The Way Forward in Curriculum Development

LEARNING TOLEARN

Life-long Learning and Whole-person Development

> Curriculum Development Council June 2001

> > Hong Kong Special Administrative Region of The People's Republic of China

A MESSAGE FROM THE CHAIRMAN OF THE CURRICULUM DEVELOPMENT COUNCIL

To cope with the challenges of the 21st Century, education in Hong Kong must keep abreast of the global trends and students have to empower themselves to learn beyond the confines of the classroom. The school curriculum, apart from helping students to acquire the necessary knowledge, should also help the younger generation to develop a global outlook, to learn how to learn and to master life-long skills that can be used outside schools. The curriculum should also cultivate students' positive values and attitudes to achieve the educational aims of promoting whole-person development and life-long learning.

To achieve this goal, the Curriculum Development Council started its holistic review on school curriculum in 1999. Over the last two years, we have proceeded our work in parallel with the progress of the education reform and widely consulted the education profession and various sectors of the community. All of them have shown encouraging support. In fact, the success of any education and curriculum reforms hinges on the devotion of each and every aspiring individual. It can hardly be accomplished with merely the effort of one or two government departments or schools, or the aid of one or two educational theories or schools of thoughts. To fulfil this crucial education mission for the benefit of this generation and the generations to come, we have to gather the strengths of all parties concerned to co-operate and work fully and harmoniously.

Looking back on our longstanding curriculum development work, I must take this opportunity to extend my heartfelt gratitude to all members of the Curriculum Development Council and officers of the Education Department who are responsible for curriculum development. Throughout the entire process, they have spared no effort to initiate the curriculum reform and have demonstrated their unswerving team spirit to the full.

Since 1999, we have been exchanging our views and sharing our concerns with different sectors of our society, including relevant government departments, schools, teachers, parents, sponsoring bodies, tertiary institutions, associations and educational societies, educational advisory bodies, employers, etc. Open consultation was carried out on the draft curriculum framework in November 2000. Then, we spent half a year to consolidate the valuable opinions and suggestions collected during the consultation period and incorporate them into the final proposals of this report. In the report, we have set out short-term and medium-term plans for the curriculum in the next 10 years, which are based on our local situations and existing strengths, our experiences gained in the implementation of curriculum development. We have also taken into consideration the actual conditions of schools in general, the students' needs and the potential difficulties that teachers may encounter in carrying out school-based curriculum development.

Many schools have started to develop their own school-based curriculum based on the direction we previously set. They have also joined forces with other schools to form school-based curriculum development teams and to optimise the use of resources. I would specially like to take this opportunity to call on more schools, educators and members of the community to take part in bringing the school education in Hong Kong to the fore-front of the 21st Century, and to transform the schools in Hong Kong to dynamic "Learning-to-learn" bases with unbounded creativity. Let us strive to work for the progress of our society, for the prosperity of our country and more importantly, for the betterment of the future masters of Hong Kong.

1 chin

Dr. CHENG Hon-kwan, GBS, JP Chairman of Curriculum Development Council

SUMMARY

Introduction

1. The purpose of this report is to set out the general directions for curriculum development in Hong Kong for the next 10 years, to fulfil the vision of enabling students to attain all-round development and life-long learning. The report makes recommendations on strategies and actions for the short-term phase (2001-02 to 2005-06), the medium-term phase (2006-07 to 2010-11), and the long-term phase (beyond 2011) for the government, schools, teachers, teacher educators, parents and members of the community who make a contribution to curriculum development. The recommendations are supported by authentic and practical experiences in Hong Kong schools as illustrated in the folder of Exemplars of Curriculum Development in Schools accompanying this report. The new curriculum guide for each KLA will be published in 2002, and subject guides for revised or new subjects will be prepared in subsequent years. These guides will give further suggestions on learning, teaching and assessment, as well as measures and resources to support schools and teachers.

A Holistic Review of the School Curriculum

2. The Curriculum Development Council (CDC) has conducted a holistic review of the school curriculum during 1999 and 2000 in order to offer a quality school curriculum that helps students meet the challenges of a knowledge-based, interdependent and changing society, as well as globalisation, fast technological development, and a competitive economy. The directions and recommendations set out in this report are based on the vision and overall aims of education for the 21st Century laid down in the Education Commission's (EC's) Report on Learning for Life. Learning through Life - Reform Proposal for the Education System in Hong Kong published in September 2000, and the public responses to the set of consultation documents Learning to Learn - The Way Forward in Curriculum Development (CDC, November, 2000). The recommendations are also based on authentic and practical experiences of schools, local research, policy contexts of Hong Kong, and different perspectives of international development, rather than to copy models of respective countries and a single theory. The recommendations have emphasised the actions that would have impact on effective learning, teaching and assessment in the context of Hong Kong schools, and measures and resources to support them.

The Way Forward in Curriculum Department

Guiding Principles

- 3. The recommendations made in this report are based on the following eight guiding principles:
 - (i) The overarching principle is to help students learn how to learn.
 - (ii) All students have the ability to learn and in order to do so they should be offered essential learning experiences.
 - (iii) 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.

- (iv) Development strategies should be built on the strengths of students, teachers, schools and the wider community of Hong Kong.
- (v) Practices should be adopted to achieve a balance across different purposes and conflicting interests and views, e.g. across the academic, social and economic goals of the curriculum and diverse learning and teaching strategies. The purpose and modes of learning, teaching and assessment should be consistent with one another.
- (vi) Schools have the flexibility to design their school-based curricula to satisfy the needs of their students, so long as the requirements set out in the central curriculum framework are fulfilled.
- (vii) Curriculum development should be a continuous improvement process to help students learn better.
- (viii) Positive thinking, with patience, celebration of small successes and tolerance of ambiguity are essential to ensuring the sustainability of change and improvement.

Development Strategies

- 4. The following strategies are recommended for the curriculum development proposals:
 - (i) To take gradual steps:
 - The Education Department provides adequate support to schools by offering central curriculum guides, teacher and principal training programmes, on-site school-based support and other supportive measures.
 - □ Each school builds on its existing strengths and plans its curriculum development at its own pace according to the readiness of its teachers, school conditions and the characteristics of its students.
 - (ii) To accumulate experiences and build up capacity:
 - □ Capacity is built up to help try out and review existing practices.
 - □ Experiences are generated and accumulated for dissemination and application.
 - (iii) To work in partnership :
 - Different parties are to work in partnership to achieve the common goals.
- 5. To put in place the above strategies, the following schedule, which adopts a gradual approach (10-year plan), has been worked out:

Short-term	Government:
(2001-02 to 2005-06)	Renders support to schools by providing curriculum guides, teacher and principal development programmes, on-site school- based support, etc. (The new curriculum guides for all KLAs and individual subjects, where necessary, will be issued from 2002 onwards.)

	Works in partnership with schools and tertiary institutions to conduct "seed" projects to generate and disseminate successful experiences for the reference of other schools.
	Conducts a review by the end of the short-term phase to take stock of the overall progress and to consolidate successful experiences.
	Schools:
	Different schools may have different starting points. Each school should review its current position and formulate its own curriculum development plan according to its own readiness and circumstances.
	The baseline is to promote learning to learn through four key tasks (moral and civic education, reading to learn, project learning and use of information technology for interactive learning) and to enhance learning and teaching in various KLAs, as recommended from P.30 to P.65 including strengthening critical thinking, creativity, and communication skills in all KLAs.
	Schools which are ready to do so are encouraged to begin developing school-based curricula. They may start on a small scale first, using one of the approaches suggested on P.69 of this report.
Medium-	Government:
term (2006-07 to 2010-11)	Consolidates and disseminates systematically the experiences accumulated during the short-term phase to help schools develop school-based curricula and improve learning and teaching strategies.
	Continues with the tasks undertaken in the short-term and improves plans and actions based on the review in 2005-06.
	Schools:
	Build on the strengths and experiences developed during the short- term phase, and based on the central curriculum framework, proceed to the next stage of their schools' curriculum development plans to develop school-based curricula. Improve learning and teaching strategies further.
Long-term	Government:
(Beyond 2011)	Continues to update and improve the curriculum framework according to the needs of society and students.
	Continues to work in partnership with schools and various concerned parties to generate and accumulate successful experiences with a view to helping schools further improve the quality of education.

Schools:

- ♦ Make good use of effective learning and teaching strategies to help students attain all-round development and life-long learning.
- ♦ Develop school-based curricula that suit the needs of their students, on the basis of the central curriculum framework.

Tasks Ahead for 2001-02 to 2005-06

- 6. In order to have impact on the current situation of learning and teaching and to raise student achievement levels, the following imminent tasks for 2001-02 to 2005-06 are recommended:
 - (i) Create more space in curriculum planning and implementation, as well as in school management, for students (to think and learn) and for teachers (to teach effectively, reflect and focus on professional work), through various means, including:
 - ⇒ <u>Trimming</u> and restructuring the curriculum;
 - Re-engineering work process in schools, reducing unnecessary administrative workload of teaching staff;
 - ⇒ <u>Reducing</u> excessive tests, examinations and dictations;
 - ⇒ <u>Planning</u> the time-table flexibly;
 - ⇒ <u>Making</u> good use of various grants; and
 - ⇒ <u>Sharing</u> good practices and learning and teaching materials with peers.
 - (ii) Motivate every student to learn in various environments (school, home, community) using diverse and appropriate strategies. Minimise or remove practices that de-motivate students.
 - (iii) Use the four key tasks as tools to promote effective learning and teaching:
 - Moral and civic education to help students establish their values and attitudes; (responsibility, commitment, perseverance, respect for others, and national identity as a priority for personal development and improving society);
 - ⇒ **Reading to learn** broadly with appropriate strategies to learn more effectively;
 - ⇒ **Project learning** to develop generic skills and build knowledge; and
 - → **Using information technology** for interactive learning.
 - (iv) Use effective learning and teaching strategies to help all students acquire **basic** competencies in Chinese, English and Numeracy appropriate to their level of study as enabling tools for learning.

(v) Accord priority to critical thinking, creativity, and communication skills among the nine generic skills, as they are crucial for helping students to appreciate the pleasure of learning to learn and to reduce their dependency on transmission of knowledge. Effective learning and teaching strategies to strengthen these generic skills in existing subjects are encouraged.

The School Curriculum – What is Worth Learning?

Overall Aims of the School Curriculum

- 7. The school curriculum should provide all students with essential life-long learning experiences for whole-person development in the domains of ethics, intellect, physical development, social skills and aesthetics, according to individual potential, so that all students can become active, responsible and contributing members of the society, the nation and the world.
- 8. The school curriculum should help students learn how to learn through cultivating positive values, attitudes and a commitment to life-long learning, and through developing generic skills to acquire, construct and communicate knowledge. These qualities are essential for whole-person development to cope with the challenges of the 21st Century.
- 9. A quality curriculum for the 21st Century should therefore set the directions for learning and teaching through a coherent and flexible framework which can be adapted to changes and the different needs of students and schools.

Curriculum Framework

- 10. From the above-mentioned Guiding Principles and Overall Aims of the School Curriculum, the CDC develops a Curriculum Framework as the basic structure for learning and teaching throughout all stages of schooling. The Curriculum Framework allows for different interpretations of contents and flexible use of different learning strategies and styles to suit individual needs. It has three interconnected components: (i) <u>Key Learning Areas</u>, (ii) <u>Generic Skills</u> and (iii) <u>Values and Attitudes</u>
 - (i) <u>Key Learning Areas (KLAs)</u>: The organisation of the school curriculum is structured around fundamental and connected concepts of major knowledge domains. These provide the context for the development and application of generic skills, values and attitudes.
 - ⇒ The existing subjects are grouped into the following eight KLAs:
 - ♦ Chinese Language Education
 - ♦ English Language Education
 - ♦ Mathematics Education
 - ♦ Personal, Social and Humanities Education
 - ♦ Science Education

- ♦ Technology Education
- ♦ Arts Education
- ♦ Physical Education
- Schools are urged to choose subjects from each KLA to provide a broad and balanced curriculum for all students. All students should be given opportunities to obtain learning experiences in all the eight KLAs throughout primary and secondary education.
- Schools can also organise their own curricula in different ways using a combination of subjects, units, projects, etc.
- ⇒ Chinese history and culture should be duly strengthened throughout all stages of schooling.
- (ii) <u>Generic Skills</u>: Generic skills are fundamental to helping students learn better. They are to be developed through learning and teaching in the contexts of different subjects or KLAs and are transferable to different learning situations. The nine generic skills are:
 - → Collaboration skills
 - → Communication skills
 - → Creativity
 - → Critical thinking skills
 - → Information technology skills
 - → Numeracy skills
 - → Problem-solving skills
 - ⇒ Self-management skills
 - → Study skills

For 2001-02 to 2005-06, priority should be placed on critical thinking skills, creativity, and communication skills.

(iii) <u>Values and Attitudes:</u> Values are qualities that students should develop as principles underlying conduct and decision-taking, while attitudes are personal dispositions needed to perform a task well. Values and attitudes mutually affect each other. The enhancement of values is given high priority in the review, and moral and civic education, which is value-oriented, is one of the four key tasks.

Trimming and Restructuring the Curriculum

- 11. To create space for enhancing student learning and to cater for students' needs and abilities, the approach to "trimming" involves:
 - removing less important and outdated content (e.g. the trimming of the existing General Studies curriculum)
 - identifying core and extended parts of the curriculum (e.g. the Junior Secondary Science curriculum and the Mathematics curriculum)
 - flexible modes of organising study content (e.g. the Technology Education curriculum reorganised around common themes)
 - using the open curriculum framework of learning targets
- 12. This report, however, does not present the detailed framework of learning targets or contents of each Key Learning Area (KLA), nor is it a manual of prescriptive actions. The CDC will provide guidelines and advice on how to work on the curriculum contents in the new curriculum guides to be issued.

