

**Report of Survey on the School Curriculum Reform and
Implementation of Key Learning Area Curricula in Schools 2003**

By

**Education and Manpower Bureau
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Foreword

This “Survey on the School Curriculum Reform and Implementation of Key Learning Area Curricula in Schools 2003” is a report of the first study to collect territory-wide data on the current curriculum reform implemented in primary and junior secondary schools in Hong Kong since 2001. The purpose of this study was to explore what progress had been made in the curriculum reform and the implementation of Key Learning Area curricula in schools from the perspective of frontline practitioners, including school heads, KLA/subject heads and teachers. The Division of Social Studies, City University of Hong Kong, was commissioned by the Curriculum Development Institute, Education and Manpower Bureau to conduct the survey in early July 2003.

List of Abbreviations

Arts	Arts Education
BECG	Basic Education Curriculum Guide
CDC	Curriculum Development Council
Chi	Chinese Language Education
Eng	English language Education
GS	General Studies
KLA	Key Learning Areas
KLA Guide	Curriculum Guide for the corresponding KLA/Subject
Math	Mathematics Education
PE	Physical Education
PSHE	Personal, Social & Humanities Education
Sci	Science Education
TE	Technology Education

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Introduction

This “Survey on the School Curriculum Reform and Implementation of Key Learning Area Curricula in Schools 2003” is a report of the first study to collect territory-wide data on the current curriculum reform implemented in primary and junior secondary schools in Hong Kong since 2001.

After conducting a two-year holistic review of the Hong Kong School Curriculum, in conjunction with other reviews undertaken by the Education Commission, the Curriculum Development Council (CDC) published a report in 2001 entitled *Learning to learn: The Way Forward in Curriculum Development*. This set out general directions for curriculum development in Hong Kong for the next ten years, identified short-term and long-term targets and strategies, and developed a curriculum framework as the basic structure for learning and teaching throughout all stages of schooling. According to this framework, existing subjects in schools are grouped into eight Key Learning Areas (KLAs) (see Appendix A).

In 2002, the CDC published the *Basic Education Curriculum Guide – Building on Strengths (BECG)*, a set of eight *Key Learning Area (KLA) Curriculum Guides (Primary 1 to Secondary 3)* and the *General Studies (GS) for Primary Schools Curriculum Guide (Primary 1 – 6)*. The BECG recommended a range of curriculum reform measures, such as a 5-year plan and a homework & assessment policy, to implement the curriculum reform at whole-school level in accordance with central directions, while encouraging flexibility to enable schools to adapt the curriculum to their strengths, differing contexts and the needs of their students. The BECG is supported by practical steps, questions for reflection and examples. The KLA & GS Guides set out curriculum aims; the elements/contents of learning; learning, teaching and assessment strategies & resources, and the management of curriculum development in each KLA. While the central recommendations are to be followed, school-based adaptations are again encouraged, such as pace of development and choice of curriculum modes. Each school is required to work out its own school-based curriculum development strategies, geared towards achieving the common reform goals.

The purpose of this study was to explore what progress had been made in curriculum reform and the implementation of Key Learning Area curricula in schools from the perspective of frontline practitioners, including school heads, KLA/subject heads and teachers. The study is a longitudinal one commencing in 2003, designed to track the changes at school level over the subsequent three years. The information collected will be used:

- to help understand the current state of the curriculum in schools;
- to identify areas in which further support is required for schools and teachers, and to adjust strategies of support;

- to determine whether and how greater impact on learning might be achieved; and
- to inform the interim review of the curriculum reform scheduled for 2005-06. The result of the study would also be used to inform the implementation of education reform in general.

The Division of Social Studies, City University of Hong Kong, was commissioned by the Curriculum Development Institute, Education and Manpower Bureau to conduct the survey in early July 2003. A stratified random sampling method was adopted. Thirty sets of pre-designed structured questionnaires (see Appendix B) were used to collect information from three respondent groups including school heads, KLA/subject heads and teachers. Qualitative responses were also captured for each section of the questionnaire. A total of 148 primary schools and 101 secondary schools took part in the survey. The response rates of primary schools and secondary schools were 85.5% and 75.9% respectively. Table 1 shows the percentage of schools in the sample by financial mode. Table 2 describes the number of questionnaires collected from each of the respondent groups.

Table 1: Sample schools by financial modes

Financial mode	Primary School (%) (KS1 & 2*, N=148)	Secondary School (%) (KS3*, N=101)
Aided	89.2	84.2
Government	7.4	9.9
Direct Subsidy Scheme	N.A.	4.0
Private	3.4	0.0
Caput	N.A.	2.0

* KS1 refers to Key Stage One (Primary 1 to 3). KS2 refers to Key Stage Two (Primary 4 to 6)
KS3 refers to Key Stage Three (Secondary 1 to 3)

Table 2: Number of questionnaires collected from different respondents

Respondents	Primary School	Secondary School
School Heads	128	86
KLA/Subject Heads	1,676	671
KLA/Subject Teachers	3,728	1,482
Total	5,532	2,239

Over 95% of the school heads in the sample had worked in the educational field for 16 years or more. A majority of primary school heads had a bachelor degree, though a minority (about 16%) only held a teacher's certificate. All secondary school heads were bachelor degree holders, and more than half of them had a master degree as well.

As for the KLA/subject heads and teachers, the median number of years of experience for the primary school group was between 6 and 10 years and for the secondary group between 11 and 15 years. For the primary and secondary school KLA/subject heads, the median

qualification was a bachelor degree. Though many of the primary school KLA/subject teachers had a bachelor degree, the percentage was comparatively less than among secondary school teachers.

For further details about the study, please refer to the website <http://cd.emb.gov.hk>

Findings

The results of the survey are presented thematically. The major themes addressed are:

- Attitudes towards the aims and guiding principles
- Supportive conditions for the reform
- Planning and implementation at whole-school level
- Planning and implementation at KLA/subject level
- Perceived impact on schools, students, school heads, KLA/subject heads and teachers.

Overall aims of the school curriculum and of KLA curricula, and guiding principles for school-based curriculum development in accordance with the central curriculum

Overall aims of the school curriculum

The statements below refer to the aims of the school curriculum that schools should achieve within 10 years:

Students will:

- recognize their roles and responsibilities as members of the family, society and the nation; and show concern for their well-being;
- understand their national identity and be committed to contributing to the nation and society;
- develop a habit of reading independently;
- engage in discussion actively and confidently in English and Chinese (including Putonghua);

- develop creative thinking and master independent learning skills (e.g. critical thinking, information technology, and self-management);
- possess a breadth and foundation of knowledge in the eight Key Learning Areas; and
- lead a healthy lifestyle and develop an interest in, and appreciation of aesthetic and physical activities.

All groups were asked how far they agreed with the aims on a 5-point scale from strongly disagree to strongly agree. Tables 3 and 4 show the percentage of primary and secondary school respondents who agreed or strongly agreed with the aims of school curriculum. It is worth noting that 97.6% of primary school heads and 92.8% of secondary school heads agreed or strongly agreed with the overall aims. As for the KLA/subject heads and teachers, the percentages for the primary school respondents were in the range 80.0% - 90.8% and for the secondary school respondents 67.9% - 96.3%. In general, then, a large majority of respondents subscribed to the overall aims of the school curriculum. A general pattern was observed in both primary and secondary school data. School heads' responses were more positive than that of the KLA/subject heads, and the KLA/subject heads' responses were more positive than those of the corresponding KLA/subject teachers.

