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Study on Small Class Teaching in Primary Schools in Hong Kong

Final Report

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Executive Summary

I. The final year of the small class teaching study (SCT) has seen the completion of the fieldwork. During the year the P3 small classes from Cohort 1 (the 2004/05 P1 small class sample) returned to normal size classes in P4 and Cohort 2, having been in small P1 classes during 2005/06 and P2 small classes in 2006/07 returned to P3 normal size classes. A third cohort, who had started in P1 normal size classes in 2006/07 moved on to 'normal' classes in P2. It has thus been possible to compare small classes with normal size ones in the same schools over the first three years of the pupils' primary schooling and to replicate these comparisons in P1 and P2.

II. The study sought to address two broad research questions:

- What are the benefits of SCT in the local context?
- What teaching strategies, professional support and resources are necessary in order to maximise the benefits of SCT in Hong Kong primary schools?

III. A matched sample of 15 schools (known as the reference schools) was added to the study in 2006/07. P1, P2 and P3 classes in these schools during 2006/07 moved up in 2007/08 to P2, P3 and P4 respectively, thus affording a further set of comparisons. Attainment tests of Chinese, English and mathematics and student questionnaires were administered. The Teacher Questionnaire, which solicited practitioners' views on the merits of SCT during the second year of the study (2005/06), was repeated. In addition, an analysis of the Territory-wide System Assessment (TSA) scores was undertaken using the 2004 results to draw a matched sample of 37 schools to compare with the 'experimental' schools taking part in the SCT study. Comparisons were then made using the 2005, 2006 and 2007 results.

IV. In most years some 700 classes have been tested. This has resulted in approximately 20,000 pupils taking the end of P1 tests in each of the subjects, all of whom were followed for a second year. Nearly 23,500 took the end of the P2 tests in each subject, the majority having entered the study at the beginning of P1. The figure for the number of pupils taking the end of P3 test was 20,500 while just over 11,000 of these pupils continued to the end of P4. Of the total sample who started in P1 classes approximately 53.9% started in small classes, 27.2% came from the control classes in the same schools with the remaining 18.9% being drawn from the reference schools.

V. The consultant completed his visits to the participating schools and made a third visits to the 8 case study schools (the repeat sample). There continued to be considerable variation in the quality of instruction between schools and between teachers. About 25% of observed lessons showed real improvement. The main weakness in the others concerned the inappropriate use of group work. In too many group activities only one pupil at a time was actively engaged while other members watched. This sometimes led to poor behaviour because pupils became distracted.

VI. The Teachers Questionnaire was again administered during 2007/08. If anything, opinions on the perceived benefits of SCT were stronger than on the earlier occasion when the survey was distributed. It was thought impossible to give individuals extra help, cater for slow and gifted learners, match tasks to individual needs, mark pupils' work during lessons and make use of across-the-age-group peer tutoring in normal classes. Holding extended class discussions, differentiating work by task and doing group work was thought to be difficult but possible when the number of pupils in the class was greater than 25, while setting practical tasks, giving oral feedback, doing pair work, involving pupils in assessing their work and using same-age-group peer tutoring was deemed equally feasible in both small and normal classes. These responses suggest many teachers now accept the project's stance that most of the common teaching approaches can be used in both small and normal classes, although with more difficulty in the latter situation. As such it marks a change in opinion from the beginning of the study when teachers demanded that they should be informed about 'SCT methods.'

VII. Teachers were also asked to what help they received in implementing SCT and which of these supports they most valued. Generally, as in the earlier survey, teachers most valued practical help with technology and from outside experts such as educational psychologists and social workers. Next important was the support of the Principal and the curriculum leader. Sharing good practice with colleagues was less valued because any useful knowledge gained could not be put to immediate good use on account of existing workloads.

VIII. Teachers ranked catering for diversity as of greatest concern. Providing extra tuition outside normal lessons and the use of same-age-group peer tutoring continues to be strongly favoured strategies for coping with this problem, but more use is now being made of setting differentiated tasks. As a result grouping practices have become more flexible with pupils placed in either mixed or ability groups according to the task demand.

