



## Do class size reductions make a difference to classroom practice? The case of Hong Kong primary schools<sup>☆</sup>

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### ABSTRACT

This paper describes changes which took place in 37 Hong Kong primary schools where class sizes were reduced from 38 to between 20 and 25. Chinese, English and mathematics classes were observed over three years from Primary 1 (aged 6) to Primary 3. For 75% of observations no child was the focus of the teacher's attention in large classes. Reducing the class size did not change this situation appreciably, although teachers claimed that smaller classes increased the amount of individual attention that pupils received. For some teachers cluster analysis did identify shifts in teaching methods away from whole class instruction and the implications of this finding for when Hong Kong 'goes to scale' across the primary phase are discussed.

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### 1. Introduction and background

The research described in this article began at a point in time when there was considerable controversy surrounding the issue of reducing class size in the Hong Kong. Demographic changes in some areas had led to a fall in the school population in certain primary schools with the possibility of teacher redundancies. It was argued that rather than lose experienced teachers the opportunity should be taken to reduce the number of pupils in 'normal' classrooms where the class size averages 38 pupils. In response to this pressure the government commissioned a small class teaching (SCT) study beginning in 2004. The main aim of this four year programme of research was to ascertain the benefits of small class teaching in the local context. This article concerns the findings of an observation study designed to investigate whether class size reductions led to improvements in the quality of the teaching, in particular, a government initiated shift away from teacher directed instruction with a view to increasing pupils' participation.

In 1997 the island of Hong Kong and its associated New Territories ceased to be under British jurisdiction and were returned to China. Hong Kong now exists as a Special Autonomous Region (SAR) with complete control over its education system and with its own Curriculum Development Institute (CDI) which is similar to the Qualifications and Curriculum Authority (QCA) in England. Reform of the system for training teachers was late in starting and it was only in the last two years of British colonial administration that teacher training colleges were merged into a single Institute of Education with a view to creating an all graduate profession, a move which had taken place some thirty years earlier in England and Wales and had existed for an even longer period in Scotland.

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Nevertheless, the development of the Hong Kong education system is a remarkable success story. Starting from a low base at the end of the Second World War and until recently with an ever increasing expanding population, it has managed to provide universal education up to the age of 16 including kindergarten for most children up to the age of six. Initially this was accomplished by the use of 'double shift schooling' (Bray, 2000) where half the school population attended in the morning and the other half in the afternoon, but this arrangement has now ceased to operate in most establishments. Despite the problems of providing mass education for a large population, Hong Kong pupils have done extremely well in various international comparative studies, such as International Mathematics and Science Studies (TIMSS), where they normally occupy one of the top five places out of around forty countries at both primary and lower secondary levels (Mullis, Martin, Gonzalez, & Chrostowski, 2004; Mullis, Martin, & Foy, 2005; Mullis, Martin, Kennedy, & Foy, 2007). Schools are large in comparison with those in the West. A typical primary school can have up to seven forms at entry with classes of 35 pupils or more. Children start at the age of six in P1 and go through to P6. Teachers generally teach their specialist subject across the entire age range.

At the beginning of the millennium the Education Commission instituted a series of government backed changes in the curriculum starting in the primary phase in 2001. Under the title, *Learning for Life-Learning through Life*, the reforms sought to reduce the impact of testing by reducing the number of bands describing the ability range of a school from 5 to 3 and to encourage greater curriculum integration and the use of a broader range of teaching methods. Thus Hong Kong, despite its international successes under the existing format, was attempting to liberalise its education system, in stark contrast to that taking place in many western countries where there was greater pressure for conformity and increasing use of testing as an indicator of public accountability. In Hong Kong, for example, secondary schools are told of the average performance of their primary intake but the scores of individual pupils are not disclosed.

Not surprisingly, the decision to set up the small class teaching study was seen by some as a delaying tactic on the part of the Hong Kong government. The research of Blatchford, Goldstein, Martin, and Browne, (2002) and Blatchford, Bassett, Goldstein, and Martin (2003) in England and that of the Tennessee 'STAR' (Student Teacher Achievement Ratios) project (Finn & Achilles, 1999) was frequently cited in support of the claim that it had been 'proved conclusively' that pupils did better in smaller classes so further research was unnecessary. In contrast, a review by Hattie (2005) which summarised the results of some 164 studies found that the average effect size was 0.13 which according to Hattie represent about 9% improvement on the average pupil's performance in a large class. In another American study, the Wisconsin Student Achievement Guarantee in Education (SAGE) the estimated effect size due to smaller classes was 0.20 against an overall annual improvement of 1.20 (Molnar et al., 1999).

A further point of contrast in the present study arises from the fact that most of the research reviewed by Hattie (2005) took place in Western countries where normal classes are in the range 25–30. Fuller (1987) found 9 studies which had been conducted in developing countries where the typical normal class consisted of 44 pupils and found no differences were attributable to class size. More recently, an analysis of the TIMSS (Third International Mathematics and Science Study) found only four out of 40 countries where class size made a difference (cited in Hattie, 2005). These researchers concluded that effective teachers in these developing countries have created a range of teaching strategies that ensure learning takes place in larger classes and that these techniques may not be so appropriate when the numbers of pupils are reduced somewhat. Moreover, the general explanation for the gains in small classes in Western countries is that there is less disruption and more pupil engagement in learning. Finn and colleagues argue that it is mainly the differences in engaged time that differentiate between small and large classes. Averaging the results of various studies there appears to be an improvement of around 13.9% in the 'on-task' behaviour of pupils in small classes compared to those in larger ones where the average recorded was 56.6% (Finn, Panno, & Achilles, 2003: 327). In the UK levels of engaged time typically range from the mid sixties to the low seventies as a percentage of all observations (Galton, Hargreaves, Comber, Wall, & Pell, 1999). Clearly, it would seem valid to suggest that if teachers spend around a third of their time not teaching, and this figure is reduced by around 10% in smaller classes, then echoing Harnischfeger and Wiley's (1978) conclusion, time on task is likely to be a major determinant of pupils' improving progress. In Hong Kong, however, three years of observation has normally recorded values of engaged time of around 90%, irrespective of where the class was small or of normal size and this seems common to many countries around the Pacific Rim. Moreover, as Bray (1999) has shown, many children in these countries receive after-school coaching which adds to engagement and complicates the analysis further. If Hong Kong pupils benefit academically from the experience of smaller classes it is unlikely therefore that Finn et al.'s (2003) explanation of increased engagement will suffice in the local context.

In his review Hattie (2005) considers two further possible explanations of why small classes might lead to improvements in academic performance (or alternatively why such classes at present do not yield bigger effect sizes). The first of these examines the proposition often put forward by practitioners that in smaller classes more attention can be given to individual pupils. Few studies of class size have included systematic observation of pupils and teachers, a notable exception being that of Blatchford, Bassett, and Brown (2005) who concluded that more one to one teaching took place in smaller classes with more pupil-teacher initiations. On the other hand, Evertson and Folger (1989) found no statistically significant differences between small and large classes in the STAR project although pupils in the smaller classes tended to initiate exchanges with the teacher more often in seeking help. Earlier studies in Canada (Shapson, Wright, Easom, & Fitzgerald, 1980) and in Australia (Bourke, 1986) also found little differences in teachers' and pupils' behaviour patterns across small and normal size classes. These results are not surprising when the mathematics of class size reduction on individualisation are considered. Buckingham (2003) has pointed out from a review of these observational studies that, typically, about 50% of each lesson

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