Focuses for Action in the Eight Key Learning Areas and General Studies for Primary Schools in 2001-02 to 2005-06

13. Recommendations concerning the focuses for action to be taken in the first phase (2001-02 to 2005-06) to enhance learning and teaching at the four Key Stages in each KLA and the curriculum of General Studies for Primary Schools are outlined from P. 30 to P.65 of this report.

How to Act - Effective Learning, Teaching and Assessment

14. The following thirteen areas of action are recommended for improving learning, teaching and assessment to enhance students' independent learning capabilities. They are informed by authentic and practical experiences within the Hong Kong context, as well as by local and international research.

Actions via school structure, processes and management

(i) Learning Opportunity and Learning Environment

All students should be provided with learning opportunities in an environment which provide relevant, authentic and meaningful experience for whole-person development.

(ii) School-based Curriculum Development

The development of a school-based curriculum does <u>not</u> mean that all learning and teaching materials are developed by the schools and teachers themselves. The essence of a school-based curriculum is to work out a holistic and coherent curriculum and learning plan to suit the needs of students, according to the broad goals of the school curriculum. Schools may incorporate flexible use of time, space, different learning environments and resources available within and outside school. They may make use of textbooks, teaching packages and exemplars provided by ED and other sources as

well as authentic learning materials (e.g. newspapers) in designing their school-based curricula.

(iii) Collaborative Lesson Preparation

Collaborative lesson preparation provides a good opportunity for teachers to discuss, share experiences and make joint efforts in designing the curriculum, learning and teaching strategies, as well as assessment modes, etc. to improve students' learning. It helps to promote peer support and a collaborative culture among teachers and serves as an effective means to enhance teachers' professional development.

(iv) Learning Time and Time-table

Learning time includes lesson time, other school time and holidays. Schools are encouraged to review how school time is currently utilised so as to ensure that students have equal opportunities to engage in learning and teaching activities for whole-person development. Preparing the lesson time-table flexibly can facilitate the effective use of lesson time for meeting students' needs, promoting collaborative learning and teacher-pupil interactions, etc.

Actions with direct impact on learning and teaching inside and outside classrooms

(v) Effective Learning and Teaching Strategies

Effective learning takes place when students are motivated. Principles for motivating students include expressing what is expected of them, building learning and teaching on their success, using a diversity of resources and teaching strategies, and choosing learning materials relevant to their daily experiences and ability level.

(vi) Assessment for Learning

A diversity of assessment modes should be adopted to meet the purposes and processes of learning. Both formative and summative assessment help to provide information for both students and teachers to improve learning and adjust teaching.

(vii) Four Key Tasks

The four key tasks highlighted in the review are:

<u>Moral and Civic Education</u> – Learning opportunities should be provided for students to develop and reflect on their values and attitudes, such as perseverance, commitment to society and nation, respect for others, and sense of justice.

<u>Reading to Learn</u> – Reading helps develop thinking skills, enrich knowledge, enhance language proficiency and broaden life experience. Emphasis has to be placed on providing students with proper guidance, opportunity and motivation for them to enhance their learning capacity through reading.

<u>Project Learning</u> – Project learning is a powerful learning and teaching strategy to help students acquire and construct knowledge, and develop various important generic skills through a variety of learning experiences. While and after conducting projects, students need to be given appropriate guidance and feedback on setting their learning

objectives, identifying and accessing information sources, analysing issues, making recommendations, presenting their ideas and reflecting on their own performance.

<u>Information Technology (IT) for Interactive Learning</u> – Appropriate use of IT inside and outside classrooms enhances effective learning and teaching.

(viii) Effective Use of Textbooks and Learning/Teaching Resources

Textbooks are learning materials for students, not merely teaching materials for teachers. Selective use of textbooks is important so that there is space to equip students with a repertoire of generic skills and a capacity for life-long learning. Learning and teaching materials may be enriched by making use of good quality materials available from various sources (e.g. mass media, the internet, etc.).

(ix) Catering for Learner Differences

Actions to cater for learner differences do not necessarily narrow the gap between more "able" and less "able" learner; they draw out the potential of students so as to maximise the effectiveness of learning. The strategies that may be adopted include raising the self-esteem of students, using different assessment modes and varying the methods of learning and teaching.

(x) Homework

Quality homework encourages independent learning at home. It helps students consolidate, apply and further develop what is learnt at school. However, excessive homework should be avoided.

Actions via partnership with organisations and partners

(xi) Life-wide Learning Opportunities for Whole-person Development

Life-wide learning provides learning in real contexts, complements some aspects of learning in the eight KLAs, enables experience of interdisciplinary studies, and provides experiential learning that cannot be provided in classroom learning.

(xii) Smooth Transition between Kindergarten and Primary School, Primary and Secondary School

Kindergartens, primary and secondary schools should collaborate closely on goals, learning and teaching methods, and assessment to ensure smooth continuity from one level of schooling to another. Strategies include establishing partnerships between schools at different levels, and between parents and schools, providing a warm social climate in school, and organising induction programmes for new students.

(xiii) Home-school Co-operation

Parents should have the right participative and encouraging attitude towards their children's learning. Parents should be helped to understand the purposes of assessment, and the importance of diversified learning and teaching styles, strategies, contexts, resources and communication with teachers, in order to help to maximise the potential of students.

Measures and Resources to Support Schools and Teachers

15. Multiple measures are taken to cater for the varied contexts and different needs of schools. The provision of resources and supportive measures takes the form of <u>curriculum resources</u> <u>and support materials</u>, <u>collaborative research and development ("seed")</u> projects, teacher <u>and principal development programmes</u>, library development, school-based support to <u>curriculum development</u>, <u>creating time and space for teachers and learners</u>, <u>dissemination strategies and networks and local and international consultants</u>.

Curriculum Resources and Support Materials

16. A variety of curriculum resources and support materials will be developed, such as:

- Curriculum guides, which assist schools in planning their whole school curriculum and developing various modes of curriculum organisation using the open and flexible curriculum framework.
 - □ The new curriculum guides for all KLAs will be issued in 2002.
 - Schools which are ready to do so may start to develop their school-based curricula step by step according to the new curriculum framework. In parallel, CDI will work jointly with some tertiary institutions, experts and schools to conduct "seed projects" to try out different modes of curriculum organisation and learning and teaching strategies to implement the new framework. CDC/CDI will review and consolidate all the experiences generated in the short-term phase and disseminate them to schools for reference. Schools may then consult these experiences when planning which mode of curriculum organisation best suits them.
 - All schools should start to implement the new curriculum framework gradually, starting from 2006-07, with a view to putting it into full implementation by 2010-11.
- A curriculum bank of authentic exemplars is available at <u>http://cd.ed.gov.hk</u> to inform daily practices, provide ready-to-use learning and teaching resources, enhance teacher development through use of the exemplars and serve as a platform for sharing experiences.
- Textbooks should be used by teachers flexibly to enhance learning effectiveness. A web site is being developed at <u>http://www.hkedcity.net</u> for teachers, parents and students to express their views on the standards of textbooks.
- A series of learning and teaching materials will also be developed (e.g. guidebooks, multi-media packages, CD ROM curriculum planners), for example on action research and assessment for learning.
- All concerned parties, including ED, QEF, DTN and SCOLAR, will coordinate closely and collaborate with tertiary institutions and schools to disseminate good practices and resource materials.

Collaborative Research and Development (RD) "Seed" Projects

17. The aim of the collaborative RD projects is to generate useful experiences for the reference of schools, develop a critical mass of curriculum change agents and leaders, and acting as an impetus to school-based curriculum development. A range of research and development projects will be conducted in partnership with schools and consultants/universities beginning in 2001, covering general learning and teaching strategies, Key Learning Areas, moral and civic education, and school-based curriculum development.

Teacher and Principal Development Programmes

18. Various modes of teacher development (e.g. web courses, fixed hour courses, action learning) are planned. "Learning through practice" is a key feature of the programmes. From 2001-02 to 2005-06, priority will be given to programmes on curriculum leadership, the four key tasks, critical thinking and creativity, assessment for learning and catering for learner differences. As an incentive to teachers and teacher libraians, a review of professional career development will be conducted, to give due recognition to teachers participating in such programmes.

Library Development

19. Examples of strategies to support library development include the promotion of collaborative planning and teaching, providing a uniform cataloguing system, library automation and developing an interactive problem-solving web site for primary students. Meanwhile measures are being drawn up to enhance teacher librarians' professionalism, refresher training course for serving teacher librarians, and close liaison with professional associations to promote collaboration between teachers and teacher librarians.

School-based Support to Curriculum Development

20. The CDI school-based curriculum development (primary and secondary) teams will provide on-site advice to help schools to strengthen learning to learn in the existing curricula, to promote curriculum leadership, and develop a school-based curriculum along the lines of the new curriculum framework, through collaboration in research and development projects or on the basis of their own plans.

Creating Time and Space for Teachers and Learners

21. Some possible ways of creating time and space for teachers could include, for instance, "trimming down" the curriculum, re-engineering work process in schools, reducing unnecessary administrative workload of teaching staff, reducing the number of tests/ examinations, designing flexible time-tables, making good use of the Capacity Enhancement Grant (CEG) and sharing useful practices and learning and teaching resources with other teachers. Learners can gain more "space" of learning in life-wide learning activities outside the classroom organised by different parties. Learners are also encouraged to read more, see more, think more, ask more and reflect on the answers.

Dissemination Strategies and Networks

22. Schools and teachers will be networked to facilitate the sharing of experiences and dissemination of good practices through the Regional Education Offices (REOs), the District Teacher Network (DTN), learning communities in RD projects, the principals' network and professional associations.

Involvement of Experts

23. Local and international experts will be invited to advise on the above development strategies whenever appropriate, for example on each KLA, on curriculum evaluation, on curriculum areas such as moral and civic education, and on assessment for learning.

Conclusion

24. The Curriculum Development Council takes the view that there is no fast track to curriculum development. Curriculum development is a continuous improvement process, in which, quality that matters more than quantity. The Council will undertake a review in 2005-06 to take stock of the progress and experiences accumulated during the first phase (i.e. from 2001-02 to 2005-06) to provide a basis for mapping out the detailed action plan for the medium-term phase (i.e. from 2006-07 to 2010-11).

List of Abbreviations

AAT	Academic Aptitude Test
AL	Advanced Level
BCA	Basic Competency Assessment
CAL	Computer Assisted Learning
CDC	Curriculum Development Council
CDGs	Curriculum Development Groups
CDI	Curriculum Development Institute
CE	Certificate of Education
CEG	Capacity Enhancement Grant
СРТ	Collaborative Planning and Teaching
DTN	District Teacher Network
EC	Education Commission
ED	Education Department
FITT	Frequency, Intensity, Time, Type
FM	Fundamental Movement
HKCEE	Hong Kong Certificate of Education Examination
HKEA	Hong Kong Examinations Authority
HORSC	Holistic Review of the School Curriculum
IT	Information Technology
KLA(s)	Key Learning Area(s)
P1	Primary One
PE	Physical Education
PSHE	Personal, Social, Humanities Education

uality Education Fund
esearch and Development
egional Education Office(s)
condary One
hool-Based Management
anding Committee on Language lucation and Research
ience, Technology and Society
acher Assessment Scheme
chnology Education
rget Oriented Curriculum

С	0	Ν	Т	E	Ν	Т	S
-	-		_			_	~~

A MESSAGE FROM THE CHAIRMAN OF THE CURRICULUM DEVELOPMENT COUNCIL

SUMMARY

LIST OF ABBREVIATIONS

Chapter 1	A Holistic Review of the School Curriculum	
	Purpose of this Report	2
	Structure of the Report	2
	The Review	3
	Views of the Public and Responses of the CDC	3
	Tasks Ahead - All to Act (2001-02 to 2005-06)	6
	Policy Contexts	7
Chapter 2	Guiding Principles, Development Strategies and	
	Critical Success Factors	
	Guiding Principles	10
	Development Strategies	12
	Critical Success Factors	16
Chapter 3	The School Curriculum - What is Worth Learning	
	Purpose of the Chapter	19
	Meaning of the Curriculum	19
	Five Essential Learning Experiences	20
	Pre-primary Curriculum	20
	Curriculum Framework and Components for Primary and Secondary Schools	21
	Advantages and Concerns of the Curriculum Framework	26
	Connections across KLAs	26
	What is "trimmed" in the Curriculum?	27
	Focuses for Action in Key Learning Areas and General Studies for Primary Schools	29
	Chinese Language Education	30
	English Language Education	36
	Mathematics Education	40
	Personal, Social and Humanities Education	45
	Science Education	48
	Technology Education	52
	Arts Education	56
	Physical Education	59
	General Studies for Primary Schools	63

Chapter

4 How to Act - Effective Learning, Teaching and Assessment

Actions via School Structure , Processes and Management

Learning Opportunity and Learning Environment	68
School-based Curriculum Development	69
Collaborative Lesson Preparation	74
Learning Time and Time-table	75

Actions with Direct Impact on Learning and Teaching Inside and Outside Classrooms

Effective Learning and Teaching Strategies	78
Assessment for Learning	80
Four Key Tasks	83
Effective Use of Textbooks and Learning/Teaching Resources	91
Catering for Learner Differences	92
Homework	94
Actions via Partnership with Other Organisations and Sectors	
Life-wide Learning Opportunities for Whole Person Development	94
Smooth Transition between Kindergarten, Primary School, and Secondary School	95

96

Home-School Co-operation

Chapter 5

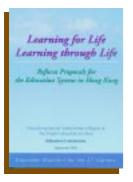
Measures and Resources to Support Schools and Teachers