IX. A cluster analysis of the teacher observation data yielded four distinct teaching approaches. The first of these, named *sustained individual and pair enquiry* consisted of teachers who asked the highest number of open, challenging questions made more statements of ideas and offered greater amounts of informing feedback. Their interactions with pupils took place either individually or in pairs and were more often sustained into the next 30 second time unit. The second approach, labeled *group task monitoring,* consisted of teachers who spent much time listening or watching pupils. These teachers issued the highest number of task directions which often involved setting up and organizing work in groups. The third approach, that of *whole class instruction*, represented a more traditional form of teaching, and consisted of teachers who spent nearly two thirds of the time talking to the whole class without any particular child in focus. A large proportion of this time was spent making statements of fact, giving directions and listening to pupils read in unison. The final approach also employed a high proportion of whole class teaching but the focus was on questioning of all kinds rather than statements. Teachers in this cluster were labeled *whole class questioners.*

X. Across the three subjects the use of the different approaches tended to be more evenly distributed in small classes suggesting that many teachers were still experimenting with ways of maximizing the advantages of having to cope with fewer pupils. Normal classes were dominated by whole class instruction. English, teachers too favoured this more traditional approach in small classes, while for mathematics in small classes pair work predominated. As pupils moved from P2 to P3 more group work was attempted. When classes were ranked in order of attainment and attitudes at P1 and P2 few difference emerged between the four teaching approaches. In P1 *sustained individual and pair enquiry* improved learning disposition in Chinese while in mathematics *whole class questioning* had a similar effect. In P2 pupils taught by *whole class questioners* in English made most progress. A similar breakdown could not be accomplished with P3 since only Cohort 1 classes were small ones and numbers did not allow an extended analysis of this kind. When the data was aggregated across the three subjects no differences in attainment were found but in P2 classes the use of *whole class instruction* produced the lowest levels of learning disposition while *whole class questioning* produced the highest.

XI. A similar analysis was carried out on the pupil observation data. Again 4 types of pupil were identified bearing close similarity to the patterns of behaviour exhibited by pupils in earlier studies of primary classrooms in England. Type 1 pupils were labeled *solitary workers.* They were on task for almost 95% of the lesson but rarely interacted either with the teacher or their peers. Type 2 were *intermittent workers.* These pupils also mainly worked on their own but tended to become distracted when the teacher was engaged elsewhere in the classroom. Type 3 were also very industrious workers but were more often part of a group and so were labeled *active collaborators.* These pupils also concentrated on the task for 90% of the lesson. The final group of pupils with the lowest levels of on-task behaviour were called *attention grabbers.* They either sought or received more of the teachers' undivided attention than any other pupil in the class, were more often moving around the classroom and received more praise than other pupils.

XII. When the distribution of pupil types was examined there were few differences between the size of the class or the year. Small classes and P3 classes had more active collaborators. P3 classes also had fewer attention grabbers. No differences emerged in attainment, attitudes or subjects. When the relationship between teaching approach and pupil types was examined *whole class instructors* had a significant higher proportion of *solitary workers.* These pupils while on-task were mostly listening to the teacher talking. The lack of any overall significant relationship between teaching and the patterns of pupil behaviour suggests that the latter may be a function of personality and temperament so that some *attention grabbers* may be shy, anxious introverts who seek constant reassurance from the teacher.

XIII. The impact of being in small classes on the TSA was also investigated. The 2004 results were used to select 37 other schools which were paired with those in the SCT study while also taking account of the social and economic characteristics of the school's intake. Comparisons were then made between this matched sample, the experimental schools and the reference group. In the

three samples the proportion of pupils achieving basic competence in 2005 was below the average for all Hong Kong schools in all three subjects in P3. By 2006 this situation had been remedied except for English where only the reference schools achieved comparable results with the territory-wide average. In 2007, the first year when the pupils in the experimental schools were in small P3 classes, there was little change compared to 2006 in any subject. Using the 2005 results to predict the 2007 competencies gave only one (mathematics) non-significant positive residual gain in favour of the experimental schools.

XIV. When the scores on the various sub-tests were analysed, no significant differences in favour of the experimental schools occurred in English or mathematics. In 2007 the experimental schools scored significantly below both the matched sample and the reference schools at individual listening in Chinese but did better on the second audio-visual information test. For these sub-tests a 'light sampling' procedure was adopted and this adds to the uncertainties in interpreting results. It would seem that main reason for improved scores was the teachers' greater familiarity with the structure of the assessment since the greatest gains were made in 2006, the third year of the TSA operation.

XV. Some of the factors contributing to school success were examined by comparing the characteristics of the six most successful experimental schools (in terms of combined attitude and attainment profiles) with the four least successful. In the most successful schools Principals were more experienced, held firmer beliefs in the value of SCT for improving pupil attainment and took a more active role in curriculum and teacher learning development. They also placed greater emphasis on parental support and participation which was significantly higher in the more successful schools. There was a tendency for the more successful schools to have a greater proportion of *individual and pair sustained enquirers* and the less successful ones to have more *group task monitors* although these differences did not quite reach a statistically significant level.