Table 3. Agreement on the Aims of School Curriculum — Primary School

Aims of School Curriculum	Primary school (%)												
	School Head	Chi		Eng		Math		Arts		PE		GS	
		KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	Subject Head	Teacher
Agree / strongly agree	97.6	90.8	83.9	89.2	81.6	90.5	81.8	82.0	82.5	82.2	80.0	88.2	83.4

Table 4. Agreement on the Aims of School Curriculum — Secondary School

Aims of School Curriculum	Secondary school (%)																
	School Head	Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
		KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
Agree / strongly agree	92.8	90.6	81.1	79.0	79.4	82.5	73.6	96.3	88.3	82.3	81.6	87.5	73.9	82.9	83.2	76.7	67.9

Aims of the various KLA/Subject curricula

The aims of each KLA/subject curriculum vary (see Appendix C). KLA/subject heads and teachers were asked how far they agreed with them. Table 5 and 6 present the views of different respondent groups. Results indicate that 89.3% - 97.9% of primary school respondents and 86.5% - 97.6% of secondary school respondents agreed or strongly agreed with the aims of the relevant KLA/subject curriculum. In general KLA/subject heads' responses were more positive than those of KLA/subject teachers for both primary and secondary schools.

Table 5. Agreement on the Aims of the relevant KLA/subject Curriculum - Primary School

Aims of KLA Curriculum	Primary School (%)											
	Chi		Eng		Math		Arts		PE		GS	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	Subject Head	Teacher
Agree / Strongly agree	95.3	93.0	92.8	89.3	94.4	91.4	91.9	92.6	94.6	93.2	97.9	93.1

Table 6. Agreement on the Aims of the relevant KLA/subject Curriculum - Secondary School

Aims of KLA Curriculum	Secondary School (%)															
	Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
Agree / Strongly agree	94.2	93.6	91.5	92.9	95.4	86.5	94.0	91.2	97.4	92.4	96.3	87.3	96.4	97.3	97.6	95.0

Guiding Principles

As set out in the curriculum guides, the central curriculum and school-based curriculum adaptations should be based on the following guiding principles:

- The overarching principle is to help students learn how to learn.
- All students have the ability to learn and in order to do so they should be offered essential learning experiences.
- A learner-focused approach should be used to make decisions in the best interests of students.
- Diversified learning, teaching and assessment strategies should be used to suit the different needs of students.
- Development strategies should be built on the strengths of students, teachers, schools and the wider community of Hong Kong.

- The implementation of curriculum should achieve a balance across the academic, social and economic goals of the curriculum.
- Schools can flexibly draw up their own school-based curriculum to meet the needs of their students so long as the requirements set out in the central curriculum framework are fulfilled.

According to the responses from school heads, 99.2% of the primary school group and 95.2% of the secondary school group agreed or strongly agreed with these guiding principles.

Supportive Conditions for the Reform

Curriculum Reform Document

The *BECG* and curriculum guides were designed to assist schools to understand what and how to implement the new curriculum. In the survey, respondents were asked to indicate whether they had read the different curriculum guides and other relevant documents. Those who had read the documents were then asked to rate the extent to which they had found the documents helpful on a 4-point scale from not helpful to very helpful.

Results show that 96.9% of primary school heads and 91.9% of secondary school heads had read the *BECG*. Of those who had read the document, 96.8% of the primary school group and 91.9% of the secondary group had found the document helpful or very helpful.

Responses from KLA/subject heads and teachers differed according to the different KLAs/subject. Table 7 and 8 provide an overview of the survey results for individual KLAs/subject. For most of the KLAs/subject, over 70% of the heads had read the *BECG* and the relevant curriculum guides. For Science Education and Technology Education KLAs, over 50% of heads had read the *BECG* and the relevant curriculum guides. As can be seen from the two tables, a large majority (over 70%) of those who had read the documents found them helpful or very helpful.

In general, over 75% of primary school KLA/subject teachers and over 65% of secondary school KLA teachers had read the relevant curriculum guides. Among those who had read the document, over 70% of the primary school group and over 64% of the secondary school group found the document helpful or very helpful.

A general pattern was observed. The percentages of the primary school groups who had read the document were in general higher than those of the corresponding secondary school groups. Similar results were obtained on the issue of the helpfulness of the documents.

Table 7. Respondents Who Had Read the Documents and the Perceived Helpfulness —
Primary school

Curriculum Guide		Primary School (%)												
		School Head	Chi		Eng		Math		Arts		PE		GS	
			KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	Subject Head	Teacher
<i>BECC</i> *	Had Read	96.9	89.4	79.1	85.3	71.6	86.6	74.8	82.8	73.7	89.9	84.1	81.5	69.6
	Helpful / Very Helpful	96.8	86.4	82.3	69.2	70.7	86.4	84.0	86.6	84.4	83.3	82.9	82.6	83.9
<i>KLA Guide</i> **	Had Read	/	96.5	83.8	92.5	76.3	94.0	77.6	93.4	75.6	93.1	85.6	94.7	86.3
	Helpful / Very Helpful	/	89.2	84.4	74.2	70.9	94.2	87.9	89.0	88.3	80.7	83.6	91.6	89.8

**BECC*: Basic Education Curriculum Guide (Primary 1 – Secondary 3)

** *KLA Guide*: Curriculum Guide for the corresponding KLA/subject

Table 8. Respondents Who Had Read the Documents and the Perceived Helpfulness —
Secondary school

Curriculum Guide		Secondary School (%)																
		School Head	Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
			KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
<i>BECC</i> *	Had Read	91.9	72.1	52.4	75.9	52.4	71.3	47.4	73.8	59.5	58.0	52.2	53.0	50.0	78.3	69.6	81.0	64.2
	Helpful / Very Helpful	91.9	75.0	69.8	66.0	57.3	70.7	74.3	82.0	75.2	81.1	84.1	73.7	62.1	75.0	66.7	84.1	68.9
<i>KLA Guide</i> **	Had Read	/	88.4	76.0	89.2	68.5	88.5	64.0	96.4	74.1	86.4	77.6	85.5	74.4	95.2	85.2	96.4	86.4
	Helpful / Very Helpful	/	84.8	74.0	66.2	64.2	77.4	72.0	81.1	79.8	78.3	82.7	76.2	70.4	78.7	78.9	83.5	70.7

**BECC*: Basic Education Curriculum Guide (Primary 1 – Secondary 3)

** *KLA Guide*: Curriculum Guide for the corresponding KLA/subject

Curriculum Continuity

Curriculum continuity from junior secondary to senior secondary level is important. Secondary school KLA/subject heads and teachers were asked to indicate the extent of continuity between the new secondary 1-3 curriculum and the existing secondary 4-5 subjects on a 3-point scale ranging from “no continuity” to “high degree of continuity”. On the whole, the views of the KLA heads and teachers were similar. Around 35% of secondary school Mathematics Education KLA heads and teachers indicated that there was high continuity. For majority of the respondents, around 70% of them indicated that there was some continuity. Table 9 presents the results for each group. It is worth pointing out here that the implementation of the new curriculum was carried out progressively from Primary 1-Secondary 3 and then to Secondary 4-5 level. Since 1999, the curriculum for Secondary 4-5 and Secondary 6-7 has been revised in line with the new directions. However, revision to public examinations will only take place in the coming few years, resulting in a time lag for ensuring continuity. There was also a “wait-and-see” attitude towards the proposed review of the academic system combining HKCEE and HKALE. Hence, the majority of the responses indicate that there was only “some curriculum continuity” from junior to senior secondary levels.