Characteristics of Measures and Resources to Support Schools	
and Teachers	99
Curriculum Guides & Documents	100
Teacher and Principal Development Programmes	102
Textbooks and Resources on Learning and Teaching	106
Collaborative Research and Development ("Seed") Projects	107
Curriculum Bank	109
Library Development	111
School-based Curriculum Development Support	112
Creating Time and Space for Teachers and Learners	113
Dissemination Strategies and Networks	114
Local and International Consultancies	115
Partnership – All to Contribute	115

Chapter <mark>6</mark>	Conclusion	
I	Monitoring and Review Final Word	120 121
Appendices		
	I. Existing Subjects & New Subjects under the 8 Key Learning	
	Areas (KLAs) for 2001-02 to 2005-06	I-1
	II. Values and Attitudes as Generic Elements in the	
	School Curriculum	II-1
	III. Life Event Approach to Moral and Civic Education	III-1
	IV. Proposed Re-organisation and Trimming of the Content of the	
	Present General Studies Syllabus	IV - 1
Bibliography		
Glossary		
Membership of th	ne Curriculum Development Council	

Terms of Reference

Chapter 1 A Holistic Review of the School Curriculum



"Learning for Life, Learning through Life" Reform Proposals for the Eduction System in Hong Kong Education Commission September 2000



"Learning to Learn – The Way Forward in Curriculum Development" Consultation Document November 2000

Purpose of this Report

The purpose of this report entitled "Learning to Learn - The Way Forward in Curriculum Development" is to set the general directions for curriculum development in Hong Kong for 2001-2011, and make recommendations for actions for 2001-02 to 2005-06. The directions and recommendations are in harmony with the vision and overall aims of education for the 21st Century laid down in the Education Commission's (EC's) Report on Learning for Life, Learning through Life - Reform Proposals for the Education System in Hong Kong published in September 2000. The Curriculum Development Council (CDC) has considered public responses to the set of consultation documents Learning to Learn - The Way Forward in Curriculum Development (November, 2000), the policy contexts of Hong Kong, local school experiences and research, and also developments in different countries. The action plans for 2006-07 to 2010-11 will be prepared in due course, based on a review report on developments between 2001-02 and 2005-06. The ultimate goal is to raise the quality of education and levels of student achievement in Hong Kong.

Aims of Education for the 21st Century

"To enable every person to attain all-round development according to his/her own attributes in the domains of ethics, intellect, physique, social skills and aesthetics, so that he/she is capable of life-long learning, critical and exploratory thinking, innovating and adapting to change; filled with self-confidence and a team spirit; willing to put forward continuing effort for the prosperity, progress, freedom and democracy of his/her society, and contribute to the future and wellbeing of the nation and the world at large."

"Our priority should be to enable our students to enjoy learning, enhance their effectiveness in communication and develop their creativity and sense of commitment."

(Reform Proposals for the Education System in Hong Kong 2000)

Structure of the Report

- This publication is the main report produced after the Holistic Review of the Hong Kong School Curriculum (HORSC) and its public consultation, and is accompanied by a folder of exemplars of authentic and practical experiences in Hong Kong schools. Its structure is as follows:
 - Chapter One provides information on HORSC conducted by the CDC during 1999-2001, feedback from the public on the consultations and responses by the CDC, and the tasks ahead for 2001-02 to 2005-06.
 - ⇒ Chapter Two depicts the guiding principles, the strategies for action planning and critical success factors.

Key Reform Proposals

- 1 Shifting from transmission of knowledge to learning how to learn
- 2 Shifting from over-emphasizing academic studies to focusing on whole-person development
- 3 Shifting from compartmentalized subjects to integrated learning
- 4 Shifting from reliance on textbooks to use of diversified learning and teaching materials
- 5 Shifting from classroom teaching to learning beyond the classroom, with support from the community
- 6 Shifting from traditional time-tabling to an integrated and flexible arrangement of learning time
- 7 Abolishing premature streaming and providing more opportunities for students to explore their aptitudes and potentials

(Reform Proposals for the Education System in Hong Kong 2000)



"A Holistic Review of the Hong Kong School Curriculum" Proposed Reforms Curriculum Development Council October 1999



"Learning to Learn – The Way Forward to Curriculum Development" Consultation Documents

- Chapter Three defines the scope of the school curriculum, that is, what is worth learning for our students.
- Chapter Four provides suggestions on actions to promote effective learning, teaching and assessment for all people making a contribution to curriculum development.
- ⇒ Chapter Five focuses on the measures and resources to support schools and teachers.
- → Chapter Six concludes the whole report.
- The folder of exemplars published alongside this report illustrates the points in action in this report, wherever appropriate, for the reference of readers. The relevant exemplar in the folder is indicated by



• This report does not present the detailed framework of learning targets or contents of each Key Learning Area (KLA), nor is it a manual of prescriptive actions. The new curriculum guide for each KLA will be published in 2002, and subject guides for revised or new subjects will be revised in subsequent years. These guides will provide further details on learning, teaching and assessment.

The Review

The HORSC was conducted by the CDC during 1999 and June 2001 in parallel with the EC's review of the education system conducted from 1998 to 2000. At the present time, measures to support schools in agreed directions are underway.

The review has involved a wide range of participants, including students, parents, teachers, principals, librarians, publishers, local and overseas academics and teacher educators, professionals, employers as well as youth groups and non-government organisations.

Throughout the review, comments and views were collected through both formal channels of participation, for example in formal committees, working groups, seminars, open forums, etc. and informal networks of critical friends, consultants and the mass media. Reference has also been made to local research and development in other countries.

Views of the Public and Responses of the CDC

Comments were received by post/fax or through email, and views were also reflected through various media, and in the consultation forums held for different stakeholders during the public consultation period. Detailed information on the feedback is found at the web site of http://cd.ed.gov.hk/cdc/Feedback_from_the_public.htm (Consultation on Learning to Learn: Public Views and Comments). The following is a summary of the responses:

- The public appreciates the problems associated with recent curriculum development as pointed out in the consultation documents:
 - ➡ It was often a top-down approach but with insufficient support for school change.
 - ⇒ There was a lack of communication to ensure that the message or intention was clearly understood.
 - There was also a tendency to suggest that the 'new' is always better without due regard to existing strengths, e.g. the positive impact of Target Oriented Curriculum (TOC) on schools.
- The public also shares the view that the existing school curriculum is fragmented, with overlapping subjects, and that some subject contents are over-prescribed and outdated.
- The public agrees with
 - ⇒ the guiding principles set out for this round of curriculum development
 - \Rightarrow the overall aims of the new school curriculum
 - the recommendations on the directions to be taken in curriculum development
 - the gradual approach (10-year plan) and the emphasis on partnership/collaboration with different parties, with the whole of society contributing, instead of a top-down approach to development
 - the use of evidence through Collaborative Research and Development ("Seed") Projects to generate useful knowledge and experiences
 - ⇒ the curriculum framework and the learning goals:
 - students to develop independent learning capabilities through developing generic skills, foundation knowledge in eight Key Learning Areas, and personal values and attitudes
 - ♦ learner-centred and whole-person development to stretch the students' potential

The Overall Aims of the School Curriculum

The school curriculum should provide all students with essential life-long learning experiences for whole-person development in the domains of ethics, intellect, physical development, social skills and aesthetics, according to individual potential, so that all students can become active, responsible and contributing members of society, the nation and the world.

The school curriculum should help students to learn how to learn through cultivating positive values, attitudes, and a commitment to life-long learning, and through developing generic skills to acquire and construct knowledge. These qualities are essential for whole-person development to cope with challenges of the $21_{\rm st}$ century.

A quality curriculum for the 21_{st} century should therefore set the directions for teaching and learning through a coherent and flexible framework which can be adapted to changes and the different needs of students and schools.

... Learning to Learn – The Way Forward in Curriculum Development (November 2000)

- four key tasks for promoting learning capabilities: moral and civic education, reading to learn, project learning and information technology for interactive learning
- The CDC recognises the major concerns of the public and will address the following issues in different chapters of this report:
 - ⇒ the curriculum reform is too broad and needs refocusing (Chapter 3)
 - ⇒ the fear and misunderstanding that school-based curriculum development implies shifting responsibilities from the Education Department (ED) to schools, thus leaving everything in the hands of the teachers (Chapters 4 and 5)
 - ⇒ whether the Target Oriented Curriculum (TOC) has faded out or not (Chapter 2)
 - ⇒ more explicit examples to illustrate the principles of learning and teaching, and assessment (Chapters 3 and 4)
 - ➡ teachers are overburdened by different kinds of educational reforms, and there is a perceived lack of support (Chapter 5)
 - ⇒ the suspicion/misperception that Chinese History is abolished (Chapter 3)
 - ⇒ the need for examinations and assessment to be in line with curriculum changes (Chapter 3)
 - ⇒ how the senior secondary curriculum, which involves higher stakes, is going to change (Chapters 2, 3, 4 and 5)
 - ⇒ more specific details are required on
 - ♦ the schedule and targets in each phase (Chapter 2)
 - ♦ the action of different parties (Chapters 3, 4 and 5)
 - ♦ the eight Key Learning Areas (Chapter 3 and subsequent KLA curriculum guides scheduled for 2002)
 - ♦ assessment (Chapter 4)
 - ♦ evaluation (Chapter 6)
 - the ED's commitment and support to schools and teachers in terms of know-how and resources (Chapter 5 and the folder of examplars)

- In preparing our students to meet the challenges of
 - ⇒ a knowledge-based society
 - ⇒ globalisation
 - ⇒ the impact of information technology
 - ⇒ the transience of things
 - ⇒ the rising need for moral considerations
 - increasing public participation in government affairs
 - ⇒ the interdependent but competitive world

the CDC has set out the overall aims of the school curriculum and specified the goals that our students should be able to achieve:

- 1. recognise their roles and responsibilities as members in the family, the society, and the nation; and show concern for their well-being;
- 2. understand their national identity and be committed to contributing to the nation and society;
- 3. develop creative thinking and master independent learning skills (e.g. critical thinking, information technology, self-management);
- 4. engage in discussion actively and confidently in English and Chinese (including Putonghua);
- 5. develop a habit of reading independently;
- 6. possess a breadth and foundation of knowledge in the eight Key Learning Areas; and
- 7. lead a healthy lifestyle and develop an interest in and appreciation of aesthetic and physical activities.

... Learning to Learn -The Way Forward in Curriculum Development (November 2000)

Tasks Ahead - All to Act (2001-02 to 2005-06)

We invite all parties to act together in 2001-02 to 2005-06 in the following priority tasks useful for improving the current situation of learning and teaching, raising levels of student achievement, and wholeperson development.

• **Create more space** in curriculum planning and implementation, as well as in school management, for students (to think and learn) and for teachers (to teach effectively, reflect and focus on professional work), through various means, including:

- → <u>Trimming</u> and restructuring the curriculum
- Re-engineering work process in schools, reducing unnecessary administrative workload of teaching staff
- → <u>Reducing</u> excessive tests, examinations and dictations
- ⇒ <u>Planning</u> the time-table flexibly
- ⇒ <u>Making</u> good use of various grants
- Sharing good practices and learning and teaching materials with peers
- **Motivate** every student to learn in various environments (school, home, community) using a range of diverse and appropriate strategies. Minimise or remove practices that de-motivate students.
- Use the following **four key tasks** as tools to promote effective learning and teaching:
 - Moral and civic education to help students establish their values and attitudes
 - Reading to learn broadly with appropriate strategies to learn more effectively
 - Project learning to develop generic skills, acquire and build knowledge
 - ⇒ <u>Using information technology</u> for interactive learning
- Use effective learning and teaching strategies to help all students to acquire **basic competencies in Chinese**, **English and Numeracy**, appropriate to their level of study as an enabling tool of learning.
- Among the nine generic skills, accord priority to critical thinking, creativity, and communication skills and use effective learning and teaching strategies in Key Learning Areas to strengthen these generic skills.

Policy Contexts

The recommendation to promote students' independent learning capabilities for whole-person development is set in the following policy contexts as a way of providing opportunities for further development:

• An urgent appeal to change the university admission system in line with broadening the S4-5 and S6-7 curricula – producing a positive washback effect on the reform of the senior secondary curriculum.

- 60% of secondary school graduates will receive post-secondary education by 2010 curriculum reform is going to strengthen students' capabilities for further study.
- An increasing number of associate degrees will be offered in tertiary institutions in Hong Kong creating more life-long learning opportunities for today's students.
- The systems of senior secondary education, continuing education, and higher education are under review by the Education Commission, to be completed by mid-2002 smoothening the continuity between school and post-secondary education.
- The need to cater for student diversity in terms of abilities, potential and interests.
- The government will continue to review resources it puts into school education providing more effective support to teachers and schools.
- A co-ordinated approach to reforms and participation by all sectors.

Guiding Principles, Development Strategies and Critical Success Factors The purpose of this chapter is to recommend guiding principles and strategies for achieving the aims of education in Hong Kong through curriculum development, and also to suggest critical success factors to make the strategies work.

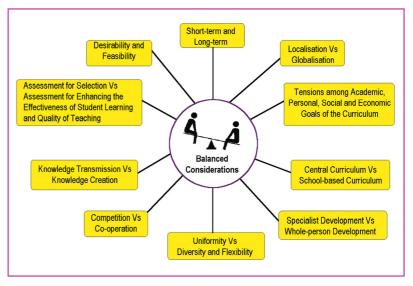
Guiding Principles

We have learned from both local and international reform experiences that when there are no clear principles underlying a complex system and communication network, things can easily go wrong. Flexibility of practice and sustainability of change need to be supported by clear guilding principles if they are to be carried through effectively.