XVI. The performance of the 5 schools in the experimental sample with relatively high proportions of disadvantaged pupils was examined. There was little difference in the attitudes and motivation of pupils irrespective of whether they were in schools with a high population of disadvantaged pupils or attended schools with a standard mix of pupils. In the first Cohort pupils from the disadvantaged schools held their own in both Chinese and mathematics attainment during the P1 and P2 years but lost ground in P3. In Cohort 2 pupils from the disadvantage schools did slightly better in both these two subjects in P1 and maintained this advantage in Chinese while achieving parity in mathematics during the P2 year. In P3 when Cohort 2 pupils moved back to normal classes those from disadvantaged backgrounds lost ground. Most of the deterioration in performance was due to girls. In English, where the pupils from disadvantaged backgrounds start from a low base, the position worsened year by year. The conclusion reached is that providing pupils from disadvantaged backgrounds are not too far behind on entry to primary school being in a small class is a positive advantage such that they maintain parity with pupils in schools with standard populations during the P1 year, although the magnitude of this effect decreases as pupils move up the school.

XVII. Further evidence in support of this conclusion comes when the progress of pupils in normal classes in the disadvantaged schools is compared with normal classes in the rest of the control schools. In both Chinese and mathematics pupils from the schools with a high proportion of disadvantaged pupils did worse in both P1 and P2 compared to the schools with a standard mix of pupils. In P3, however, the pupils from disadvantaged backgrounds caught up which reversed the trend in the small class sample. In English scores continued to deteriorate year by year. Being in a normal class and attending a school with a high proportion of disadvantaged pupils had little effect on either motivation or attitudes when compared to normal classes in the remaining experimental schools.

XVIII. A series of comparisons was carried out between classes from the reference group of schools and those in the SCT study. For attitudes and motivation there was little difference between the various samples in P1 and P2. English is disliked most, mathematics least. In every case attitudes decline year by year. The boys' decline is sharpest in languages, the girls in mathematics. In the move to P3 the pattern is similar but in mathematics, boys' attitudes in Cohort 1, which remained in small classes, showed the least decline. However this ground was lost on returning to normal classes in P4.

XIX. Comparing the attainment of pupils as they move through the P1 and P2 years produced similar patterns in both the reference and experimental schools. Any differences were mainly due to the differences at the start of P1 rather than being in a small class. In both school samples and in both languages boys make less progress relative to girls but in mathematics, although both girls and boys had approximately equal scores at the start of P1, they showed greater improvement by the end of P2. The superiority of the reference group at the start of primary school was mainly due to the lower percentage of pupils born in Mainland China. This has consequences in terms of parental support.

XX. In examining the changes from the beginning of P2 to the end of P3 the reference schools enjoyed an initial advantage because the pre-test was taken in September and not June. The reference group then maintained this advantage on the tests at the end of P2. The gender pattern in both experimental schools and reference schools was similar to that in P1 where girls outperformed boys in languages but boys were ahead in mathematics by the end of P3. When Cohorts 1 and 2 were compared the latter has an advantage in P2 and maintained this in P3 although the pupils had returned to normal classes. The final comparison compared Cohort 1's move through P3 to the end of P4. The gender patterns partially replicated the earlier analyses with girls doing better in languages but girls maintaining parity with boys in mathematics. In Chinese, Cohort 1 pupils closed the gap on the reference schools (both genders) by the end of P3 but fell behind again at the end of P4 when they returned to normal classes. In English pupils in Cohort 1 were behind in every test but in mathematics they caught up the reference group at the end of P3 only to fall behind again at the end of P4. The inference from these results is that the attainment of pupils at the beginning of each school year was the prime determinant of pupils' progress as they move from P1 to P4. In so far that there are fluctuations in the relative progress in Cohorts 1 and 2, compared to

the reference schools, these are likely to be random and mainly due to the expertise of teachers taking a particular class in any given year.