Table 9. Extent of Continuity Between the Secondary 1-3 Curriculum and the Existing School Certificate Secondary 4-5 Subjects (Figures in %)

Extent of Continuity	Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
No Continuity	12.5	30.3	7.3	10.4	5.0	4.4	18.3	12.0	4.1	3.5	13.0	16.3	8.3	32.6	9.9	10.3
Some Continuity	73.8	61.1	86.6	77.8	53.8	63.4	67.6	75.4	67.6	73.8	71.4	69.0	75.0	50.0	69.0	66.2
High Degree of Continuity	13.8	8.5	6.1	11.7	41.3	32.2	14.1	12.6	28.4	22.7	15.6	14.7	16.7	17.4	21.1	23.5

Confidence and Perceived Competence

It is believed that the confidence and competence of KLA/subject heads and teachers are critical to implementing curriculum reform. The KLA/subject heads and teachers were asked to rate on a 5-point scale from 0 to 4 how confident they were in implementing various strategies, such as developing a school-based curriculum to facilitate transition, designing learning tasks and activities, designing learning materials, coordinating or collaborating with other subject teachers, encouraging students to read, integrating moral and civic education into KLA learning activities, promoting interactive learning through the use of information

technology, using strategies to cater for learner diversity, using assessment as a basis for providing feedback to students to enhance learning, using diversified modes of assessment, and assigning quality homework.

In general, the KLA/subject heads and teachers had moderate to high confidence (a median score of 2 or 3) in their ability to implement the above strategies. In addition, respondents were asked to indicate their perceived competence in implementing the strategies. Results showed that in most areas, the respondents felt that their competence was moderate to high (a median score of 2 or 3). Respondents' confidence level and perceived competence were highly correlated. The strategies that they felt less confident about were mostly those that they felt less competent in.

Professional Development Opportunities

Professional development opportunities are vital for school heads, KLA/subject heads and teachers to enhance their professionalism and capacity to carry out curriculum reform in schools. In the study, school heads were asked to indicate three activities in which they had participated in the current school year. More than 80% of the primary school heads and more than 75% of the secondary school heads had participated in experience-sharing about learning and teaching and curriculum development, and in training courses organized by educational institutes. In contrast, only about 37% of primary and secondary school heads had participated in educational research including action research.

Opportunities for the professional development of teachers in different domains of curriculum development have also been provided. In this study, KLA/subject heads and teachers were asked to indicate the extent to which they had found these opportunities adequate. The percentages reported for most of the KLAs/subject were in the range 40% - 60%. A greater sense of inadequacy in professional development opportunities was more widely felt among heads and teachers in Arts Education, Chinese Language Education, Mathematics Education, and Personal, Social and Humanities Education than in other KLAs/subject.

The study reflected that “attending in-service teacher development courses” and “independent study” were found effective by most respondents, although there were slight variations among the KLAs/subject. On the other hand, “action research” and “peer observation” were deemed less effective. From the open-ended comments made by respondents, it was clear that several additional strategies for professional development also deserve consideration. These include: sharing experiences and practices across schools, sharing of experience from pilot schools, posting successful experience on the Internet, compiling case studies of successful experience, and visits to mainland or overseas institutions.

Whole-school Planning and Implementation

School Days and Lesson Time Allocation

In the *BECCG*, recommendations are made as to the total number of school days that should be provided, and the amount of lesson time to be allocated to individual KLAs/subject to ensure that all students receive a similar length of overall study time and similar learning opportunities in each KLA. The mean number of school days provided in the current year was 190.2 days ($SD = 13.8$ days) for primary schools and 179.2 days ($SD = 24.7$ days) for secondary schools. Among the schools sampled, only 57.4% of primary schools and 43.9% of secondary schools reported that the number of school days was 190 or over. In other words, a significant proportion of schools do not meet the standard provision of 190 days set out in the *BECCG*. However, it should be borne in mind that in 2002-2003, classes were suspended for many days because of the SARS outbreak, and so the data do not reflect the normal situation.

Tables 10 and 11 present the percentage of lesson time allocated for different KLAs/subject in primary and secondary schools respectively. When compared with the lesson time recommended in the *BECCG* (see Appendix D), primary schools on average placed a higher emphasis on English Language Education and Mathematics Education but a lower emphasis on Chinese Language Education, Arts Education, Physical Education and General Studies. The variation in the amount of lesson time given to primary school Chinese Language Education was the highest among the six KLAs. When compared with the lesson time recommended in the *BECCG* (see Appendix D), secondary schools on average placed a higher emphasis on English Language Education and Mathematics Education but a lower emphasis on Chinese Language Education, Science Education, Technology Education, Physical Education and Arts Education. The variation in the amount of lesson time given to secondary school Personal, Social and Humanities Education was the highest among the eight KLAs.

Table 10. Means and Range of Lesson Time for Different KLAs/subject in Primary Schools

KLA/Subject		Primary 1	Primary 2	Primary 3	Primary 4	Primary 5	Primary 6
Chi	Mean	25.2	24.6	23.9	23.6	23.6	23.6
	Range*	22.7-28.0	22.1-26.4	21.0-25.2	21.0-25.0	21.0-25.0	21.9-25.2
Eng	Mean	20.5	20.5	21.1	21.5	21.6	21.7
	Range*	18.6-22.2	19.0-22.5	20.0-23.0	20.0-23.0	20.0-23.3	20.0-23.5
Math	Mean	16.8	18.2	18.2	16.9	16.9	16.9
	Range*	15.0-18.0	15.8-18.0	15.0-18.0	15.4-18.1	15.4-18.4	15.5-18.4
Arts	Mean	10.4	10.5	10.5	10.4	10.3	10.4
	Range*	9.0-11.7	9.3-11.6	9.3-11.6	9.1-11.6	9.1-11.6	9.1-11.7
PE	Mean	5.1	5.1	5.1	5.1	5.1	5.1
	Range*	4.7-5.2	4.7-5.3	4.6-5.3	4.6-5.3	4.6-5.3	4.6-5.3
GS	Mean	11.5	11.6	11.7	11.8	11.2	11.8
	Range*	10.0-12.2	10.3-12.8	10.6-12.8	11.0-12.9	11.0-12.9	11.0-12.8

* Range from 1st quartile to 3rd quartile

Table 11. Means and Range of Lesson Time for Different KLAs in Secondary Schools

KLA		Secondary 1	Secondary 2	Secondary 3
Chi	Mean	17.7	17.5	17.1
	Range*	16.7-19.3	16.0-19.0	15.0-19.0
Eng	Mean	19.8	19.7	19.4
	Range*	18.5-20.8	18.5-20.8	18.0-20.0
Math	Mean	14.0	14.1	14.1
	Range*	12.7-15.0	13.0-15.0	12.9-14.6
PSHE	Mean	16.7	16.8	16.5
	Range*	13.6-20.7	13.6-20.7	13.1-20.7
Sci	Mean	9.3	9.4	11.7
	Range*	8.3-10.0	8.3-10.4	10.0-13.5
TE	Mean	8.3	8.5	8.2
	Range*	5.1-10.0	5.6-10.0	5.0-9.9
Arts	Mean	7.1	7.1	6.6
	Range*	6.0-8.3	6.0-8.3	5.1-8.0
PE	Mean	4.5	4.4	4.4
	Range*	4.0-4.8	4.0-4.8	4.0-4.7

* Range from 1st quartile to 3rd quartile

Strategic Planning and school-based curriculum development

In Chapter 2 of the BECG, schools are recommended to develop a 3-year/5-year whole-school curriculum plan, taking into consideration their mission and context. This should form part of the annual School Development Plan. Each school is asked to consider its strengths, set its priorities, create a supportive environment, and set a general time-frame to work towards the goals of the curriculum reform and towards the specific learning targets in each KLA. According to the responses, 75.8% of primary schools and 59.3% of secondary schools had “formulated a five-year short-term strategic plan for whole-school curriculum development”; and 95.3% of primary schools and 93.0% of secondary schools had “drawn up a school-based curriculum to cater for the needs of their students”. Many of them further indicated that these measures had been effective.