- 1. Our overarching principle is to help students Learn to Learn, which involves developing their independent learning capabilities leading to whole-person development and life-long learning. It is hoped that these will result in an overall improvement in the quality of education. Broadly speaking, the means for bringing this about will include:
 - the development of generic skills (e.g. critical thinking, creativity, communication, etc.) in the context of Key Learning Areas and other relevant contexts
 - ⇒ the use of different methods of learning and teaching to achieve learning targets
 - ⇒ the development of students' own interests and potential
 - ⇒ the widening of students' learning space for whole-person development
- 2. All students can learn, and in order to do so they are entitled to
 - □ learning opportunities through one curriculum framework
 - ⇒ a broad and balanced curriculum in basic education
 - ⇒ a broad and balanced curriculum in senior secondary education but with greater choice
- 3. A learner-focused approach should be adopted. We should understand their needs, learning styles, interests and abilities, in order to decide on appropriate learning, teaching and assessment strategies.
- 4. We should consider the contexts of Hong Kong (including historical factors and cultural heritage), build on our strengths (such as a very strong learning culture, effective whole-class teaching, high parent expectations, useful curriculum guides in kindergarden, etc.), and

improve further. The positive impact of earlier innovations (e.g. the Activity Approach, curriculum integration, Mastery Learning, the Target Oriented Curriculum(TOC)) should be connected to the latest developments. The experiences gained through the implementation of TOC during the past few years, for instance, have provided good references for the way forward in curriculum development. The TOC spirit and the positive evidence collected have all been incorporated into the development of the primary school curriculum. Among the best TOC practices used are the importance of setting clear learning targets, the emphasis on catering for individual differences and the use of cross-curricular (generic) skills, etc. On the other hand, undesirable practices, such as assessment for recording only and bias towards one particular learning and teaching approach, have been changed and improved. As the good practices from the TOC initiative have now been fully incorporated into the curriculum of primary schools, it is no longer necessary to use the specific term "TOC" anymore.

- 5. We should adopt practices that will achieve a balance between:
 - → different purposes
 - ⇒ conflicting interests and views
 - ♦ the academic, personal, economic and social goals of the curriculum
 - ♦ diversified learning and teaching strategies
 - diversified assessment modes for an informed learning process and/or for selection purposes. (Chapter 4)



Tensions

Tension

Balance between considerable factors in Curriculum Development

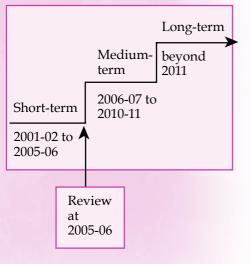
- 6. There should be a balance between what students are expected to learn in the curriculum prepared by the CDC, e.g. the curriculum framework and the learning targets, and aspects of school-based curriculum development based on the needs of the students in the schools.
 - School-based curriculum development does not mean that the government is abrogating its responsibilities to provide guidelines to schools. (Chapters 4 and 5)
 - The CDC and the government will continue to support schools and teachers through review and development of the curriculum framework, set basic requirements in time allocation, issue curriculum guides, review textbooks, and support effective learning and teaching with suitable measures. (Chapters 3,4 and 5)
 - As there is no single correct model of curriculum change to improve students' learning capabilities, schools should be given the space, professional autonomy and flexibility to develop their own school-based curriculum in ways best suited themselves.
- 7. Curriculum development is a continuous improvement process. It is unrealistic to expect to see a marked change in measurable results overnight. It takes more than a decade to produce a new generation, and the literature on the educational reforms of other governments indicates that these are long-term processes. It is quality that matters rather than speed.
- 8. Positive thinking with patience, celebration of small successes, and tolerance of ambiguity are essential to ensure the continuity of change.

Development Strategies

We have come to the conclusion that in order to raise our students' overall learning capabilities and level of achievement, strategies are needed to steer the direction of change. The following development strategies are recommended:

- 1. Take gradual steps
 - → Gradual steps
 - ♦ try-out and review existing practices
 - ♦ make continuous improvement
 - ♦ prevent irreversible and/or undesirable impacts on students

Development Strategies: Three phases including short - term, medium-term and long-term in Curriculum Development



Major Strategies

- 1. Take gradual steps
- 2. Accumulate experiences
- and build up capacity
- 3. Work in partnership

- → Gradual changes
 - give all parties (e.g. teachers, government, teacher educators, parents) time to build up the necessary capacity (knowledge, skills, commitment) for change
 - ♦ coordinate and focus efforts on improving the quality of student learning
- A ten-year plan has been proposed, with 2001-02 to 2005-06 as the short-term phase, and 2006-07 to 2010-11 as the mediumterm phase.
- From 2001-02 to 2005-06, based on their individual strengths and contexts, schools are expected to strengthen students' learning capabilities and change the school curriculum at their own pace. By 2006, schools will be ready to use their professional autonomy to strike a balance between the recommendations of the CDC's new curriculum guides and school-based curriculum development, in matters such as choice of options, contents, flexible use of time and life-wide learning opportunities.
- An interim review of the progress for the period 2001-02 to 2005-06 and a new agenda for 2006-2010 are to be completed by the CDC in 2006.
- From 2006-07 to 2010-11, a broad and balanced curriculum for whole-person development will be provided in schools to meet the needs for life-long learning, and to raise the quality of education further.
- By 2011, we hope that our students will possess life-long learning qualities such as resourcefulness, resilience, motivation, collaboration, critical mindedness and creativity.

		Long-term
	Medium-term	beyond
Short-term	2006-07 to	2011
2001-02 to 2005-06	2010-11	
 Government Supports schools and teachers with a range of measures (e.g. curriculum guides, research and development ("seed") projects, on-site school-based support, teacher and principal development programmes, dissemination of good practices, etc.) as in Chapter 5. Reviews continuously the contextual factors, development process, and impacts on learning and teaching, and makes adjustments in policy and support. 	• Tasks continue. □ • Improves plans and actions based on review in 2006.	and Missions for
 Schools and teachers Promote learning to learn through the four key tasks a. Moral and Civic Education b. Reading to Learn c. Project Learning d. Information Technology (IT) for Interactive Learning Infuse generic skills (critical thinking, creativity and communication) into learning and teaching of existing school subjects. Review their current work, formulate their own curriculum development plan at their own pace. Students > Have more learning opportunities for developing independent learning capabilities suited to their styles, needs and interests, and also for whole-person	 Use the open framework and recommendations in the curriculum guides to develop a school-based curriculum best suited to the learning needs of students and the ethos and missions of the schools. Continue to raise the effectiveness of learning and teaching, and improve the independent learning capabilities of students needed for life-long learning. 	>

Schedule for implementing the reform

- 2. Accumulate experiences and build up capacity
 - ⇒ It is more effective to generate useful experiences
 - \diamond as early as possible
 - through trying out ideas in practice on a small scale, reflecting on the process and the products and then improving actions
 - through developing a critical mass of curriculum leaders (school teachers, principals) to foster change

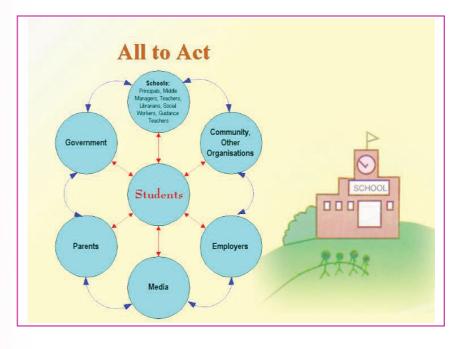
than to thin out the effort on a large scale in the short run.

- The capacity (knowledge, skills, application) of all parties involved is built up by accumulation, sharing, dissemination, adaptation of useful experiences and continuous improvement.
- 3. Work in partnership
 - ⇒ Different parties :
 - ♦ government organisations and advisory bodies
 - ♦ schools, teachers and principals
 - ♦ non-government organisations
 - ♦ teacher education institutions
 - \diamond parents
 - ♦ employers

- \diamond professional associations
- ♦ media

all have different capacities to support student learning directly or via schools.

Partnership and concerted efforts are advocated for all to act together to achieve the common goals.



All to Act Different parties working together for the Curriculum Reform

Critical Success Factors

The understanding and support of all sectors and stakeholders with regard to the following critical success factors are needed to make the strategies of development work and have impact on student learning in the short-term phase (2001-02 to 2005-06):

- Changes in university admission to facilitate the broadening of the senior secondary school curricula
- Parents' understanding and support for schools, teachers and curriculum improvement
- Continuous support from the government to provide resources for school education
- Teacher education programmes for all teachers to be professionally trained and upgrading of teachers
- The goodwill and commitment of community organisations to provide the learning opportunities needed for the five essential learning experiences

- Employers (including the Civil Service) to take into consideration all learning experiences of students
- The media to help disseminate the good practices of schools and teachers
- Assessment reforms in the Hong Kong Examinations Authority (HKEA) and in schools are in line with curriculum change :
 - introduce Core Competency (criterion-referenced) for English Language by 2004, Chinese Language and large-entry subjects by 2005, and Mathematics by 2006 at HKCEE level
 - ⇒ widen the assessment of generic skills, where applicable, through suitable question setting and broadened use of the Teacher Assessment Scheme (TAS) in school subjects
- Support for academically lower achievers

Chapter 3

The School Curriculum-What is Worth Learning?

Purpose of the Chapter

- This chapter answers the question "What is worth learning?" as a means for our students to achieve whole-person development and life-long learning. The contents of this chapter will form the basis for the following work in the short-term phase 2001-02 to 2005-06:
 - Teachers and schools are to improve the existing curriculum whilst in transition to a new framework. The actions to be taken include trimming obsolete or less essential content, restructuring school subjects, infusing critical thinking, creativity and communication into the learning and teaching of existing subjects, and opening up more space for learning.
 - CDC committees are to develop curriculum guides on different stages of schooling, KLAs/subjects, and General Studies for Primary Schools between 2002 – 2006 (schedule shown in Chapter 5).
- The curriculum guides scheduled for publication in 2002 2006 will be based on recommendations in this chapter. They will provide details on the learning targets of each Key Learning Area (KLA) framework, the organisation of contents, the learning, teaching and assessment strategies, the resources, exemplars and other useful information for the reference of teachers. However, it is not the purpose of this chapter to present details of the above.

Meaning of the Curriculum

- The school curriculum defines the views of society about 'what is worth learning', commensurate with students' abilities at different stages and with their ways of perceiving and learning about the world.
- We have to move away from the concept of the curriculum as "documents" to the concept of the curriculum as "learning experiences" to enhance the effectiveness of learning.
- Learning experiences are a nexus of
 - ⇒ aims
 - ⇒ learning processes
 - ⇒ learning contents
 - → social environment

Five Essential Learning Experiences

All students should be entitled to the following five learning experiences that correspond to "*ethics, intellect, physique, social skills and aesthetics*" for whole-person development stated in the aims of education (Education Commission,2000):

- Moral and civic education developing
 - ⇒ personal character and interpersonal skills
 - → respect for others
 - → perseverance
 - → national identity
- Intellectual development
 - ⇒ laying a firm foundation of knowledge
 - → enjoyment in learning
- Community service developing
 - → commitment
 - → responsibility
- Physical and aesthetic development
 - ⇒ leading to healthy living styles
 - → appreciating aesthetic qualities
- Career-related experiences
 - ⇒ linking studies with career aspirations and job opportunities

Pre-primary Curriculum

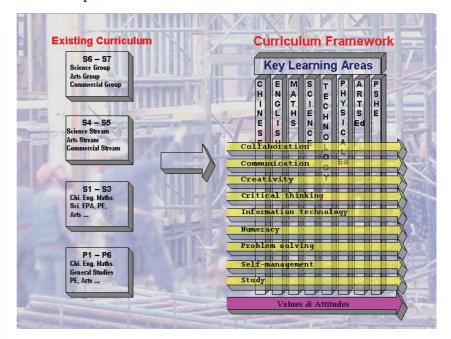
- A pre-primary curriculum geared to providing a high quality, integrated early education and childcare service should have the following key features:
 - Relevant and appropriate content that matches children's needs and interests
 - Provision of learning experiences that build on children's prior knowledge and previously acquired skills
 - ⇒ Learning through play

- Opportunities for children to engage in activities that are initiated by themselves
- ⇒ Theme-based learning
- No textbook used at the nursery class level. Lower and upper kindergarten classes may choose to use resource packages as learning materials
- ⇒ Use of children's mother tongue as the medium of instruction
- Observation records on children's performance and progress made in various developmental aspects as the core assessment data
- Strong collaboration among practitioners, parents and community service workers
- In pursuance of the unification of pre-primary services, a combined curriculum guide for kindergartens and child care centres was issued in September 1996. This Guide, which is for the use of all pre-primary institutions in both sectors, suggests the design of a quality curriculum to achieve the aim of all-round development, and the cultivation of a positive attitude towards learning, good living habits and creativity.