XXI. This assertion was confirmed by a series of regression analyses in which the start of P1, P2, and P3 scores were used to predict the end of P2, P3 and P4 scores. The start of P1 score predicted 42.4% of the explained variance up to the end of P2, the start of P2 explained 64.3% up to the end of P3, the start of P3 accounted for 75% up to the end of P4 while the end of P3 scores accounted for 79% of the explained variation. In none of these analyses did being a member of a small class result in a statistically significant regression coefficient. As pupils move from year to year other factors such as place of birth and parental support assume less significance. The contribution to a pupil's predicted score resulting in attendance at a particular school also decreased, for when a multilevel regression analysis was performed, with pupil variables and school as the two levels, schools accounted for some 8% of the variance by the end of P2 and P3 but only 4% by the end of P4. Moving from a small to a normal class in the P4 year causes the aggregated scores of pupils to fall by 1.9%.

XXII. The final analysis compared the 23 data sets collected for each subject over the lifetime of the project. Pupils in Cohort 2 who made more progress during the P1 year than the pupils in normal classes in Cohort 3 regress in P2 and do less well than either these control classes or the pupils in the reference schools. In P3, however, the year of the TSA examination and the year Cohort 2 pupils return to normal classes these pupils, who have experienced small classes for two years, regain lost ground. Cohort 1 pupils outperform pupils in the control classes in P3 but not in P1 or P2 and the return to large classes in the P4 year results in a dip in performance in comparison with both the control and reference school samples.

XXIII. Regression analysis confirmed these trends. The strongest predictor of the end of P2 attainment was the end of P1 score accounting for 67.4% of the explained variation. The start of P1 score contributed a further 3.7%. Using the end of P2 score to predict the P4 score accounts for 70.9% and using the end of P3 score just over 80%. When attainment is omitted from the analysis then only 14.2% of the variance is explained and being in a small class does not contribute to this percentage. Using the multilevel regression model some 5% of the predicted end of P4 performance can be attributed to school differences. Such differences can be attributed in various degrees to factors such as the Principal's active leadership, the proportion of staff with qualifications in the subject they are teaching, levels of parental support and the socio-economic characteristics of the surrounding neighbourhood from which a school draws its pupils.

XXIV. To see if the advantages of attending a particular school were greater in small classes compared to the controls the analysis was conducted separately for each condition. The P3 score accounted for 81.8% of the explained variance in the predicted P4 scores in the small classes and 77.9% in the controls. Girls obtained a bigger advantage in small classes and the active leadership of the Principal also made a significant contribution. Examining the school contribution, the same schools rarely contribute to both the small and the

control class analysis. One school made a positive contribution in small classes but a negative one in the controls. These results support the view that a major determinant of pupil progress is the expertise of the teacher who takes a particular class at a particular point in time. When all measures of attainment are excluded from the regression analysis 14.2% of the variation in the predicted P4 scores is explained in the control classes and about 8% can be attributed to school differences of the kind set out in the previous paragraph. The corresponding figure for small classes is 27.1%. Thus while there is variation between schools in their effective use of SCT there is an even larger variation within schools. The most likely explanation of these within school differences is the individual teacher's classroom expertise.

XXV. The above results allow a number of research questions which were posed at the start of the study to receive qualified answers. In all of the analyses undertaken, effect sizes were always small to very small. The central research question asked whether pupils in small classes make better progress than those in normal ones. The answer was a partial yes, in that pupils in Cohort 2 outperformed Cohort 3 in the P1 year. However this advantage was lost in P2 although these pupils regained lost ground during the P3 year by which time they had returned to normal classes. Being in Cohort 1 had no positive effect in either P1 or P2 but these pupils did better in P3 although this advantage was lost when they returned to normal classes in P4. In none of the comparisons did being in a small class bring about improvements in motivation, self esteem and attitudes towards Chinese, English or mathematics. The results are therefore inconclusive and in line with previous studies where class numbers are in the mid twenties.

XXVI. In so far there were gains in any year these seem to fluctuate randomly between the experimental classes, the controls and the reference group. This suggests that a major determinant of pupils' progress is the expertise of the particular teacher who takes the class in any one year. This view is supported by the regression analyses which show that the end of year score in the previous year increasingly accounted for most of the predicted variance as pupils moved from P1 to P4. Another factor was the TSA test which pupils took in P3. In this year, pupils in both Cohort 1 and 2 made up previously lost ground on the reference classes although those in Cohort 2 were no longer in small classes. The inference here is that there is a certain amount of 'teaching to the test' which makes the P3 year results difficult to interpret.

