recently gave a lead and indicated that minimum qualifications for entry could in future be expressed in terms of the new Certificate. Here then is one more example of the fact that status cannot be separated from the "looking forward" function of examinations.

If the emphasis shifts to the future, we need to consider the construction of examinations to meet these aims most efficiently. The backward look of examinations can indeed be educationally harmful. The distrust of examinations, the belief that they distort the school curriculum and engender unnatural fears and tensions in the student are very much in our minds when we talk about the "backwash effects." Parents and teachers inevitably encourage these by the degree of importance they attach to the results. The trouble is to know whether all the effort that goes into the preparation and the writing of examinations is worth while. After all this striving, are the results to be trusted? Do the scores serve as a forecast of what the student is likely to do in the future and do they really sum up what he has done or, what is often more to the point, what his teachers have done in the past?

The Report of the Royal Commission of Inquiry on Education (The Parent Report) states: ". . . the key to the educational log jam lies in the examination system. As immediate steps in the right direction, their number should be sharply reduced and more recourse should be had to examinations pre-

pared by teacher teams within each (elementary) school . . .” (Paragraph 189 — Part 2) and again: “. . . Teachers are however, unanimous in their recognition of the fact that their work is seriously hampered by the frequent recurrence of examinations. It is thus paradoxical but true that the system of examinations works against the normal development of the child. Moreover, the very validity of examinations as such has been increasingly called into question; up to the present, examinations have been made up entirely on an empirical basis and have no claim to being scientific.” (Paragraphs 1118 - 1126 - Part 3)

The trouble is that in practice only a relatively few investigations have been carried out into the efficiency of formal examinations. Where studies have been made, the general low validity and reliability found for formal types of examination have been disturbing. But what has emerged from a study of testing and examinations, particularly with younger students, is the importance of the role played by the teacher. What a student achieves is a function of his own ability, of the support he receives from his family environment and the particular contribution of his teachers to the student’s attainment. To the extent that selection at later stages depends upon achieved examination scores, then the quality of the teachers can largely determine the future career of any student. Should this be so in a democracy? Ought we not to be looking for those able students who, through no fault of their own, have not had good support from their family environment and who have not had good educational facilities? If the answer is in the affirmative, then we need to develop examinations which will allow the student to reveal his ability.

Fortunately this development would not contradict the parallel desire to reduce the backwash effect on the school curriculum. We need to think of the examination syllabus as providing only a minimum outline so that teachers will be free to develop the detailed topic to suit the particular circumstances and interests of themselves and their pupils. Only in this way can we free the schools from the feeling that they are circumscribed by “they” — the external examiners. In fact, the teachers themselves must become the examiners. This can be done as it is being done in England with the new Certificate of Secondary Education. This does not mean that teachers are being given a licence to “cook” the results for their pupils. Teachers naturally feel a strong loyalty towards

their students and it is inevitable that some of the "geese" become "swans" for the benefit of the outsider. It is, however, possible and easy to make use of the considerable skill that teachers possess in assessing their own students without falsifying the comparison with other students in other classes and in other schools. There is little doubt, and this has been verified time and time again, that one of the most valid and reliable instruments for arranging a group of young students in order of ability or attainment is not an examination and not even an objective test but the assessment of the teacher who has taught them for several years. What the teacher cannot do is determine an absolute level of achievement. This can be done, however, by means of a test or examination common to all students in the region. The combination of the teacher's assessment for within-school order and the common test or examination for absolute level is the most powerful one known for the valid and reliable assessment of students. This greatly simplifies the examination procedure which needs only to concentrate on the production of one or, at the most, two measures of overall ability. For the rest, the school determines the order in which it wishes to place its pupils in each subject, while the regional board, by means of its common paper, assigns the appropriate grade levels to individuals in the school's order.

Further simplification can be achieved by dealing with grade levels rather than with percentage marks. It has long been recognised that the mark assigned to an English composition is appreciably more reliable if it is the result of a quick impressionistic reading by each of three or four readers than if it has been assessed by a detailed analytical scheme. Perhaps one of the most illuminating discoveries to emerge from the preparation for the setting up of the Certificate of Secondary Education was that the same principle applied to examinations in other subjects including even science and mathematics.

An experiment has shown, for instance, that when a group of mathematics teachers was asked to assess worked mathematics scripts by quick impression into grades from 1 to 6, the correlation between their assessments exceeded 0.9. The aggregated impressionistic assessment had an even higher correlation with an analytical marking scheme which had considered accuracy and method in detail. This represents perhaps what it is fashionable to call a "break-through" in

the assessment of examination papers. Have we, perhaps, been spending too much time as slaves of percentages and detailed marking schemes when virtually the same result can be achieved by other means? Of course, we need to agree on the meaning of "the same result." If mainly what we want is to know in which broad group of ability or attainment any particular student can be placed, then these methods will be effective. After all, we cannot do more. Even when we use percentages, we do not really have any grounds for believing that a score of, say, 68 is better than a score of 61. In practice we already use broad grades of classification so this fact could be openly acknowledged.

All the measures outlined above emphasize the developing importance of the teacher's role as an examiner. Every teacher of every subject in every school has his contribution to make. He has the privilege of freeing his teaching from the shackles of a restricted unenlightened examination but he has equally a wider responsibility not only to his own pupils, to his own subject disciplines but also to the whole body of students and fellow teachers in the schools. In other words such a scheme of internal assessments, which have been externally moderated, calls for a great deal of co-operation between teachers not only in the same school but also in all schools within the region. There must inevitably be more frequent exchanges of opinions and views in the discussion of individual and common problems and this greater communion can only be beneficial to all concerned. Greater co-operation rather than a feeling of competition between neighbouring schools is an ideal which can be achieved in a surprisingly short period of time given the incentive of a common endeavour.

Measurement in education is essential if we are to provide the most efficient and effective help for our students. It is all too easy to measure badly and it is all too easy to misinterpret the results. We need to avoid the danger of rejecting the principle of measurement on these grounds. Measurement can be simplified and yet simplification does not mean less accuracy. Streamlining our examination system can reduce the backwash effect on the school curriculum and at the same time give more responsibility to the teacher in the classroom. The teacher's role is clear. He is an essential partner of the examination system and the time is now ripe for him to assume his responsibilities.