Strategies for Supporting School Curriculum Reform

In general, over 80% of schools had implemented all the strategies to support school curriculum reform. Among the five measures listed, over 95% of schools had “created space for teachers” and “deployed teaching staff to match with their expertise and future needs”. Table 12 shows the extent of implementation of each strategy in both primary and secondary schools.

Table 12. Implementation of Strategies to Support School Curriculum Reform

Strategies to Support School Curriculum Reform	Implemented	
	Primary School (%)	Secondary School (%)
Create space for teachers	100.0	97.6
Deploy teaching staff to match with their expertise and future needs	96.1	96.5
Communicate with various stakeholders	94.5	92.9
Share experiences with other schools	91.4	83.5
Draw up the professional development programme for all teaching staff	84.4	73.3

Strategies on Assessment

School heads were asked to indicate whether their schools had implemented reform measures on assessment to enhance student learning. Table 13 shows the extent of implementation in primary and secondary schools. Results revealed that almost all schools had reduced the time spent on tests and examinations when planning the school calendar, so as to allow students more adequate learning time.

Table 13. Implementation of Strategies on Assessment

Strategies on Assessment	Implemented	
	Primary School (%)	Secondary School (%)
Formulate a whole-school assessment policy	71.9	69.8
Use appropriate assessment modes to obtain feedback on learning and teaching	75.0	68.6
Reduce the time spent on tests and examinations when planning the school calendar, so as to allow students to have adequate learning time	99.2	90.7

Measures to improve learning and teaching

As emphasised in the BECG, schools should draw up an overall policy on homework. The BECG indicates that homework should not involve students in mechanical repetition such as copying from the texts/notes or rote learning alone. It highlights that it is the quality and not the quantity of homework that counts. As indicated by school heads, 62.5% of primary schools and 66.3% of secondary schools had formulated a whole-school homework policy.

Based on the data collected, 82.0% of primary schools and 87.2% of secondary schools felt that they had “adopted appropriate strategies to cater for learner differences”.

When asked whether schools had adopted appropriate strategies to facilitate a smooth transition between Kindergarten and Primary 1, and between Primary 6 and Secondary 1, 75.8% of primary school heads claimed to have implemented the former and 69.5% the latter. A higher percentage of secondary schools (72.1%) indicated that they had adopted appropriate strategies to facilitate a smooth transition between Primary 6 and Secondary 1. Relatively fewer secondary schools (62.8%) indicated that they had adopted appropriate strategies to facilitate a smooth transition between Secondary 3 and Secondary 4.

The Four Key Tasks

Schools are recommended to use the four key tasks, namely, moral and civic education, reading to learn, project learning, and the use of information technology for interactive learning as entry points/means for achieving the learning goals and targets set out in the KLA/subject curricula. As shown in table 14, almost all schools had implemented the four key tasks.

Table 14. Implementation of the Four Key Tasks

Four Key Tasks	Implemented	
	Primary School (%)	Secondary School (%)
Moral and civic education	98.4	97.7
Promoting a reading culture	99.2	93.0
Project learning	98.4	96.5
The use of information technology	99.2	98.8

As shown in the data given in Table 15, the most common modes adopted in promoting moral and civic education were morning assembly, theme-based talks and extra-curricular activities/life-wide learning activities. The SARS event was the most used entry point for organizing activities to promote moral and civic education.

Table 15. Modes Adopted in Implementing Moral and Civic Education

Modes Adopted in Implementing Moral and Civic Education	Adopted	
	Primary School (%)	Secondary School (%)
Morning assembly	90.6	94.2
Class teacher period	77.3	89.5
Theme-based talks	86.7	82.6
Extra-curricular activities/life-wide learning activities	81.3	81.4
Through learning and teaching in various Key Learning Areas	75.0	67.4
Religious Studies lesson	46.1	44.2
Standalone lesson period	60.2	41.9
Make use of social events (e.g. SARS) as entry point for organizing learning activities in order to promote Moral and Civic Education	94.5	84.9

To promote a healthy reading culture, almost all primary schools and about 85% of secondary schools reported that they had reserved time for library/reading activities in the school timetable; and about 85% of primary schools and 70% of secondary schools had promoted collaboration between teachers and the teacher-librarian.

Modes adopted for the Provision of Chinese History Learning Experiences

Only secondary school heads were asked about the modes adopted by their schools on the provision of Chinese History learning experiences. Among the various modes of provision, a majority of secondary schools adopted Chinese History as a standalone subject for Secondary 1 – 3 students (88.4%). Only a minority had used “a school-based history curriculum integrating Chinese history and World history” (5.8%) or “a school-based integrated curriculum that includes Chinese history” (12.8%).

Five Essential Learning Experiences

To achieve the whole person development of students, schools were asked to provide five essential learning experiences: moral and civic education, physical and aesthetic development, intellectual development, community service and career-related experience. Not surprisingly, less than 25% of primary schools and less than 50% of secondary schools at junior secondary level had provided career-related experience. In contrast, over 80% of primary schools and over 90% of secondary schools had provided the other four essential learning experiences. Table 16 depicts the results in detail.

Table 16. Life-Wide Learning: Five Essential Learning Experiences for All Students to Achieve Whole Person Development

Five Essential Learning Experiences	Provided	
	Primary School (%)	Secondary School (%)
Moral and Civic Education (Character building)	96.1	97.7
Physical and Aesthetic Development	96.1	96.5
Intellectual Development (Mostly through classroom learning in different Key Learning Areas)	94.5	96.5
Community Service	80.5	93.0
Career-related Experience	21.1	44.2

KLA/subject curriculum planning and implementation

School-based curriculum planning

The KLA/subject heads were asked to indicate whether they had planned a school-based curriculum from 2003 to 2006. The school-based curriculum was to cater for the different needs of students and differing school contexts. The responses ranged from “not yet planned”, to “planned, but not yet developed”, to “already begun to develop”.

Tables 17 and 18 give an overview of the status of school-based curriculum planning in all the KLAs & General Studies in primary and secondary schools. School-based curriculum planning in Chinese Language KLA is the most advanced, especially in secondary schools, owing to the early piloting of this KLA in 1999. Comparatively more primary schools than secondary schools had school-based plans.

Table 17. Status of School-Based Curriculum Planning in Different KLAs/subject - Primary Schools

Status of School-Based Curriculum Planning	Primary School (%)					
	Chi	Eng	Math	Arts	PE	GS
Not yet planned	14.5	36.7	12.1	20.9	15.1	21.6
Planned, but not yet developed	44.0	40.7	48.0	46.6	51.8	47.1
Already begun to develop	41.5	22.5	39.9	32.5	33.1	31.3

Table 18. Status of School-Based Curriculum Planning in Different KLAs - Secondary Schools

Status of School-Based Curriculum Planning	Secondary School (%)							
	Chi	Eng	Math	PSHE	Sci	TE	Arts	PE
Not yet planned	4.7	47.5	22.1	28.6	34.6	29.6	32.5	18.1
Planned, but not yet developed	27.9	31.3	47.7	44.0	43.2	50.6	40.0	54.2
Already begun to develop	67.4	21.3	30.2	27.4	22.2	19.8	27.5	27.7

Cross-curricular Planning

As reported by the primary school KLA/subject heads, over 75% of the KLA/subject heads had planned or had already begun to develop cross-curricular work across KLAs/subject to enable students to make connections across the KLAs/subject. Among all the KLAs/subject in primary schools, 59.9% of Chinese Language Education KLA heads had already begun to develop cross-curricular work. However, the responses from secondary school KLA heads were not as positive. As shown in Table 20, comparatively less secondary schools had planned or had already begun to develop cross-curricular work across KLAs. Among all the KLAs/subject, 56.5% of Chinese Language Education KLA heads had already begun to develop cross-curricular work. Table 19 and 20 provide an overview of the results on cross-curricular planning.