XXVII. The second research question asked whether it is important to have a small class only in P1 or whether the effect of being in a small class for more than a year was additive. Being in a small class in P1 was a clear advantage for Cohort 2 but not Cohort 1, probably because teachers in the first year of the study were adapting to the new conditions. The answer to the second question appears to be a negative one since Cohort 2 did not maintain their advantage in terms of attainment when pupils moved to P2 and although Cohort 1 made attainment gains during the P3 year this is probably had more to do with preparation for the TSA tests. The benefits of being in a small class prior to returning to a normal one were not conclusive. Cohort 1 showed no benefit when moving to P4 but Cohort 2 improved on moving to P3. However, the effect of the TSA

again probably influenced this result. There is no consistent evidence therefore that being in the small class for three years was better than being in one for two.

XXVIII. The third question concerned the relationship between teaching and outcomes in the small classes. This has become particularly relevant given the decision to extend SCT to all public sector primary schools at the start of the 2009/10 academic year. Although four distinct teaching approaches were identified none appeared to offer an outright advantage in terms of attainment although there was some indication that a mix of individual and pair work that encouraged enquiry, combined with the use of whole class questioning improved pupils' orientation to learning. Working in groups resulted in considerable off task behaviour which suggests that many teachers are still struggling to find ways of implementing this strategy in a satisfactory manner. Normal classes more often adopted a whole class approach where for over two-thirds of the lesson pupils either watched or listened to the teacher. Teachers taking part in the SCT study still appeared to be experimenting with different teaching approaches which, in itself, may account for the limited and inconsistent results in small classes.

XXIX. The fourth question concerned the effect of small classes on pupils from disadvantaged backgrounds. Here, there was evidence to suggest that being in a small class helps disadvantaged boys in particular to catch up in Chinese and maintain parity up to the end of P2. In mathematics the boys gradually outperform the girls and also maintain parity with the rest of the sample until the end of P2 but as with Chinese, any benefit gained from being in a small class is gradually eroded during subsequent P3 year. In a reverse of the general pattern it is the boys rather than the girls who benefit most from reductions in class size. However a condition of making progress is that the pupils must not be too far behind on entry to primary school. Thus in English, where the entry scores of both boys and girls in the schools with a high concentration of disadvantaged pupils were considerably below those of the remaining experimental sample, the gap widened year on year. When attitudes in the core subjects (Chinese, English and mathematics) were examined, both girls and boys scores in the disadvantaged schools showed few differences compared to those from the remaining schools in the experimental sample but girls' attitudes in all three subjects declined at a faster rate.

XXX. The final question investigated the impact of the various contextual variables such as parental support and the leadership characteristics of the school Principal on the performance of pupils in the small classes. Teaching approaches did not appear to influence attainment except in mathematics where there was a very small effect size in favour of sustained enquiry and where pupils either interacted with the teacher individually or in pairs. Pupils who were taught by teachers using this sustained enquiry approach or where whole class teaching emphasized questioning rather than instruction had marginally better attitudes but again the effect sizes were very small. The effect of these contextual variables diminished as pupils moved up the primary school. Thus the advantage of attending a particular school was greatest in P1, as were the degree of parental support and the active leadership of the Principal. Comparing the most and least successful schools in the SCT study provided a further

distinguishing characteristic. Principals of successful schools supported their teachers by providing non contact time for professional development. In none of the various analyses did the teacher's training, their experience, level of qualification or their experience of teaching small classes make a significant difference.

XXXI. As teachers' involvement in the study increased over time different forms of professional support were required. Initially teachers required mentoring to help replicate the existing successful practice of other colleagues. Visits from members of the school support team acting in this capacity were therefore helpful. At the next stage teachers became more interested in curriculum tasks so that workshops by subject experts and visits to other schools to observe other teachers' classrooms were most valuable. At the point where teachers began to take ownership for changing their classroom practice, rather than seeking prescriptions from outsiders, learning circles became the most important means of professional development.

XXXII. Teachers were generally satisfied with the technical support they received. Their greatest need was more non contact time to engage in professional development activities and to make the necessary resources for group activities. It was often the case that these resources could be obtained from the surrounding environment rather than having to be manufactured. Thus in mathematics pupils could identify and measure various shapes within the classroom rather than have the teacher produces several sets of cardboard rectangles, circles and triangles. More successful schools found ways of providing additional non contact time for professional development.

XXXIII. In summary, although the results in terms of outcomes, both attitudes and attainment were not conclusive, there were many positive findings. First, and most importantly, there was strong evidence from the cluster analysis that teachers were beginning to experiment in the use of different teaching approaches. While teachers in regular classes mostly used whole class instruction, teachers in small classes were asking more challenging questions, making use of pair and group work and engaging individual pupils in more sustained interactions. This has come about because over the period of the study teachers have taken ownership of these changes, having accepted that there is no specific repertoire of prescribed strategies that constitute 'small class teaching'. Learning circles have played a key part in bringing about this transformation.