Curriculum Framework and Components for Primary and Secondary Schools

- A curriculum framework is developed as the basic structure for setting the learning targets and ensuring the standards of students at various stages of schooling. The framework is composed of three interconnected components:
 - → Key Learning Areas
 - → Generic Skills
 - → Values and Attitudes
- High expectations in Asian society and explicit goals are important factors in effective learning. Learning targets of KLAs, generic skills, values and attitudes are set for student to
 - acquire the basic knowledge/concepts needed for an adult world in the eight Key Learning Areas
 - develop the generic skills necessary for independent and life-long learning through the KLAs, General Studies for Primary School and other meaningful contexts

→ nurture positive values and attitudes for whole-person development



Key Learning Areas

- A Key Learning Area
 - ⇒ is a subset of a curriculum structured around fundamental and connected concepts within major knowledge domains
 - ⇒ provides the context for the development and application of generic skills, values and attitudes
 - Serves as a context for the development of understanding at a deep level and for the construction of new knowledge
 - ⇒ provides the platform for reviewing elements of learning
- The existing subjects are grouped into eight Key Learning Areas:
 - ⇒ Chinese Language Education
 - ⇒ English Language Education
 - → Mathematics Education
 - ⇒ Personal, Social and Humanities Education (PSHE)
 - ⇒ Science Education
 - → Technology Education
 - → Arts Education
 - → Physical Education

Proposed Curriculum Framework: The proposed Curriculum framework is composed of three interconnected components: Key Learning Area, Generic Skills, Values and Attitudes

- Schools are recommended to choose subjects from each group in order to provide a broad and balanced curriculum for students at all levels. (Appendix I Existing Subjects and New Subjects under the Key Learning Areas(KLAs) for 2001-02 to 2005-06)
- In each Key Learning Area, studies can be in the form of subjects, modules, short courses, projects, etc. Schools can organise their curriculum in different ways using a combination of these.
- General Studies for Primary Schools covers moral and civic education and interconnected knowledge/concepts which are relevant to students' daily life, notably from PSHE, science education and technology education, as well as elements from other KLAs.

The Issue of Chinese History and Culture

- The study of Chinese history will be strengthened in the 9-year of basic education by the following:
 - National identity and Chinese culture is one of the six strands in the new framework for General Studies for Primary Schools (Consultation Document on Learning to Learn - The Way Forward in Curriculum Development, November 2000).
 - Students in all types of junior secondary schools will study Chinese history and culture, because Chinese history and culture are part of the Essential Contents for Learning in the PSHE KLA.
 - Chinese History will remain as independent subjects in junior secondary, secondary 4-5, and secondary 6-7 levels.
 - Traditionally, Chinese history and world history have been studied separately. The one-history approach should use Chinese history as the main thread of study. It will be piloted as a mode of study in PSHE among other modes.
 - Solution ⇒ In 9-year basic education, Chinese will be used as the medium of instruction for the learning and teaching of Chinese history.
- There was a suggestion to form a ninth KLA of "National History and Guoqing Jiaoyu (國史及國情教育)". "Guoqing Jiaoyu" (國情 教育) is a component of moral and civic education, which is one of the five essential learning experiences for whole-person development. Both "Guoqing Jiaoyu" (國情教育) and moral and civic education involve values such as national identity, responsibility and commitment to improving society and our nation. A sense of national identity is cultivated through understanding elements of Chinese history and culture, (e.g. history events, arts, scientific

and technological development, achievements of outstanding Chinese) which permeate all KLAs. Moral and civic education should be internalised through school life and life-wide learning activities within the KLAs or through realising oneself in life events. A life event approach to moral and civic education is advocated in this report. Therefore it is not desirable to separate "Guoqing Jiaoyu" (國情教育) from moral and civic education to form a ninth KLA with Chinese history.

Generic Skills

- The recommendations on the development of generic skills have been widely accepted by public consultation.
- Generic skills are not developed in a vacuum, but should be developed through the learning and teaching of the KLAs, General Studies for Primary Schools, or other contexts and activities, for example in project learning, reading, interactive learning on the Internet.
- Generic skills are fundamental in helping student to
 - ⇒ learn to acquire knowledge
 - ⇒ construct knowledge
 - ⇒ apply knowledge to solve new problems

The 9 Generic Skills

- 1. **Collaboration skills** (e.g. listening, appreciation, and negotiation) help students to engage effectively in tasks and teamwork, and to benefit from collaborative relationships.
- 2. *Communication skills* help students to interact with people and express their ideas effectively.
- 3. **Creativity** is the ability to generate original ideas and solve problems appropriate to the contexts.
- 4. Critical thinking skills help students to draw out meaning from given data or statements, generate and evaluate arguments, and make their own judgement.
- 5. **Information technology skills** help students to seek, absorb, analyse, manage and present information critically and intelligently in an information age and a digitised world.
- 6. Numeracy skills help students to master basic computation in daily life, use basic mathematical concepts in practical situations, make reasonable estimates, understand and interpret graphs, charts, and data.



Refer to Exemplars

- I.1.2 閱讀與思考計畫
- I. 2.3 Using Imaginative and Literary Texts to Develop Creativity, Critical Thinking and Cultural Awareness : "Where go the boats?"
- I. 3.2 Formulating Algebraic Equations in Word Problems
- I.4.3 培養批判性思考能力一 觀點與角度
- I.4.4 培養批判性思考能力一 教學活動
- I. 5.1 Developing Critical Thinking and Problem Solving Skills through the Design of Experiments
- I 7.1 自然之音

- 7. **Problem-solving skills** help students to use thinking skills to resolve a difficulty and determine the best course of action.
- 8. **Self-management skills** (e.g. preserving emotional stability, handling stress) help students to build up self-esteem and accomplish goals.
- 9. Study skills (e.g. collecting and processing information) help students to develop good learning habits, and the abilities and attitudes to enjoy learning.

Learning to Learn - The Way Forward in Curriculum Development (November 2000)

• Since public feedback indicated that the curriculum reform envisaged is too broad, a priority focus will be placed on the development of three of these generic skills, namely *communication skills, creativity* and *critical thinking skills*, though the others should not be neglected.

Values and Attitudes

- Values are qualities that students should develop as principles underpinning conduct and decision-making, for example, rights and responsibilities, commitment, honesty and national identity.
- Attitudes support motivation and cognitive functioning. They are needed to perform a task well, for example, open-mindedness, co-operativeness, perseverance and resilience.
- Values and attitudes mutually affect each other.
- A set of values and attitudes given in *Appendix II* is recommended for incorporation into the learning targets of each KLA framework whenever appropriate.
- The development of values and attitudes such as responsibility, commitment, respect for others, perseverance and national identity is considered important for the short-term phase (2001-02 to 2005-06). They are necessary for developing goals in life and learning. It is recommended that they will be fostered through moral and civic education (one of the four key tasks) and also across KLAs in appropriate themes, learning and teaching strategies.
- Value-oriented studies such as religious education, sex education, health education, environmental education and media education, or similar studies with different terminology (affective education, life education) can be taken as an integral part of moral and civic education. A life-event approach to moral and civic education covering value-oriented themes is advocated (Chapters 4 and 5).

A list of suggested life-events for moral and civic education is offered in *Appendix III*

Advantages and Concerns of the Curriculum Framework

- The Curriculum Framework allows for different treatment of
 - ⇒ interpretation of contents
 - Scope of contents
 - ⇒ depth
- It allows flexible use of different learning strategies and styles to suit different learners so long as the learning targets are achieved.
- It ensures coherence across KLAs/subjects.
- It ensures continuity of learning across levels.
- It facilitates easy updating through modifying the learning targets.
- The concern of an open framework is that teachers may find things less concrete and worry about the workload. It takes time for teachers who are used to prescription to exercise more autonomy and liberate student learning. Measures to support schools are presented in *Chapter 5*.
- It is a valid concern that the systematic study of subject disciplines will be lost. Both integrated learning experiences (integrated studies) and discipline-based studies (e.g. physics) are valuable for students. Therefore, students should be given opportunities to study both.

Connections across KLAs

In real life, the learning experiences of students transcend the boundaries of knowledge domains. Cross-KLA studies also allow students to see things from different perspectives. The following measures will enrich the learning experiences of students:

- A new curriculum framework for General Studies for Primary Schools that is not merely a combination of the old primary science, social studies, and health education
- Liberal Studies at Advanced Supplementary level for S6-7



Refer to Exemplar I. 7.2 非洲藝術與文化



Refer to Exemplar I. 9.1 締造空間、加強學習

- Two new HKCEE subjects of Integrated Humanities (for science and technology-oriented streams) and Science and Technology (for arts streams) to serve a broadening function in 2003-04 for S4 students
- Life-wide learning opportunities outside the classroom in authentic environments, e.g. community, museum, home (Chapter 4)
- Learning activities involving looking at things from different perspectives
- Learning activities like project learning, inquiry learning (Chapter 4).

What is "Trimmed" in the Curriculum?

- It is a common public perception that the curriculum is "overloading" students and should therefore be trimmed.
- The "overloading" of students derives from a mixture of problems such as overlapping and outdated content, over-teaching, poor learning and ineffective teaching. It is not necessarily due to excessive contents.
- The open framework proposed above provides the flexibility for schools to adapt the curricula to different needs of students. However, in the transition towards using the new curriculum framework by 2006, the approach to "trimming" involves the following:
 - ⇒ Taking away outdated contents and non-essential details, and leaving more space for student learning
 - ☆ Teachers of General Studies for Primary Schools can trim away the unnecessary detail in the existing General Studies curriculum (CDC, 1997) to create more space for learning (*Appendix IV*)
 - ⇒ Core, Extensions, and Additional Learning Space
 - ◇ The junior science curriculum implemented in 2000 provides a core component, while using spare curriculum time for students to plan, design and conduct science investigations in order to develop process and thinking skills.
 - The revised mathematics curriculum for primary schools to be implemented in 2002 provides enrichment activities/ topics.



Refer to Exemplars

- I. 6.4 Business Opportunities on an Open Day
- I.4.1 個人、社會及人文教育 學習領域內的不同課程 設計模式
- I. 6.1 Teaching and Learning Computer Literacy via More Meaningful Contexts

- The revised mathematics curriculum for secondary schools to be implemented in 2001 provides a foundation part, a non foundation part and enrichment activities/topics. Spare periods are also suggested for each key stage to provide space for mathematics-related school-based initiatives.
- ⇒ Flexible modes of organising the contents of studies
 - The Technology Education KLA recommends a flexible mode in which the contents of subjects can be trimmed and re-organised around common themes.
 - The PSHE KLA suggests different ways of curriculum planning, such as developing common themes to connect different subjects and introducing integrated curriculum modes of a different nature.
- ⇒ Using the open curriculum framework of learning targets
 - Schools and teachers are encouraged to use the open framework proposed in the consultation documents of each KLA to assist them to adapt the contents, learning and teaching processes, and resources to the needs of their students so that they achieve the learning targets of knowledge/concepts, generic skills, values and attitudes. Further details on effective learning and teaching are provided in *Chapter Four* of this report. Further details on each KLA will be provided by the new curriculum guides scheduled for 2002.

Focuses for Action in the Key Learning Areas and General Studies for Primary Schools

We are aware that teachers need to know how to strengthen students' learning capabilities and improve the existing curriculum now, and also how to prepare for future improvement. The ensuing pages present the focuses for action related to each Key Learning Area and to General Studies for Primary School, for the reference and action of teachers and partners in the short-term phase from 2001-02 to 2005-06 :

- The position of each KLA and the position of General Studies for Primary Schools
- Directions for development
- Short-term emphases (2001-02 to 2005-06) in learning and teaching
- Major issues of concern

Chinese Language Education

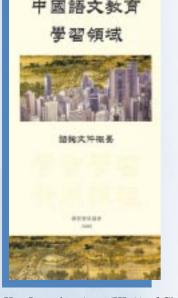
> Position

Chinese Language plays a fundamental role in learning, and language learning builds on the basis of the students' mother-tongue. The main purposes of Language Education are to enhance the development of students' language proficiency, helping them to master standard Chinese in writing, to speak Cantonese and Putonghua fluently and properly, to appreciate the beauty of language and to develop an interest in language learning; to develop students' higher-order thinking skills and improve the quality of their thinking; to mould students' temperament; to nurture students' senses in aesthetics, morality and culture; to shape their personality and eventually contribute to their whole-person development.

➤ Direction

The Chinese Language Education curriculum provides students with a comprehensive and balanced language learning experience. The following goals are proposed:

- To develop a balance of skills and integrated abilities in reading, writing, listening and speaking;
- To cultivate students' aesthetic sense and appreciation, and to increase the elements of Chinese Literature;
- To enhance moral and value education, and to cultivate students' knowledge and judgement through learning about Chinese culture;
- To develop students' ability and improve their quality in thinking skills, and to encourage the development of their independent, critical and creative thinking skills;
- To arouse students' interest in reading, so that they read more extensively, with wider range and in larger quantity, to increase their knowledge and vocabulary, and to widen their horizons and breadth of mind; and
- To meet the needs of society and students by developing diversified learning materials, and using them flexibly.