Table 19. Status of Cross-Curricular Planning in Primary Schools

Status of Cross-Curricular Planning	Primary School (%)					
	Chi	Eng	Math	Arts	PE	GS
Not yet planned	10.1	24.8	16.1	26.0	19.2	36.2
Planned, but not yet developed	30.0	32.0	40.4	39.8	46.1	40.9
Already begun to develop	59.9	43.2	43.5	34.2	34.7	22.8

Table 20. Status of Cross-Curricular Planning in Secondary Schools

Status of Cross-Curricular Planning	Secondary School (%)							
	Chi	Eng	Math	PSHE	Sci	TE	Arts	PE
Not yet planned	22.4	35.0	36.0	Data not available	Data not available	42.2	30.8	27.4
Planned, but not yet developed	21.2	35.0	36.0			57.8	30.8	45.2
Already begun to develop	56.5	30.0	27.9			38.5	27.4	

School-based Curriculum Design

KLA heads and teachers were asked whether they had designed a school-based curriculum following the direction of the central curriculum framework; and if implemented, how effective they thought it was in enhancing student learning. As shown in Tables 21 and 22, for each KLA, over 70% of respondents indicated that they had designed a school-based curriculum. In general, the responses from KLA teachers were more positive than those from KLA heads with regard to implementation. In contrast, the responses from KLA heads were more positive than those from KLA teachers with respect to perceived effectiveness. Among those who had implemented a school-based curriculum, over 70% of them felt that it had been effective or very effective in enhancing student learning. The English Language Education groups from secondary schools were the only exception.

Table 21. Implementation and Perceived Effectiveness of a School-based Curriculum — Primary Schools

Design a school-based curriculum following the direction of the central curriculum framework	Primary School (%)											
	Chi		Eng		Math		Arts		PE		GS	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	Subject Head	Teacher
Implemented	89.0	87.4	80.5	78.9	81.5	84.5	83.8	83.7	89.8	84.8	74.9	81.2
Effective / Very Effective	84.4	83.1	70.2	70.3	88.8	84.3	86.1	84.4	85.7	81.8	84.1	84.9

Table 22. Implementation and Perceived Effectiveness of a School-based Curriculum — Secondary Schools

Design a school-based curriculum following the direction of the central curriculum framework	Secondary School (%)															
	Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
Implemented	87.1	89.9	73.2	76.1	72.9	77.2	73.2	76.6	75.3	75.9	78.3	79.6	80.0	81.6	89.2	87.7
Effective / Very Effective	87.7	79.2	69.0	60.2	80.0	75.0	76.8	70.9	86.5	77.3	80.6	80.0	78.6	71.6	87.1	79.1

Catering for Learner Diversity

When asked whether they had implemented the recommended strategies for catering for learner diversity, over 75% of both primary and secondary groups indicated that they had. Among those who had implemented the strategies, for each KLA/subject, over half of the groups felt that the strategies were effective or very effective. Table 23 and 24 depict the results for each KLA/subject.

Table 23. Implementation and Perceived Effectiveness of Strategies for Catering for Learning Diversity—Primary Schools

Use Effective Strategies to Cater for Learning Diversity	Primary School (%)											
	Chi		Eng		Math		Arts		PE		GS	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	Subject Head	Teacher
Implemented	85.4	89.8	87.4	91.0	89.3	92.2	79.8	81.0	84.7	84.4	75.0	83.5
Effective / Very Effective	79.7	76.2	53.9	59.1	86.0	82.4	73.6	79.8	82.7	79.7	80.5	83.4

Table 24. Implementation and Perceived Effectiveness of Strategies for Catering for Learning Diversity—Secondary Schools

Use Effective Strategies to Cater for Learning Diversity	Secondary School (%)															
	Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
Implemented	91.9	94.0	87.8	91.8	92.9	87.4	76.5	89.0	84.0	83.6	80.7	88.1	86.8	90.4	86.7	87.7
Effective / Very Effective	80.2	75.5	67.1	55.8	85.9	83.4	70.6	72.7	77.0	71.0	71.2	78.7	67.8	78.2	80.9	76.5

Assessment for Learning Strategies

In the primary schools, around 70% of the respondents in general had “adopted diversified modes of assessment to provide feedback for improving student learning” and “designed appropriate assessment activities to replace some of the tests and examinations”. In the secondary schools, around 80% of the respondents in general had implemented the two strategies. Table 25 and 26 show the results for individual KLAs/subject.

Table 25. Implementation and Perceived Effectiveness of Assessment for Learning Strategies—Primary Schools

Assessment for Learning Strategies		Primary School (%)											
		Chi		Eng		Math		Arts		PE		GS	
		KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	Subject Head	Teacher
Adopted diversified Modes of Assessment for improving learning	Implemented	83.7	87.9	78.7	82.3	78.6	82.7	80.1	85.4	85.8	84.4	82.2	85.9
	Effective / Very Effective	77.8	78.3	52.9	56.9	89.4	82.8	81.4	81.8	81.1	82.0	86.1	85.2
Designed assessment activities to replace some of the tests and examinations	Implemented	63.0	75.5	60.5	69.5	60.4	70.2	76.0	81.3	76.7	78.1	60.1	73.8
	Effective / Very Effective	73.3	76.7	54.5	60.7	79.0	80.4	83.3	83.7	83.0	79.0	84.4	83.2

Table 26. Implementation and Perceived Effectiveness of Assessment for Learning Strategies — Secondary Schools

Assessment for Learning Strategies		Secondary School (%)															
		Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
		KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
Adopted diversified Modes of Assessment for improving learning	Implemented	89.5	93.9	87.5	87.0	77.6	74.8	81.5	87.1	76.5	80.5	74.4	84.9	75.3	88.5	90.2	88.9
	Effective / Very Effective	89.2	71.6	53.0	53.1	76.7	65.7	70.3	69.5	80.3	73.9	81.0	78.7	75.0	76.3	96.0	74.3
Designed assessment activities to replace some of the tests and examinations	Implemented	80.2	85.9	80.5	78.5	60.0	65.4	N.A.	N.A.	79.0	77.5	86.6	91.2	82.1	94.7	89.0	84.0
	Effective / Very Effective	82.6	76.2	56.2	53.1	60.4	59.6	N.A.	N.A.	74.6	73.4	85.7	83.4	84.5	85.4	84.5	82.2

Developing Students' Generic Skills and Positive Values and Attitudes

Over 80% of primary school respondents and 70% of secondary school respondents had provided appropriate learning experiences to help students work towards the learning targets in the relevant strands, and to develop their generic skills and positive values and attitudes. In the primary schools, among those who had done this, except for the English Language Education KLA group, around 80% thought that what they had done was either effective or very effective in developing students' generic skills and positive values and attitudes. In the secondary schools, among those who had done something, except for the English Language Education and Mathematics Education KLA groups, around 70% thought that what they had done was effective or very effective in developing students' generic skills and positive values and attitudes. Table 27 and 28 describe the responses from each KLA/subject group.