XXXIV. Second, as a result of these improvements teachers in small classes have been able to improve the performance of pupils more evenly across the whole ability range whereas in regular classes improvements tend to be concentrated within the more able group. Third, smaller classes appeared to have particular benefits for children in schools with a high proportion of disadvantaged pupils during the initial year of primary schooling. Fourth, teachers have felt more relaxed and enthusiastic when teaching a smaller class and fifth, SCT was shown to work best when Principals took an active part in curriculum development and in the teachers' professional development. These results suggest that over time, extending SCT to all primary schools will result in substantial benefits providing these encouraging features continue to be developed.

XXXV. There are therefore a number of recommendations that follow on from these findings:

- Principals need to be encouraged to play a more active part in the implementation of SCT so that they can frame the professional development of their staff around the six principles which underpinned the approach used in this study. Distributed leadership to school curriculum leaders should not therefore be conceived simply as delegation but as a collegial sharing of responsibilities.
- Both inter-school sharing across subjects and intra-school sharing around pedagogic issues should be encouraged using the 'learning circles' approach which has been employed successfully in the SCT study. Learning circles are important because they focus at any one time on a specific pedagogy, allow teachers to observe and evaluate each others classroom practice and thereby enhance the participants' sense of professionality. This allows teachers to move from a position where they looked to others to tell them what they should do to become an effective small class practitioner to a point where they are prepared to take responsibility for developing appropriate pedagogies. Support for this initiative should be sought from appropriate members of staff in the University Departments of Education and should be coordinated by a core team. The aim should be to promote teaching for understanding by increased pupil talk and participation through extended whole class discussion, together with the increased use of pair and group work, thus easing the transition from the current emphasis on whole class instruction where pupils spend most of their time watching or listening to the teacher. These initiatives should concentrate initially on improving the quality of questioning during whole class discussion and with the effective use of peer tutoring during pair work where more knowledgeable pupils are able to help slower learners, thereby allowing teachers to provide more individual attention. The more difficult task of implementing collaborative group work should be left till there is evidence that the use of more effective whole class teaching strategies have begun to take root.
- In coping with diversity, particularly in schools with a high concentration of disadvantaged pupils where teachers claim that there is a wide spread of ability in many classes, Principals should ensure that those aspects of classroom organisation and pedagogy which international research has shown can bring about significant improvement in pupils' attainment are in place. These include the development of flexible grouping strategies, so that teachers can sometimes concentrate on slower learners while the more advanced work independently, the use of peer tutoring and the creation of resources which relate as far as possible to the pupils' daily lives. The biggest improvement would come about, however, if teachers could raise the expectations of these disadvantaged pupils and convince them that it is often lack of effort rather than ability which stops them from making progress. Coping with diversity in schools with high concentration of disadvantaged pupils is particularly important in the years after P1 where the initial gains are eroded. The situation with regard to English, particularly in these disadvantaged schools, needs to be

reviewed in order to overcome the deficit that many of these pupils bring with them on entry and from which they never recover.

- Some thought should be given to timetabling. Lessons which encourage greater pupil participation are difficult to manage in a 35 minute session. Many schools have introduced at least one double session per week while others now work to a 45- or 60-minute timetable. If pupils are to be encouraged to participate more actively and to be given more thinking time during discussion then 35 minutes may be too short a time in which to implement such practice effectively.
- Principals should be encouraged to allocate teachers to a limited number of year groups so that they have opportunities to teach more than one class in any particular year group. In the SCT study many practitioners only taught a single small class in P1, P2 or P3. They therefore had no opportunity to revise a particular lesson until a year later so that progress was often slow. If ideas from the learning circles are to develop at a reasonable pace then teachers need opportunities to test them out in one lesson, reflect on the outcomes and then make appropriate changes with a parallel class. Having a smaller range of year groups to teach would also cut down on preparation and hence offer possibilities of reducing the existing workload.
- University Departments of Education need to consider ways in which the findings from this study could be used to reinforce existing and future initial teacher education programmes on matters such as teaching for understanding, catering for diversity and helping pupils to develop as independent thinkers. In this way these novice teachers, with the support of their University tutors, can act as agents of change. At the level of initial teacher education, courses should perhaps concentrate, initially, on making students more effective ‘whole class’ practitioners leaving more sophisticated teaching approaches such as group work to a later stage of their professional development.