
| | |
|--------------|--|
| Title | How well and how early can PSLE performance be predicted? a study of three schools |
| Author(s) | SOH KAY CHENG |
| Source | <i>Teaching and Learning</i> , 14(1),30-34 |
| Published by | Institute of Education (Singapore) |

This document may be used for private study or research purpose only. This document or any part of it may not be duplicated and/or distributed without permission of the copyright owner.

The Singapore Copyright Act applies to the use of this document.

How well and how early can PSLE performance be predicted?

A study of three schools

SOH KAY CHENG

Examination as Prediction

The whole examination system is built on the assumption that pupils' earlier achievement predicts subsequent achievement: pupils who have done well in the earlier examinations will do well in later ones. This has been taken for granted by most people, professionals and laymen alike. In the most unlikely event that this is not true, examination results will have no predictive power and will serve no useful purpose but record-keeping for its own sake – an obviously wasteful undertaking. A study of how well earlier examination results predict later ones is therefore not an academic exercise. It has much to do with the confidence all interested parties have in the examination system and will also point out its limitations.

It is a truism that examinations play a crucial role at all levels of education here. This, however, is not unique to Singapore. Examinations (for which we have to thank the ancient Chinese for inventing) has been adapted by nations all over the world as a device for identifying high-level officials and civil servants. It is natural (and some may say, unfortunate) that this device has been extended downward to younger and yet younger scholars. Nevertheless, as a technology for the sieving of human talent, examinations are useful to the extent that they predict subsequent achievement. No examinations are perfect: many factors inherent in examination techniques as well as the candidates' physical and psychological conditions render examination results less than perfect. In other words, the confidence in any examination is a matter of *more or less* and not all or none. Since school-based examinations in primary schools culminate in the national examination PSLE, answers to the two questions below are of practical significance:

How early and how well can PSLE performance be predicted from school-based examination results?

Three schools were invited to participate in this study. The choice was purposive in that the schools have different characters in terms of academic standing and pupil intakes. The schools supplied, for the 1992 cohorts of P6 pupils, their P1, P3, and P5 end-of-year aggregates and PSLE aggregates. Although there is the common framework provided by the common syllabuses, specimen papers, and even textbooks, each school sets its own examinations. The end-of-year aggregates are therefore not comparable across schools. Hence, the data obtained from the schools were treated separately.

Cassia Primary School This is a neighbourhood school in a newer housing area. The school has shown impressive improvement in the PSLE results over the past few years and has thus become popular with parents seeking admission for their children. The school has a dynamic principal and the staff are enthusiastic in improving pupil performance through involvement of research and development projects. Pupils of this school come mainly from lower-income families in the surrounding area. For the 1992 cohort, the mean for PSLE T-score is 216.44 (SD=28.75) and the T-scores vary from 139 to 277.

In this school, pupils who did well in the school-based examination earlier tended to do well later and also in the PSLE. Specifically, as much as 39% of performance differences among the pupils in PSLE T-scores can be predicted from P1 results, 57% from P3 results and an impressive 84% from P5 results.

Hibiscus Primary School. This school is located in the midst of a private residential area and has over the years maintained a very high standard in PSLE performance and hence admission to it is keenly sought. This school also has a dynamic principal and the enthusiastic staff are involved in several research and development projects. In contrast with the previous school, the pupils here come mainly from higher income families. For the 1992 cohort, the mean for PSLE T-scores is 228.10 (SD=26.82) and the T-scores vary from 132 to 285.

In this school pupils who did well in the school-based examinations earlier tended to do well later in both the school-based examinations and also in the PSLE. As much as 56% of performance differences in PSLE T-scores can be predicted from P1 results. P3 results predict 72% of PSLE T-scores and P5 results predicts 84%.

Pulasan Primary School. Situated in an older housing estate, this school has a strong Chinese tradition. The school has an impressive track record for PSLE results and has also been very popular with parents seeking admission for their children. A special feature of this school is the emphasis on bilingualism and a programme initiated by some parents to cooperatively run remedial and enrichment programmes for their children. For the 1992 cohort, the mean for PSLE T-score is 228.44 (SD=24.62) and the T-scores vary from 180 to 283.

Like those in the other two schools, pupils who did well in the PSLE tended to be those who also did well earlier in the school-based examinations. Of the performance differences in PSLE T-scores, 34% can be predicted from P1 results, 71% can be predicted by P3 results, and 81% by P5 results.

When school-based examination results at different class levels are taken together instead of singly, will the prediction improve?

Cassia Primary School. P1 and P3 results jointly predict 57% of PSLE T-scores, showing a negligible improvement over P3 results considered alone. Likewise, P1, P3 and P5 results jointly predict 83.82% of PSLE T-scores; again, the improvement of 0.13% in prediction is negligible, when compared with using only P5 results.

Hibiscus Primary School. P1 and P3 results jointly predict 71.70% of PSLE T-scores with a negligible improvement in prediction as compared with using only P3 results. Similarly, P1, P3 and P5 results jointly predict 85% of PSLE T-scores. Again, the improvement of 0.97% in prediction is negligible.

Pulasan Primary School. When P1 and P3 results are taken together, they predict 68% of PSLE T-scores with a 'depression' of 2% in prediction and the change is rather small to be of practical significance. P1, P3 and P5 results jointly predict 82% of PSLE T-scores and the improvement in prediction is, again, negligible.

Efficacy and Limitations

The relation between school-based achievement measures and PSLE performance do not come as a surprise. It will be a real surprise if otherwise. This shows that school-based examination results have reasonably high predictive power for examinations at the national level such as the PSLE. What is worthy of note is that as much as around 40% of performance differences in PSLE can be predicted as early as by the end of P1, 66% by the end of P3, and 81% by the end of P5!

The three schools are at the higher end of the PSLE performance (T-score mean 225, SD 27.1). Had all other primary schools been included in this study, the relation between school-based and national examinations can be expected to be even closer. This, first of all, lends confidence to the school's ability in predicting pupils' future performance.

However it also leads us to question why school results are so effectively predictive especially at the higher class level? Several reasons are plausible. First, the similarity in format between the school-based examination and PSLE is likely to be greater at the higher class level than at the lower class level. Second, related to the first point, as pupils move up the class levels, they have more practice preparing them for the ultimate PSLE. Third, there is a close correspondence between the curriculum, especially that of the higher class levels, and the PSLE papers. In brief, the high degree of prediction could partly be the effect of teaching towards testing and partly the results of a clearly defined and closely followed curriculum. Thus, while feeling assured of the predictive power of school-based examinations and the confidence in an efficacious examination system, the possible consequences of practice effect and a restricted curriculum deserve some thought.

"Teaching toward testing" is not unknown, here and elsewhere. In order for pupils to score in public examinations, it is not uncommon (and not unreasonable) that teachers devote more class time to teaching what past papers show are most likely to be examined, since over-learning is a sure way of getting impressive examination results. As a consequence, topics that appear to be less frequently examined may be neglected, if at all superficially covered. This literally amounts to trimming the prescribed curriculum and the curriculum actually implemented may be somewhat diluted. Should the topics thus neglected be important for the next stage of learning, though they may not be so at this stage, the problem of pupils not having a good foundation will surface only later, perhaps, too late. While the high predictive power discovered in this study is obviously cause for celebration, its probable side-effect on the curriculum deserves further attention.