Table 27. Implementation and Perceived Effectiveness in Developing Students' Generic Skills and Positive Values and Attitudes — Primary Schools

Provide learning experiences to help students work towards the learning targets in the relevant strands, and develop the generic skills, and positive values and attitudes	Primary School (%)											
	Chi		Eng		Math		Arts		PE		GS	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	Subject Head	Teacher
Implemented	86.2	92.0	92.1	90.3	85.1	89.6	86.0	87.9	84.4	87.7	89.0	91.2
Effective / Very Effective	82.7	82.9	56.9	65.5	88.4	84.1	82.3	84.8	84.1	78.0	90.3	88.4

Table 28. Implementation and Perceived Effectiveness of Developing Students' Generic Skills and Positive Values and Attitudes — Secondary Schools

Provide learning experiences to help students work towards the learning targets in the relevant strands, and develop the generic skills, and positive values and attitudes	Secondary School (%)															
	Chi		Eng		Math		PSHE		Sci		TE		Arts		PE	
	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher	KLA Head	Teacher
Implemented	91.9	92.7	89.0	84.1	70.2	71.5	88.9	82.5	79.0	79.2	74.7	79.9	86.1	87.6	90.2	91.4
Effective / Very Effective	81.7	73.7	64.2	52.6	67.3	64.5	73.2	77.1	66.1	70.5	78.0	78.2	72.6	79.4	87.1	73.2

Facilitating and Hindering Factors in Curriculum Reform

School heads were asked to indicate which factors they thought hindered, helped or had no effect on the implementation of curriculum reform in their schools on a 5-point scale from

“serious hindrance” to “of great help”. The listed factors were: agreement among teachers about the aims of the curriculum reform; teachers’ confidence in curriculum reform; teacher workload; teacher professional development in relation to curriculum reform; support from school sponsoring body/school management committee for curriculum reform; parents’ support and assistance; team culture of the school; pace of the reform; and deploy resources flexibly on implementing the curriculum reform.

Among the factors listed, the following were considered to be of help:

- Teacher professional development in relation to curriculum reform;
- Support from school sponsoring body/school management committee on curriculum reform;
- Team culture of the school;
- Parents’ support and assistance;
- Deploy resources flexibly on implementing the curriculum reform.

In the perception of both primary and secondary school heads, the current teacher workload hindered the implementation of curriculum reform. However, the data did not indicate whether this was due to an increase in administrative duties or an increase in professional work.

For the following factors, views were mixed. A significant proportion of school heads considered them a hindrance, while others considered them to be helpful factors:

- Pace of the reform;
- Agreement among teachers about the aims of the curriculum reform;
- Teachers’ confidence in curriculum reform.

KLA/subject heads and teachers were asked the same question, though some of the factors listed were different. The factors were: understanding among various teachers about the aims of the curriculum reform; coordination among the various reforms implemented in schools in recent years; the pace of curriculum change/reform; resources (e.g. manpower, funding); leadership of the school head; attitudes of parents; teacher workload; and students’ adjustment to the teaching approaches promoted in the curriculum reform.

Among the listed factors, the following were considered to be of help:

- Understanding among teachers about the aims of the curriculum reform;
- Coordination among the various reforms implemented in schools in recent years;
- Resources;
- Leadership of the school head.

The factors below were considered a hindrance:

- Pace of the reform;
- Teachers' workload;
- Students' adjustment to the teaching approaches promoted in the curriculum reform.

On the whole, the findings suggest that it is important to nurture the leadership of the school head, provide support and resources to schools, coordinate among the various reforms being implemented in schools, foster common understanding about the aims of the curriculum reform among teachers and the general public, develop a team culture among teachers, and reduce teacher workload.

Perceived impact of the Reform on schools, students, school heads, KLA/subject heads and teachers

The following sections outline the findings on the impact of the curriculum reform, as perceived by different groups. The scope examined includes the impact on the school as a whole, the benefits to students, and the professional development of the respondents.

Impact on Schools

School heads were asked whether they had found changes in a give list of areas since the implementation of the curriculum reform in their schools on a 5-point scale from -2 (undermined) to +2 (improved). In general, the majority of school heads reported improvement in these seven areas:

- school as a learning community (83% for primary, 75% for secondary);
- relationship between school and parents (71% for primary, 46% for secondary);
- team culture among teaching staff (77% for primary, 62% for secondary);
- teachers' enthusiasm in teaching (72% for primary, 47% for secondary);
- relationship between teachers and students (76% for primary, 61% for secondary);
- deployment of school resources (73% for primary, 56% for secondary);
- parents' recognition of curriculum reform in their schools (82% for primary, 55% for secondary).

As shown by the data, more primary than secondary school heads found improvement in the above areas.

However, the heads also raised a number of problems. Over 60% of school heads perceived "teacher workload" as having changed somewhat for the worse in their schools. In addition, around 20% of school heads, some primary, some secondary, felt that "morale of teaching

staff” and “conflicts among the staff” had worsened slightly. In their open-ended comments, respondents mentioned that providing additional manpower resources and small class teaching would facilitate the implementation of curriculum reform.

Impact on School Heads

When asked what changes they had noticed, since introducing curriculum reform in their schools, over 60% of primary and secondary heads indicated that they had noticed slight improvements or improvements in the following aspects:

- leadership competence (72% for primary, 62% for secondary);
- professional development (86% for primary, 81% for secondary);
- collaboration with teachers (83% for primary, 76% for secondary);
- confidence in leading school curriculum development (82% for primary, 73% for secondary);
- competence in leading school curriculum development (81% for primary, 68% for secondary).

Interestingly, the primary school group indicated a substantially higher level of improvement than the secondary school group in all five aspects.

Impact on Teachers

KLA/Subject heads and teachers were asked to indicate the extent of benefit they felt in their own professional development from implementing the relevant KLA/subject curriculum reform in their schools on a 5-point scale from 0 (not significant) to 4 (very significant). Apart from the secondary school English Language Education and Mathematics Education groups, the majority of KLA heads and teachers (around 80%) reported “2” or “3” in the following areas:

- subject knowledge;
- teaching strategies;
- knowledge about curriculum development;
- skills for developing and evaluating the school-based curriculum;
- skills for developing assessment strategies.

Again the primary school groups perceived a slightly higher level of benefit than the corresponding secondary school groups. Overall results suggested that both KLA/subject heads and teachers perceived that they had derived personal / professional growth from the reform. It can be argued that this might in turn reinforce their future commitment and

contribution to the reform.

It is worth noting that the four variables, namely: confidence in implementing curriculum reform strategies in school, perceived competence in implementing curriculum reform strategies, whether the respondents had read the curriculum reform documents, and the stage reached in school-based curriculum planning, were positively correlated with the perceived benefit felt by teachers. This indicates that the more teachers are involved in curriculum reform, the more they feel they benefit professionally from the process.

Impact on Students

As emphasised in the curriculum documents, generic skills are essential elements of learning and are to be developed through learning and teaching in the context of the various KLAs/subject. The nine generic skills are: collaboration skills, communication skills, creativity, critical thinking skills, information technology skills, numerical skills, problem-solving skills, self-management skills and study skills. For 2001-2006, priority is to be placed on the development of the '3Cs', i.e. communication skills, critical thinking skills and creativity. In addition, there are five priority values including responsibility, commitment, respect for others, perseverance, and national identity.

According to the responses from primary school heads, students improved in all eleven areas. Most school heads (about 90%) reported that their students showed slight improvement or improvement in communication skills, learning interest and overall learning performance. In contrast, fewer school heads (about 55%) reported that their students improved in perseverance and national identity. For secondary schools, over half of the school heads reported that their students showed slight improvement or improvement in most areas except national identity (38.5%) and perseverance (30.8%). Over 70% of respondents reported that their students showed slight improvement or improvement in the 3Cs. As reflected in table 29, the primary school heads indicated a substantially higher level of perceived improvement than secondary school heads in the eleven aspects, especially in the areas of learning motivation, learning interest, and overall performance of students.