The Key Learning Area (KLA) of Chinese Language Education Summary of Consultation Document

► We hope that from now to 2005-06

Our Students	Our Teachers
To develop P1-P3 students' listening and speaking skills as the major aim with focuses as follows	
 Have more practice in listening and speaking, so that they can listen accurately and speak clearly Have less recitation, but develop more knowledge and recognition of characters Develop a habit in reading interesting articles and a love for reading Read more simple literary works, to sense the rhythm of words and appreciate the beauty of images 	 Provide more opportunities for students to listen and speak, and to build up more vocabulary so that they can express themselves better orally Cultivate students' interest in recognising and writing characters, and help them to appreciate the beauty of Chinese characters Help students to love reading and acquire preliminarily a reading habit Lead students to learn rhythm through chanting simple literary work, and let them feel the rhythm of characters and the beauty of images Listen to students, provide more opportunities and encourage them to express their own ideas freely, and never block the development of their thinking skills Avoid too much practice, and untargeted chanting and recitation

To develop P4-P6 students' reading and writing skills as the major aim with focuses as follows

- Have more practice in reading and listening, to acquire vocabulary and life experience; be confident in speaking and writing
- Appreciate the pleasure of reading and writing, and nurture an aesthetic sense
- Acquire a thinking habit, develop imagination, and creativity and develop the consciousness of raising questions through reading
- Let students acquire more vocabulary and life experience through reading and listening, and help them to become more confident in speaking and writing
- Organise more activities to enhance students' development of pleasure in reading and writing, and nurture an aesthetic sense
- Develop students' consciousness of raising questions, help them to acquire a thinking habit, develop their imagination and creativity through reading activities
- Avoid too much practice, and untargeted chanting and recitation
- Provide more life-wide learning and cross-curricular activities, and encourage students to learn language from the real living environment

To develop S1-S3 students' integrated language skills as the major aim with focuses as follows

- Acquire the habit of listening carefully, be confident and skilful in oral communication in various contexts
- Become used to reading extensively and deeply with wider interest
- Enjoy the pleasure of literary reading
- Acquire the habit of independent thinking, and develop creative and critical thinking skills

- Help students to acquire the habit of listening carefully, and to be confident and skilful in oral communication in various contexts
- Provide more different activities to enhance students' appreciation of the pleasure of reading and writing, and nurture an aesthetic sense
- Help students to enjoy the pleasure of literary reading
- Use more integrated language activities to help students to acquire the habit of independent thinking and develop creative and critical thinking skills
- Provide more life-wide learning and cross-curricular activities, and encourage students to learn language from the real living environment

To develop S4-S5 students' integrated language skills and diversified language skills as the major aim with focuses as follows

- Express themselves and communicate with others positively and effectively in various contexts
- Widen the scope and improve the quality of their reading
- Respond to the feelings and thoughts expressed in literature, and develop a moral sense
- Explore the sense of national cultural identity through reading texts and viewing audio-visual material
- Develop individual interests and strengths in different strands and specific items in language learning

- Provide various contexts to train students to communicate positively and effectively in different contexts
- Encourage students to widen the scope and improve the quality of their reading
- Assist students to explore the feelings expressed in literature, and develop a moral sense
- Help students to explore the sense of national cultural identity through reading texts and viewing audio-visual material
- Provide more opportunities and choices, and help students to develop individual interests and strengths in different strands and specific items in language learning
- Provide more life-wide learning and cross-curricular activities, and encourage students to learn language from real life and in vocational environments

➤ Major Issues of Concern

- Adaptation to the changing concept of the curriculum: The curriculum plan changes from one based on subjects to one based on Key Learning Areas. The organisation of the curriculum moves from independent passages to learning modules, from prescribed texts to open learning materials, and from classroom teaching to life-wide and cross-curricular learning. With this change of teaching models and in methodology, schools need a transitional period for adaptation in curriculum implementation.
- Assessment for learning: When implementing the new curriculum, schools need time to change their ideas and practices and to encourage a culture of "Assessment for learning" instead of employing the traditional modes of tests and examinations. Furthermore, public assessments and examinations have to be aligned with this too. Learning and assessment complement each other. The alignment between public examinations and learning-teaching-assessment in school will have a profound effect on the implementation of the curriculum as a whole.
- **Teacher education:** Faced with these changes in the concepts underlying the new curriculum and future developments in Chinese Language Education, teachers need various kinds of training to equip themselves for the future development of the curriculum.

Chineses Language Education Exemplars

For illustration of effective language curriculum development and learning and teaching experiences, please refer to the folder of Exemplars of Curriculum Development in Schools, and exemplars in the curriculum bank (http://cd.ed.gov.hk)

The Chinese Language Education KLA Curriculum Guide will be published in 2002.

English Language Education

► Position

The English Language Education Key Learning Area comprises two subjects: English Language and English Literature. It seeks to develop learners' English proficiency, provide them with opportunities for personal and intellectual development, and extend their knowledge and experience of other cultures in the English medium.

► Direction

Schools are encouraged to continue with the good practices that are already in line with the recommended curriculum developments. Further, teachers are encouraged to:

- provide greater opportunities for learners to use English for purposeful communication both inside and outside the classroom;
- make use of learner-centred instruction to encourage learner independence;
- make greater use of literary/imaginative texts to develop critical thinking and encourage free expression and creativity; and
- promote strategies, values and attitudes that are conducive to effective, independent and life-long learning.

► We hope that from now to 2005-06

Our Students	Our Teachers
Primary 1 - Primary 3	
 enjoy participating in meaningful English learning activities will be motivated to speak, read and listen to English develop phonics skills and vocabulary-building skills 	 avoid excessive use of dictation and mechanical language practice motivate learning and encourage creativity through activities such as puppet shows, games and show- and-tell develop learners' language skills through activities such as shared reading of big books and story-telling make flexible use of textbooks and other resource materials
Primary 4	- Primary 6
 have more opportunities for reading, writing, speaking and listening to English develop dictionary and information skills communicate effectively by using suitable grammar structures 	 use tasks and projects to facilitate the integrative use of language and develop dictionary and information skills make greater use of open-ended questions to stimulate thinking facilitate grammar learning through a wide range of materials and activities

Secondary 1 - Secondary 3	
 develop creativity, critical thinking and cultural awareness broaden their dictionary skills such as using phonetic symbols to pronounce unfamiliar words develop the positive language learning attitudes of co-operativeness, perseverance and not being afraid of making mistakes engage in self-access learning communicate effectively by using suitable grammar structures 	 make greater use of imaginative/literary texts to develop learners' creativity, critical thinking and cultural awareness use language tasks and projects to further enhance learners' dictionary skills and encourage collaboration and risk taking in language learning foster learner independence by creating opportunities for learners to make choices and decisions in their learning make flexible use of class time to facilitate self-access learning facilitate grammar learning through a wide range of materials and activities
Secondary	4 and above
 communicate effectively in a wide range of situations actively seek opportunities for self-access and life-wide learning 	 engage learners in purposeful tasks and projects that allow them to learn and use English in natural and realistic settings negotiate the learning objectives, materials and activities with learners, and encourage them to seek and create opportunities to learn and use English enable learners to practise self/peer assessment

➤ Major Issues of Concern

- Helping teachers to implement the curriculum development proposals effectively and create time and space - We will forge a strong partnership with teachers and schools through school visits, teacher education programmes, research and development projects, and dissemination of good practices regarding language learning/teaching and use of resources such as the Capacity Enhancement Grant.
- Phonics and grammar learning We will continue to strengthen the learning/teaching of phonics and grammar through measures such as teacher education programmes and the dissemination of resource packages.

English Language Education Exemplars

For illustration of effective language curriculum development and learning/teaching experiences, please refer to Exemplars of Curriculum Development in Schools and the exemplars in the curriculum bank (http://cd.ed.gov.hk).

The English Language Education KLA Curriculum Guide will be published in 2002.

Mathematics Education

> Position

Mathematics is a mode of thinking, a powerful means of communication, a tool for studying other disciplines and an intellectual endeavour. Mathematics education aims to develop students' ability to conceptualise, inquire, reason, communicate, formulate and solve problems mathematically; and their capability of appreciating the aesthetic nature and cultural aspect of mathematics.

► Direction

- Reduce mechanical drilling in mathematics learning.
- Focus on foundation knowledge and skills, capabilities to learn how to learn, think logically and creatively, develop and use knowledge, analyse and solve problems, access and process information, make sound judgement and communicate with others effectively.
- Develop students' confidence and positive attitudes towards mathematics learning.

\succ We hope that from now to 2005-06

Our students	Our teachers
Primary 1	- Primary 3
 understand basic mathematical concepts and computational skills apply basic mathematical knowledge in daily life show interest in learning mathematics 	 avoid meaningless drilling use diversified learning activities (including role play and manipulation of real objects) to arouse students' interest in learning mathematics use diversified assessments (including classroom observation and questioning) for improving learning and teaching

Primary 4 - Primary 6	
 understand mathematical concepts and skills apply mathematical knowledge in daily life maintain interest in learning mathematics 	 avoid meaningless drilling encourage more teacher/ student interaction in class to enhance students' thinking and communication skills
Secondary 1	Secondary 3
 understand more abstract mathematical concepts and related skills understand symbolic treatment of mathematics apply mathematical knowledge in real-life situations maintain interest in learning mathematics participate in mathematics- related activities 	 avoid meaningless drilling encourage more teacher/ student interaction in class to enhance students' thinking and communication skills use diversified learning activities and tools (including project learning and using information technology) to arouse students' interest in learning mathematics and to foster high order thinking skills

	 use diversified assessments (including open-ended questions and projects) for improving learning and teaching adapt the mathematics curriculum to cater for learner differences and use curriculum space created flexibly for consolidation and enrichment
Secondary 4 and above	
 understand more complex and abstract mathematical concepts and related skills apply mathematical knowledge in more complex real-life situations handle mathematical problems in a more abstract context maintain interest in learning mathematics participate in mathematics-related activities outside school to broaden perspectives 	 avoid meaningless drilling encourage more teacher/ student interaction in class to enhance students' thinking and communication skills use diversified learning activities and tools (including project learning and using information technology) to arouse students' interest in learning mathematics and to foster high order thinking skills use diversified assessments (including open-ended questions, projects and oral presentation) for improving learning and teaching adapt the mathematics curriculum to cater for learner differences and use curriculum space created flexibly for consolidation and enrichment

➤ Major Issues of Concern

- Overlapping of various mathematics curricula and inadequate curriculum space for fostering the thinking abilities of students - The Primary Mathematics, Secondary Mathematics and Additional Mathematics Curricula have been revised to address the issue. The sixth form mathematics curriculum will be re-structured pending introduction of the new senior secondary academic system.
- Inadequate handling of learner differences in mathematics teaching Flexibility is allowed in both the revised Primary and Secondary Mathematics Curricula.
- Insufficient attention to the development of high order thinking skills The fostering of high order thinking skills is emphasised in the revised mathematics curricula.
- Examination-driven teaching approach Diversified learning activities are stressed in classroom teaching in the revised mathematics curricula.
- Over-emphasis on paper-and-pencil assessment tools -Diversified assessment tools including classroom observation, questioning and projects are encouraged.

Exemplars of the Mathematics Education Key Learning Area are available in the folder of Exemplars of Curriculum Development in Schools and/or the curriculum bank (http://cd.ed.gov.hk) include:

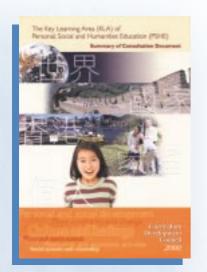
Know the Community (Key Stage 2)

This exemplar is a cross-curricular project. Students working in groups are to collect authentic data from the community to which they belong and hence acquire knowledge of "directions" from their environment. Through the process of analysis and organisation of the data, they have a better understanding of their community. This exemplar helps to foster students' collaboration, communication, critical thinking, problem solving, creativity and numeracy skills.

• Taxi Fare (Key Stage 4)

This exemplar aims to help students recognise the difference between the meaning of "rate" in mathematics and in daily-life applications. In the former, "rate" indicates the quotient between two different quantities and the relationship between these two quantities is linear. In the latter, the relationship is not necessarily linear. Instead, quantities may have a step-like relationship. Examples include postage, taxi fares, etc. This exemplar helps to foster students' critical thinking and problemsolving skills.

The Mathematics Education KLA Curriculum Guide will be published in 2002 and the Revised Additional Mathematics Curriculum Guide in February 2002.



"The Key Learning Area (KLA) of Personal, Social and Humanities Education (PSHE)" Summary of Consultation Document

Personal, Social and Humanities Education

► Position

The PSHE KLA enables students to understand people as both individuals and groups in relation to time, space and the environment, as well as their place in the cultural and material world. It aims at helping students to maintain a healthy personal development as well as to nurture moral and social values through enquiry learning. It provides them with learning experiences which establish meaningful relationships between learning at school and the issues they may encounter concerning the development of the individual, human society and the environment.

➤ Direction

The PSHE KLA will move away from a content-focused curriculum to one that enhances students' learning skills and encourages the construction of knowledge through enquiry learning and the development of positive life values.

\succ We hope that from now to 2005-06

Our students	Our teachers	
Primary 1 - Primary 3		
Please refer to the section on General Studies for Primary Schools	Please refer to the section on General Studies for Primary Schools	
Primary 4 - Primary 6		
Please refer to the section on General Studies for Primary Schools	Please refer to the section on General Studies for Primary Schools	
Secondary 1 - Secondary 3		
• will be able to ask meaningful questions, plan their own process of learning and search for their own answers	• will move away from content/ subject-based teaching and adopt the enquiry approach by encouraging students to ask questions and search for their own answers	

- will have a healthy personal development and the ability to relate harmoniously with others
- will have a deeper understanding of the history, culture, natural and human environments of China, and strengthen their national identity
- will develop values of perseverance, responsibility and commitment, as well as a respect for others
- will make project learning an entitlement of students every year and allow students to connect PSHE learning better with personal and social issues as well as with other KLAs
- will collaborate better with other PSHE and/or KLA teachers for the development of common themes and the provision of learning opportunities outside the classroom

Secondary 4 and above

- will broaden their knowledge base by studying at least one PSHE subject
- will apply critical thinking skills in dealing with personal and social issues in different contexts
- will develop a social and humanistic perspective for making sound judgments about issues concerning the local community, the nation and the world
- will raise students' awareness of the need for a balanced curriculum and provide alternative choices of subjects, such as introducing the new Integrated Humanities curriculum
- will create an open learning atmosphere and encourage self-directed learning for the development of critical thinking skills
- will provide life-wide learning opportunities for the development of students' concern for the local community, the country and the world

➤ Major Issues of Concern

- The position of Chinese History in the PSHE KLA Chinese history and culture will be the core elements of learning in the PSHE framework.
- The position of Humanities subjects All existing Humanities subjects, such as Chinese History, History and Geography, will remain independent subjects at all levels of secondary schooling.
- Difficulties involved in curriculum integration There are different modes of curriculum integration. Collaboration of and contributions by different subject teachers are required for the development of common themes and/or the planning of project learning to connect different subject areas.
- Curriculum continuity between junior and senior secondary levels – Different modes of curriculum planning should help students develop major concepts in the six strands, generic skills and values/attitudes to ensure curriculum continuity between the two levels.
- KLA exemplars are available in the folder of Exemplars of Curriculum Development in Schools and the curriculum bank (http://cd.ed.gov.hk).