Table 29. Percentage of school heads perceiving improvement in student learning since the implementation of the curriculum reform

Areas of possible improvement	Slightly Improved / Improved	
	Primary School Heads (%)	Secondary School Heads (%)
Communication skills	92.9	79.8
Critical thinking skills	79.2	69.1
Creativity	84.6	74.0
Learning Motivation	84.6	50.6
Learning Interest	92.1	62.0
National Identity	55.0	38.5
Responsibility	73.8	50.6
Perseverance	55.4	30.8
Respecting Others	81.6	60.0
Commitment	73.9	51.8
Overall Learning Performance	89.6	60.8

On a 5-point scale from 0 (not significant) to 4 (very significant), the majority of KLA/subject heads and teachers felt that students had benefited from the implementation of KLA curriculum reforms in most areas. Except in Mathematics Education, the majority of KLA/subject heads and teachers (over 80% for primary, 70% - 80% for secondary) felt that students had benefited in terms of student motivation and interest in learning and in the three priority generic skills of communication, creativity, and critical thinking.

For both primary and secondary school groups, those who felt confident and competent in implementing the curriculum reform in their schools tended to see significant benefits among their students. It can be argued that this shows that KLA heads and teachers who feel confident and competent in implementing curriculum reform are more likely to put reform strategies into practice and to recognise their benefits.

Among secondary school teachers in Chinese Language Education, English Language Education, Mathematics Education, Technology Education, and Arts Education, those who had read the curriculum documents reported significantly higher levels of perceived student benefit than those who had not. Among primary school teachers, the same result applied to all six KLAs/subject. Again, the findings show that if respondents read the documents, they are more likely to perceive benefits among students.

Schools that had reached the stage of school-based curriculum planning seemed to feel that students were benefiting from the curriculum reform. Among secondary schools, in Chinese Language Education, English Language Education, and Arts Education, the benefit to students perceived by the KLA groups was in proportion to the level of maturity reached in school-based curriculum implementation. The more mature the school-based nature of the work, the higher the perceived level of benefit to students. This relationship was also evident in primary schools.

Interestingly, the perception of benefit to students from curriculum reform was inversely associated with the respondents' year of experience. Among secondary school respondents, the Chinese Language Education and Personal, Social & Humanities Education groups with longer years of teaching experience tended to report lower levels of perceived student benefits. Among primary school respondents, the English Language Education, Mathematics Education, and Arts Education groups with longer years of teaching experience also tended to report lower levels of perceived benefit to students. Whether this reflects that the more experienced respondents generally saw little or no improvement in student performance, or simply that they were more sceptical about the benefits of curriculum reform would need to be further explored.

Implications for Practice

The goal of the current curriculum reform is to enhance the quality of learning. It will be necessary, therefore, in the longer term to look for evidence of improvement in student learning outcomes. Before attempting this, however, it was deemed useful to ascertain how the curriculum changes are perceived and being implemented in classrooms.

This study has provided useful information about the current state of the curriculum in schools and about areas in which further support to schools and teachers is required. As stated in a previous section, a significant proportion of schools did not meet the standard provision of 190 school days per year set out in the *BECCG*. When compared with the lesson time recommended in the *BECCG*, many schools placed higher or lower emphasis on certain KLAs. A review of the amount of lesson time allocated to each KLA at each Key Stage of learning is deemed necessary to achieve a balance in learning. Apart from this, a majority number of respondents who had read the curriculum documents perceived the document helpful, and in turn, tended to feel more confident and competent in implementing the curriculum reform. The findings suggest that the EMB and school heads need to re-emphasize the importance of reading the *BECCG* and the KLA Curriculum Guides, and to encourage teachers to read these documents.

The significance of the study lies in its potential to inform practice. As perceived by school heads, teachers professional development in relation to the curriculum reform, agreement among teachers about the aims of the curriculum reform, support from the school sponsoring body/school management committee for curriculum reform, the team culture of the school, parents' support and assistance and resources support were all considered to be of help in implementing the school curriculum. KLA heads and teachers agreed that the following factors were helpful: understanding among teachers about the aims of the curriculum reform,

coordination among various reforms implemented in schools in recent years, resources (e.g. manpower, funding), and leadership of the school head. In the light of these findings, the following recommendations are made. They are listed as action directions, and are designed to achieve greater impact on student learning.

- Communication among the EMB, schools and teachers should be strengthened to enhance teacher understanding of the aims of the school curriculum reform.
- Since the need for curriculum leadership among school heads and KLA heads comes up often throughout the study, it is clear that strong leadership should be provided in schools to facilitate the development of whole-school curriculum planning and school-based KLA curriculum planning, to achieve a broad and balanced school curriculum, to inspire a positive team spirit and to bring about effective management of resources.
- The Education Commission and the EMB should coordinate the various education reform initiatives introduced in recent years and improve the connections among them, so that teachers find them more manageable.
- The sharing of good practices and successful experiences should be promoted. These will provide an opportunity for enhancing teachers' professionalism, confidence and competence in implementing the curriculum reform.
- Parents and the community should be helped to gain a better understanding of the curriculum reform, so that they can become more effective partners in making the reform a reality. School heads and teachers can make use of success stories to promote the curriculum reform at school open days and parents' days. Such stories might also be promoted through the mass media in television documentaries and/or radio programmes.

Future Developments

Apart from the above recommendations, certain issues have emerged from the study that deserve further investigation. The study has not fully explored how far the schools are confident and competent in implementing the four key tasks as entry points/means for achieving the learning goals and targets. In view of the importance of the four key tasks, it may be desirable to conduct further research into the experience of schools in implementing them, in order to identify good practices, so that schools can learn from one another.

As reflected in the findings for some KLAs, respondents with longer years of teaching

experience tended to report lower levels of perceived benefit to students. i.e. the improvements in communication skills, creativity, critical thinking skills, etc. It is worth exploring whether this is because the more experienced teachers generally see little or no improvement in student performance, or whether they are simply more sceptical than less experienced teachers about the benefits of the curriculum reform.

Appendix A

Key Learning Areas in the School Curriculum

For the primary school curriculum, the existing subjects are grouped into the following five Key Learning Areas (KLA) and General Studies:

Key Learning Area / Subject*	Abbreviations
Chinese Language Education	Chi
English Language Education	Eng
Mathematics Education	Math
Arts Education	Arts
Physical Education	PE
General Studies*	GS

- * General Studies consists of elements from the Science Education KLA, Technology Education KLA and Personal, Social & Humanities Education KLA.

For the secondary school curriculum, the existing subjects are grouped into the following eight Key Learning Areas:

Key Learning Area	Abbreviations
Chinese Language Education	Chi
English Language Education	Eng
Mathematics Education	Math
Personal, Social & Humanities Education	PSHE
Science Education	Sci
Technology Education	TE
Arts Education	Arts
Physical Education	PE

Appendix B

Questionnaires

		Primary School		Secondary School	
		Key Stage 1 & 2		Key Stage 3	
		School Head (✓)		School Head (✓)	
KLA/Subject		KLA/Subject Head	KLA/Subject Teacher	KLA Head	KLA Teacher
Chinese Language Education		Chinese Version only	Chinese Version only	Chinese Version only	Chinese Version only
English Language Education		✓	✓	✓	✓
Mathematics Education		✓	✓	✓	✓
Personal, Social & Humanities Education	General Studies	✓	✓	✓	✓
Science Education				✓	✓
Technology Education				✓	✓
Arts Education		✓	✓	✓	✓
Physical Education		✓	✓	✓	✓

Aims of the various KLA/Subject Curricula

KLA/Subject Curriculum	Aims
Chinese Language Education	<ul style="list-style-type: none"> ● 提高讀寫聽說能力、思維能力、審美能力和自學能力 ● 培養語文學習的興趣、良好的語文學習態度和習慣 ● 培養審美情趣，陶冶性情 ● 培養品德，加強對社群的責任感 ● 體認中華文化，培養對國家、民族的感情
English Language Education	<p>Learners</p> <ul style="list-style-type: none"> ● of a second language should be provided with further opportunities for extending their knowledge and experience of the cultures of other people, as well as opportunities for personal and intellectual development, further studies, pleasure and work in the English medium ● should prepare for changing socio-economic demands
Mathematics Education	<p>Learners</p> <ul style="list-style-type: none"> ● should have ability to think, to inquire, to reason, to communicate, to solve problems, and to appreciate the aesthetic nature and cultural aspect of mathematics
Personal, Social and Humanities Education	<p>Learners</p> <ul style="list-style-type: none"> ● should develop a healthy lifestyle both physically and emotionally, have a positive outlook on life and treasure harmonious relationships with family members and others in the community ● should develop an understanding about the changing relationships of people, locations and events in the past and how they impact on human society today and in the future ● should appreciate the characteristics and values of their own culture and the influences of culture on human life, and develop a respect for the culture and heritage of other communities ● should appreciate the interaction between human beings and the environment in terms of the processes and patterns of natural and human features in different places, and participate in sustaining, conserving and improving the environment ● should appreciate that the optimal use of resources is achieved through enterprise and management, and that people's participation in economic activities and their ever-changing nature give rise to new work opportunities and conditions ● should demonstrate active and responsible citizenship based on an understanding of the roles, rights and responsibilities of individuals and groups, the importance of social justice and concern for local, national and global issues, and a respect for all of these
Science Education	<p>Learners</p> <ul style="list-style-type: none"> ● should develop curiosity and interest in science ● should develop ability to inquire and solve problems ● should acquire basic scientific knowledge and concepts for living in and contributing to a scientific and technological world ● should recognize the usefulness and limitations of science and the interconnections between science, technology and society and to develop an attitude of responsible citizenship, including

KLA/Subject Curriculum	Aims
	<p>respect for the environment and commitment to the wise use of resources</p> <ul style="list-style-type: none"> • should become familiar with the language of science and be equipped with the skills to communicate ideas in science-related contexts • should appreciate and understand the evolutionary nature of scientific knowledge • should attain personal growth through studying science • should be prepared for further studies or enter careers in scientific and technological fields
Technology Education	<p>Learners</p> <ul style="list-style-type: none"> • should develop their Technological Capability to identify needs, problems and opportunities; communicate and evaluate solutions; and make informed decisions • should develop their Technological Understanding to understand the interdisciplinary nature of technological activities; the concepts, knowledge and processes of different technologies • Should develop their Technological Awareness to be aware of the cultural and contextual dependence of developing technologies, and their impact on the individual, family, society and environment
Arts Education	<p>Arts Education helps students to</p> <ul style="list-style-type: none"> • develop creativity and critical thinking, nurture aesthetic sensitivity, and build up cultural awareness and effective communication • develop skills, knowledge and positive values and attitudes in the arts • gain delight, enjoyment and satisfaction through participating in arts-making activities • pursue a life-long interest in the arts
Physical Education	<p>Learners</p> <ul style="list-style-type: none"> • should develop motor skills, and acquire necessary knowledge through physical activities, and cultivate positive values and attitudes for the development of an active and healthy lifestyle • should acquire good health, physical fitness and body coordination through an active lifestyle • should promote desirable moral behaviours, cooperation in communal life, ability to make decisions, and the appreciation of aesthetic movements
General Studies	<p>Learners</p> <ul style="list-style-type: none"> • should maintain a healthy personal development and become confident, rational and responsible citizens • should recognise their roles and responsibilities as members of the family and society and show concern for their well-being • should develop a sense of national identity and be committed to contributing to the nation and the world • should develop curiosity and interest in the natural and technological world as well as understand the impact of science and technology on society • should develop a care and concern for the environment

Appendix D

Recommended Lesson Time Allocation

The following Lesson Time Allocation was recommended in the *Basic Education Curriculum Guide*. The table showed the suggested lesson time to be allocated for each KLA and General Studies (% of total lesson time/number of hours of lesson time over 3 years). It was also suggested that time should be used flexibly to suit the specific needs of students and the school context.

Key Learning Area		Lesson Time (over 3 years)		
		P1- P3 (KS 1)	P4-P6 (KS 2)	S1-S3 (KS 3)
Chi		594-713 hours (25-30%)	594-713 hours (25-30%)	468-578 hours (17-21%)
Eng		404-499 hours (17-21%)	404-499 hours (17-21%)	468-578 hours (17-21%)
Math		285-356 hours (12-15%)	285-356 hours (12-15%)	331-413 hours (12-15%)
PSHE	GS for Primary Schools	285-356 hours (12-15%)	285-356 hours (12-15%)	413-551 hours (15-20%)*
Sci				276-413 hours (10-15%)*
TE				220-413 hours (8-15%)*
AE		238-356 hours (10-15%)	238-356 hours (10-15%)	220-276 hours (8-10%)
PE		119-190 hours (5-8%)	119-190 hours (5-8%)	138-220 hours (5-8%)
Sub-total of the lower range of lesson hours over 3 years		1925 hours (81%)	1925 hours (81%)	2534 hours (92%)
Flexibility		A flexibility of 19% (about 451 hours over 3 years) is provided for:		A flexibility of 8% (about 220 hours over 3 years) is provided for:
		<ul style="list-style-type: none"> ➤ Moral and Civic Education / Guidance to complement values education across KLAs ➤ Additional common reading time ➤ School Assembly / Class teacher period to complement values education across KLAs ➤ Remedial or enhancement studies in KLA(s) or across KLA(s) ➤ Other broadening learning experiences such as community service, co-curricular activities, and aesthetic and physical activities to complement life-wide learning <p><i>The deployment of flexible time may vary from term to term (e.g. life skills education in the 1st term of the year, remedial study of Chinese Language in the 2nd term of the year, enhancement study of English Language throughout the academic year.)</i></p>		
Total no. of lesson hours over 3 years		2376 hours (792 hrs x 3) (100%)	2376 hours (792 hrs x 3) (100%)	2754 hours (918 hrs x 3) (100%)

- * The following suggested time allocation is applicable to schools whose curriculum has a technology education orientation:
- (1) For Science Education, the time allocation would be 8-10% (220-276 hours). The curriculum should connect students' learning experiences in science and technology education.
 - (2) For Personal, Social and Humanities Education, the time allocation is 10-15% (276-413 hours) provided in such a way that the essential content for personal, social and humanities learning, including Chinese history and culture, can be accommodated.
 - (3) For Technology Education, the time allocation is 25-35% (689-964 hours). This provides flexibility for more time to be devoted to TE in schools where technology subjects are good vehicles for the development of generic skills. Some learning elements in technology subjects, for example, Design Fundamentals, Graphical Communication, etc., are already embedded in other KLAs (such as Arts Education, Science Education, Personal, Social and Humanities Education). In these schools, lesson time, in terms of percentages allocated to other Key Learning Areas, can be adjusted accordingly.