One exemplar is from a school which allocates specific lessons to project learning. Through understanding the needs of the physically handicapped and carrying out a feasibility study in the local environment, students attempt to design facilities suitable for use by the handicapped. This mini-project links students' learning to a daily life issue, enhances students' creativity and develops an attitude of understanding and respect for others in society.

The Personal, Social and Humanities Education KLA Curriculum Guide will be published in 2002.

Science Education

\succ Position

Science is the study of phenomena and events around us through systematic observation and experimentation. Science education cultivates students' curiosity about the world and enhances scientific thinking. Through the enquiry process, students will develop scientific knowledge and skills to help them evaluate the impacts of scientific and technological development. This will prepare students to participate in public discourse in sciencerelated issues and enable them to become life-long learners in science and technology.

> Direction

- The emphasis of science education is to enhance students' scientific thinking through progressive learning activities that involve planning, measuring, observing, analysing data, designing and evaluating procedures, and examining evidence. Learning science will enable our students to lead a fulfilling and responsible life by encouraging them to learn independently, deal with new situations, reason critically, think creatively, make wise decisions and solve problems.
- Through science activities, students should develop an interest in science and thus they will be motivated to become active learners in science. Students should also develop an understanding of science, technology and society (STS). They should be able to make informed decisions based on evidence.
- Students with high ability or a strong interest in science need more challenging learning programmes. These programmes should stretch the students' science capabilities and offer opportunities for students to develop their potential to the full.

\succ We hope that from now to 2005-06

Our Students	Our Teachers
Primary 1 – Primary 3	
Please refer to the section on General Studies for Primary Schools	Please refer to the section on General Studies for Primary Schools

Primary 4	- Primary 6
Please refer to the section on General Studies for Primary Schools	Please refer to the section on General Studies for Primary Schools
Secondary 1	- Secondary 3
 will design and carry out scientific investigations will show an interest in exploring contemporary science and related issues will demonstrate fundamental scientific knowledge, creativity, basic communication and critical thinking skills in science and technology learning activities 	 make use of the core and extension parts of the science curriculum to design a school- based curriculum arrange more scientific investigations and problem - solving activities create an open atmosphere for discussion and infuse process and thinking skills into science lessons be aware of new development in science and encourage students to explore these developments
Secondary	4 and above
 will apply their scientific knowledge and critical thinking skills in making informed decisions will evaluate evidence and make use of critiques and arguments derived from science during discussions 	 arrange more scientific investigations and learning activities on science, technolog and society will be more open to ideas and accept multiple solutions in discussions about scientific issues
• will demonstrate concern about the impacts of science and technology on society	 will keep abreast with frontier developments in science and provide support to students in exploring these developments will explore learning opportunities for students with talent or a strong interest in science

Major Issues of Concern

- Better coordination among the science subjects is needed so as to avoid overloading the curriculum with contents and activities. The science curriculum framework and a new series of associated curriculum guides will be designed with this in mind.
- Success in science education will need the continual and persistent support of science educators and scientists of the tertiary institutions. They can play an active part in the process of curriculum development and teacher training in the areas of pedagogy and knowledge update. The scientists may also serve as mentors for students in science project learning.
- In response to public calls for a stronger connection between curriculum and assessment, we shall link assessment more firmly to learning in science.Various means of assessment will be explored and try-outs will be conducted to gather experience in assessing students' science performance.
- Public discourse in science and popular science activities will provide an active science-learning environment for students and thus, in the end, promote public understanding of science. Public debate on scientific issues, lectures by eminent scientists and science exhibitions will encourage students to continue learning in science.
- KLA Exemplars are available in the folder of Exemplars of Curriculum Development in Schools and the curriculum bank (http://cd.ed.gov.hk).
 - Inspiring an inquiring mind (written in English)

This is a learning activity designed to inspire a spirit of enquiry in students and enhance their capability in scientific investigation. The activity involves an exploration of the concept of density. Students challenge and complement each other's ideas as well as defending their own, as they propose hypotheses and design experiments. The approach employed is open and will enhance the development of higher order thinking skills and creativity in the students. • Primary science project competition (written in Chinese)

During the competition, students apply their scientific knowledge to designing toy trains which work on the principle of magnetism. In the process, students develop an interest in science and a basic understanding of scientific concepts. At the same time, their creativity, communication, collaboration and problem-solving skills are enhanced.

The Science Education KLA Curriculum Guide will be published in 2002.

Technology Education

\succ Position

Technology Education is the study of the purposeful application of knowledge (such as Information and Communication Technology, Materials & Structures, Operations & Manufacturing, Strategies & Management, Systems & Control and Technology & Living), skills and experiences, in using resources to create products and systems to meet human needs.

It aims at developing students' positive attitudes and values, as well as their capabilities in coping with the rapidly emerging technologies in our society; and preparing them for future changes in technology through hands-on problem-solving learning activities.

It enables students to become technologically innovative and to have the ability to critically appraise the impacts of technology on the individual, family, society and environment.

➤ Direction

TE KLA will be moving from a curriculum that provides students with specialised knowledge and skills to one that emphasises the development of students' understanding of their own aptitudes, interests and abilities for their future studies and career.

\succ We hope that from now to 2005-06

Our Students	Our Teachers
Primary 1 – Primary 3	
Please refer to the section on General Studies for Primary Schools	Please refer to the section on General Studies for Primary Schools
Primary 4 – Primary 6	
Please refer to the section on General Studies for Primary Schools	Please refer to the section on General Studies for Primary Schools
Secondary 1 – Secondary 3	
• (of both genders) have equal opportunities to gain access to broad and balanced learning experiences in TE	• provide equal learning opportunities in TE for both genders

Secondary 1 – Secondary 3			
 move away from subject-based teaching and specific skills training to hands-on problemsolving teaching integrate student learning within TE KLA and with other KLAs through different knowledge areas provide life-wide learning experiences to students encourage students to appraise their solutions use a variety of methods to assess students' learning processes and outcomes 			
Secondary 4 and above			
 provide multiple channels for students to study technology through different knowledge areas according to their aptitudes, interests and abilities provide students with a wide range of learning experiences (including workplace learning experiences) so that students are better prepared for their future studies and work 			

• provide learning opportunities for students to explore innovative and sustainable development in technology

 engage in authentic, hands-on problem-solving learning activities related to various applications of knowledge areas in TE, such as programming, networking, home management, design and make, graphical communication, marketing, etc. in order to acquire skills, concepts and underlying 	
concepts and underlying principles, etc. of the applications	
• develop a global outlook on the innovative and sustainable development of technology	

➤ Major Issues of Concern

- The provision of TE learning experiences to students in different schools varies significantly. It is necessary to re-engineer such provision in schools so as to provide all students with broad and balanced learning experiences in TE and prepare them to meet the challenge of rapidly emerging technologies.
- TE subjects are introduced at different points of time with different emphases to meet the social needs of that particular time, for example, the New Technical Curriculum in 1997. It is necessary to review, update and re-organise TE subjects to ensure that they are coherent, appropriate to the learning experiences of students and in line with the aims of education.
- For further illustration, the subject Computer Studies was introduced in 1982 and the latest revised syllabus was produced in 1999, while the subject Information Technology was introduced in 2000. Both subjects are related to rapidly advancing computing technologies. It is essential to construct an accommodating curriculum framework for the subjects to keep pace with the changing technologies. Such a framework is planned to be put in place as soon as possible, hopefully not later than 2003.

- TE subjects are generally resource-bound. It is essential to ensure that adequate resources, e.g. special rooms, facilities and equipment, timetable arrangements, etc., are available to facilitate the learning of TE subjects.
- The hands-on problem-solving nature of TE needs to be complemented by meaningful assessment reflecting the abilities of students. It is essential that the requirements of public examinations be in line with this, to enhance students' learning in TE subjects.
- KLA Exemplars are available in the folder of Exemplars of Curriculum Development in Schools and the curriculum bank (http://cd.ed.gov.hk).

Examples of learning activities to develop students' hands-on problem-solving abilities and their capabilities in appraising the impacts of technology are available in the curriculum bank.

The Technology Education KLA Curriculum Guide will be published in 2002.

Arts Education

> Position

Arts education contributes significantly to students' aesthetic development, which is one of the five essential learning experiences for whole-person development. Besides music and visual arts in the existing arts curriculum, other art forms such as media arts, dance and drama are to be included to broaden the students' learning space within the arts.

➤ Direction

- To nurture students with the virtues of creativity, openness, flexibility and aesthetic sensitivity for learning to learn and life-long learning.
- To provide students with life-wide learning experiences in the arts outside the classroom.
- To provide students with a balanced arts curriculum and diversified learning experiences.

Our students	Our teachers
Primary 1	– Primary 3
 are sensitive to events and matters around them are interested in the arts 	 stimulate students to discover and explore, and display imagination in the arts arrange more creative and less skill-based learning activities for maintaining students' interest in the arts design a balanced arts curriculum leading to diversified arts learning experiences

\succ We hope that from now to 2005-06

Primary 4 – Primary 6		
 respond to and appreciate Nature and works of art acquire basic understanding of the characteristics of various art forms express themselves through the arts by applying elements in their daily lives 	 encourage students to actively observe and spontaneously respond to Nature and works of art provide students with life-wide learning experiences in the arts stimulate students to generate knowledge and skills for applications in the arts 	
Secondary 1	- Secondary 3	
 acquire appropriate knowledge and skills for making, evaluating and appreciating works of art respond critically to and appraise works of art of different cultures widen their arts experiences through connections with other KLAs 	 provide a suitable learning environment for the acquisition of a variety of knowledge and skills in the arts cultivate an open-minded attitude to and respect for the arts of different cultures design a school-based arts curriculum across KLAs for enhancing effective learning 	
Secondary	4 and above	
 learn how to access knowledge and develop their own ways for self-expression through the arts set appropriate criteria for aesthetic judgment pursue a life-long interest in the arts so as to enhance their quality of life 	 strengthen students' ability to learn in and through the arts cultivate students' critical responses in the arts provide students at senior secondary level with arts learning experiences 	

➤ Major Issues of Concern

- Student entitlement to arts learning experiences at the senior secondary level – Learning time should be allocated to the arts for senior secondary students so as to fulfil their entitlement and allow them to pursue a life-long interest in the arts.
- Integrative learning in the arts Integrative learning in the arts is a learning approach that leads students to acquire a better understanding and deeper insight across the arts and other KLAs. For example, through studying the political and social background of the 18th Century Europe, students can understand how Classical Music was developed. Integrative learning in the arts should not be seen as an integrated arts curriculum. There is no intention of having a single integrated arts curriculum and asking arts teachers to teach arts subjects in which they are not specialised.
- Diversified arts learning experiences –To provide students with diversified arts learning experiences does not necessarily imply adding subjects to the formal curriculum. If resources allow, schools can allocate curriculum time to the learning of other art forms in addition to music and the visual arts. However, life-wide learning and integrative learning in the arts should be encouraged so as to enable students to broaden and diversify their arts learning experiences through different channels.
- KLA Exemplars are available in the folder of Exemplars of Curriculum Development in Schools and the curriculum bank (http://cd.ed.gov.hk).

The Arts Education KLA Curriculum Guide will be published in 2002.

Physical Education

\succ Position

Physical Education (PE) develops students' confidence and physical competence, as well as their ability to use these to perform in a wide range of activities associated with the development of an active and healthy life-style. It promotes physical skillfulness, physical development, knowledge of body movement and aesthetic sensitivity. Physical Education provides opportunities for students to learn to be creative, collaborative, sociable and competitive, and to face different challenges as individuals and in groups or teams.

► Direction

The framework emphasises a continuous, progressive and diversified PE curriculum in four key stages. On top of the acquisition of movement proficiency and sports and physical skills, it also focuses on students' development of essential generic skills for life-long and life-wide learning, positive values and attitudes in PE, and their ability in Learning to Learn.

\succ We hope that from now to 2005-06

Our Students	Our Teachers	
Primary 1 – Primary 3		
 develop basic movement skills and perform sequences of skills with creativity and imagination by means of the Fundamental Movement (FM) approach or other approaches have some knowledge of the relationship between physical activities and the development of physical health communicate ideas, feelings, etc. effectively with others in plays, games and demonstrations 	 develop a balanced PE curriculum with creativity, fun and challenges to enhance students' development in generic skills help students develop basic physical movement skills through the FM approach and other approaches help students acquire appropriate attitudes and knowledge in health and physical activities 	

Primary 4 – Primary 6		
 learn basic skills of at least eight different physical activities from not less than four core activity areas and engage regularly in at least one PE-related co-curricular activity understand the relationship between physical activities and health development and the wide range of factors and actions that influence their health status learn how to respect others' rights and demonstrate a co-operative manner in teamwork and be able to apply decision-making, critical thinking, communication, etc. in different learning situations 	 develop a balanced PE curriculum in line with the suggested framework and select appropriate tools to assess students' learning help students acquire basic competency through the learning of at least eight different physical activities from not less than four core activity areas and develop a habit to participate in at least one PE-related co-curricular activity offer opportunities for students to participate in modified games, competitions and other health related activities that develop their skills in creativity, communication, critical thinking and health-related knowledge 	
Secondary 1	– Secondary 3	
 acquire and apply skills in at least eight different physical activities from not less than four core activity areas and participate actively and regularly in at least one PE-related co-curricular activity apply the FITT (Frequency, Intensity, Time, Type) principle in planning their individual fitness programme 	 develop a balanced PE curriculum in line with the suggested framework and select appropriate tools to assess students' learning help students to improve their proficiency through the application of movement concepts and training principles in at least eight different physical activities from not less than four core activity areas and develop a habit to participate actively in at least one PE related co-curricular activity 	

• demonstrate appropriate etiquette and sportsmanship in plays, games and competitions	 help students set their goals in planning their health programmes encourage students to make effective use of different youth health programmes in the community help students develop desirable behaviour and sportsmanship through physical activities
Secondary	4 and above
 refine the learnt skills or acquire the skills of some novel physical activities, participate actively and regularly in at least one PE-related co-curricular activity and be willing to serve club or society in the school and the community understand the relationship of physical activities with personal and social development demonstrate the ability to initiate responsible and independent decisions, display an attitude of willingness to try new games, apply a wide range of analysing and evaluating skills to different learning situations and interact positively with others 	 develop a balanced PE curriculum in line with the suggested framework and select appropriate tools to assess students' learning offer opportunities for students to learn specific or advanced skills and substantiate the habit of regular exercise in at least one PE related co-curricular activity offer opportunities for students to understand the relationship of physical activities with personal and social development offer opportunities to develop students' life skills, leadership and community services

➤ Major Issues of Concern

- Support from school heads is essential for promoting PE in schools.
- The heavy workload of PE teachers is a barrier to reform. Sufficient PE equipment, facilities, and support from communities are important to facilitate the changes - teachers may make use of the public facilities and the support offered by the Leisure and Cultural Services Department and the Sports Development Board to enhance students' life-wide learning.
- Teacher education programmes are essential for teachers to share their experiences and learn from others – Summer Schools with different themes will be organised from 2001-02 to 2005-06 to enhance the sharing.
- To promote health by encouraging and facilitating students to be active in physical activities a research project on health development has been initiated.
- To strengthen assessment for learning (especially portfolio assessment) in PE – relevant school-based exemplars and userfriendly computer software will be developed through a research and development project.
- KLA Exemplars are available in the folder of Exemplars of Curriculum Development in Schools and the curriculum bank (http://cd.ed.gov.hk).

The PE KLA Curriculum Guide will be published in 2002.

General Studies for Primary Schools

> Position

General Studies offers students opportunities to synthesise skills, knowledge and values across the KLAs of Personal, Social and Humanities Education, Science Education and Technology Education. It promotes creativity through hands-on learning experiences and problem-solving processes. It emphasises student inquiry and the development of skills for learning to learn.

► Direction

General Studies focuses on nurturing students' capabilities in inquiring and solving problems through diversified learning experiences relevant to their daily life. The existing curriculum will be trimmed and re-organised to create more curriculum space for teachers and students. A new curriculum framework will be introduced in 2002 in the General Studies for Primary Schools Curriculum Guide.

\succ We hope that from now to 2005-06

Our students	Our teachers	
Primary 1 – Primary 3		
 develop a healthy lifestyle are able to manage their daily life needs and relate harmoniously to other people 	 trim the existing curriculum according to Appendix II strengthen personal and social development by using the life event approach 	
 develop a keen interest in observing the environment instead of focusing on the study of textbook content, and have hands-on experiences to cultivate a sense of curiosity - in the natural and human world develop inquiry and investigative skills to solve problems encountered in daily life 	 avoid being textbook-bound in teaching design hands-on and minds-on activities to arouse students' interest in the natural and human world organise inquiry and investigative activities to help students solve daily life problems 	

Primary 4 – Primary 6		
 conduct hands-on and minds-on inquiry with an open mind develop positive attitudes and values through learning experiences of various life events develop an awareness of their role in society and national identity through understanding local society, Chinese history and culture connect what they have learnt in school to daily life problems and issues through project learning develop basic knowledge, investigative skills and problem solving capabilities in science and technology 	 trim the existing curriculum according to <i>Appendix II</i> avoid overemphasis on the teaching of facts and information organise more hands-on and minds-on learning activities to develop students' inquiry skills, and include IT skills inculcate positive values and attitudes in students in their personal and social development strengthen students' affective development, especially towards their national identity and Chinese culture develop students' generic skills through diversified learning activities, e.g. project learning motivate students' interest and develop their knowledge and skills in science and technology through hands-on problem-solving and investigative activities 	

➤ Major Issues of Concern

- The curriculum will be reorganised to make learning more relevant to students' daily lives.
- Teachers will be encouraged to organise inquiry and investigative activities to strengthen students' capabilities in learning to learn.
- Students will be given more opportunities to learn beyond the confines of the classroom.
- Exemplars for General Studies for Primary Schools are available in the folder of Exemplars of Curriculum Development in Schools and the curriculum bank (http://cd.ed.gov.hk).

The General Studies for Primary Schools Curriculum Guide will be published in 2002.

Chapter 4 How to Act-Effective Learning, Teaching and Assessment

- The suggested actions of this chapter are written for the reference of all those who help students develop independent learning in KLAs, and achieve other learning goals in different contexts. Learning, teaching and assessment are core activities which have impact on student learning.
- The suggested actions are informed by authentic and practical experiences in Hong Kong schools, local research, and emerging useful practices based on learner-centred principles. Exemplars of some actions are offered in the folder of exemplars.
- The suggested actions attempt to strike a balance between the guidance provided by adults to students, and the need to promote students' learning capabilities. They also help to move away from knowledge transmission to a balance of knowledge acquisition and knowledge construction from the perspective of students.
- Some suggested actions have impact on learning and teaching via the structure and processes of school organisations and management (items 1, 2, 3 and 4). Some actions have direct impact on student learning inside and outside the classroom (items 5, 6, 7, 8, 9 and 10). Some actions involve significant partnership with other organisations and people outside schools (items 11, 12 and 13). They are not separate processes, but linked to one another.

Actions via school structure, processes and management

- 1. Learning opportunity and learning environment
- 2. School-based curriculum development
- 3. Collaborative lesson preparation time
- 4. Learning time and time-table

Actions with direct impact on learning and teaching inside and outside classrooms

- 5. Effective learning and teaching strategies
- 6. Assessment for learning
- 7. Four key tasks moral and civic education, reading to learn, project learning, information technology for interactive learning,
- 8. Effective use of textbooks and learning/teaching resources
- 9. Catering for learner differences
- 10. Homework

Actions via partnership with other organisations and sectors

- 11. Life-wide learning opportunties for whole-person development
- 12. Smooth transition between Kindergarten and Primary School, and Secondary School

13. Home-school co-operation

- Readers' attention is particularly drawn to item 7, which offers direct help to teachers on the four key tasks that help learning to learn in the contexts of KLAs or across KLAs.
- Exemplars are provided in a folder accompanying this report to illustrate some of the crucial points, and more detailed exemplars are provided in the curriculum bank (http://cd.ed.gov.hk) and will be developed in fuller scale as part of the development strategies.

Actions via School Structure, Processes and Management

1. Learning Opportunity and Learning Environment

• "Learning opportunity" explains where and why students can learn or cannot learn. All students should be entitled to learning opportunities for whole-person development. We should optimise the learning opportunities for students and remove practices that constrain them.

DOs	DON'Ts
 appreciate efforts made by students and provide a supportive environment encourage students to explore and enquire structure the discussion so that students can express themselves listen to students' views and respond patiently show respect, concern and appreciation when 	 don't always give one-way instruction don't pose questions to which there is only one answer don't ignore students who need special help and guidance don't force students to do excessive mechanical drills don't assess students' performance solely by paper-pencil tests and formal
interacting with students	examinations



Refer to Exemplar

I. 6.2 The Provision of Equal Learning Opportunities for Students of Both Genders

• stimulate students' thinking by using open-ended question and answer techniques	• don't plan for a tight curriculum schedule
• give appropriate guidance and encouragement to students according to individual needs	
• cultivate moral values in students by setting a good example	

- We should provide a range of environments needed by students of the 21st Century: the school, classroom, community, home, physical environment, Internet and work place. These are necessary for providing relevant, authentic and meaningful learning experiences to students.
- The government should help schools to improve physical qualities such as adequate and flexible use of space, ventilation, lighting and furnishings.
- Schools should ensure a safe and caring environment free from threats, humiliation and embarrassment. Students learn well when their emotions are stable and positive. We should try to avoid behaviours that hurt the self-esteem, motivation and confidence of students.
- We should provide room for students to pursue collaborative and independent learning.
- We should respect students' diverse dispositions and achievements within the school ethos.

2. School-based Curriculum Development

What is school-based curriculum development?

• It is a common but mistaken belief that the curriculum is "given" and delivered mainly through the coverage of a prescribed syllabus and text. This has proved to be ineffective in students' learning both in Hong Kong and overseas. The concept of school-based curriculum development is used to rectify this misconception.

School-based Curriculum Development is not :

- ✗ deletion of subject content only
- compilation of school-based curriculum package
- ✗ teachers working alone

students achieve the learning targets (knowledge, generic skills, values and attitudes). Measures include varying the organisation of contents, contexts and examples, learning and teaching strategies, pace of learning and teaching, homework, criteria and modes of assessment. Schools, nevertheless have to fulfil certain CDC requirements such as learning time, learning targets, and essential contents.

Schools and teachers are encouraged to adapt the central curriculum and develop their own school-based curriculum to help their

- A school-based curriculum is therefore the outcome of a balance between guidance from the CDC and the autonomy of the school and teachers. It is jointly owned by schools and the government. The balance is subject to change over time, as policy and school decisions change.
- School-based curriculum development must be accompanied by professional development of teachers and school heads.

Who does what?

- The CDC is responsible for setting curriculum development directions, curriculum aims and curriculum guides for schools to adapt.
- The CDI is responsible for working with partners (e.g. schools, universities, professional bodies). The purpose is to generate knowledge of learning and teaching strategies, different assessment modes, curriculum organisation and design, etc. through conducting research and developing projects in schools to illustrate how the aims and guidelines are realised. Good practices will also be disseminated through various means such as web sites. On-site professional support for curriculum development is also provided to help schools.
- On the one hand, schools have to follow some basic requirements to ensure that students receive their entitlement to the same learning opportunities, such as time allocation and core contents. On the other hand, they should adapt the central curriculum to suit the needs and interests of the students, the context of the school, the readiness of the teachers, and the leadership of school heads and principals. This work involves schools in developing and trying out their own initiatives, referring to the informed practices and knowledge generated, diversifying learning and teaching strategies, selecting learning and teaching materials from textbooks and other sources, designing/reviewing the assessment practices and homework needed for different purposes of learning, and catering for the learning needs, styles and abilities of their students.

School-based Curriculum Development

- ✓ following direction and learning targets of CDC
- ✓ helping students achieve learning targets
- ✓ building on strength of schools and needs of students
- ✓ developing teachers and collaborating with other partners
- varying choice of subjects/organisation of contents
- developing learning, teaching and assessment strategies
- ✓ adapting learning resources
- ✓ using time flexibly
- ✓ reflecting and improving based on informed practice

Why school-based curriculum development?

- The concept of "one-size fits all" does not work. Each school has its unique characteristics of teachers, students and ecological context, requiring different content and processes of change.
- School-based curriculum development allows for flexibility in the use of time, space and environment, to accommodate the characteristics described above.

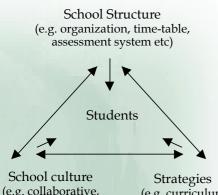
What are the goals of school-based curriculum development?

- Short-term (2001-02 to 2005-06):
 - Different schools may have different starting points. Each school should review its current position and formulate its own curriculum development plan according to its own readiness and circumstances.
 - The baseline is to promote learning to learn through four key tasks (moral and civic education, reading to learn, project learning and information technology for interactive learning), strengthening development of critical thinking, creativity and communication skills in learning and teaching, and focuses of action in KLAs in Chapter 3.
 - Schools which are ready to do so are encouraged to try developing school-based curricula. They may start on a small scale first, e.g. by using the different modes shown below.
- Medium-term (2006-07 to 2010-11):

Building on the strengths and experiences developed during the short-term phase, schools will proceed to the next stage of their curriculum development plans, to develop school-based curricula and further improve learning and teaching strategies.

• Long-term (beyond 2011):

Schools will make good use of effective learning and teaching strategies to help students attain all-round development and life-long learning, and put in place school-based curriculum which suit their students' needs.



(e.g. collaborative, open, dynamic etc.)

(e.g. curriculum planning, staff development, learning and teaching etc.)

School Structure, School Culture and Strategies, which are inter-related, have certain influence on Students' learning



Refer to Exemplar VI.4 在創意中成長-推展 校本課程的「由下而上」 策略



Refer to Exemplar VI. 5 School-based Curriculum Change

What are the important factors for school-based curriculum development?

- Teacher readiness, leadership and professional development of school heads and principals; engagement and ownership; incremental strategies; external support based on diversified collaborative models; and a strong focus on students' learning
- A holistic approach, which includes professional leadership, corresponding structural change (e.g. time-table, frequency of tests and examinations, class and classroom arrangement, etc.), organisational development (e.g. teachers' professional development and capacity building, etc.), and resource allocation
- Finding time for teacher collaboration, allowing more professional autonomy, building up teachers' confidence through rapport with peers and support from external agents
- Coherence of curriculum strategies and initiatives to avoid fragmentation and overloading

How to develop a school-based curriculum?

- Some schools adopt a more top-down model by developing a school curriculum policy, assigning curriculum coordinators to write up adapted school-based curriculum programmes and instructing teachers to implement the programmes.
- We recommend a more dynamic and interactive model through the setting up of "curriculum development groups" (CDGs) in schools, as a strategic way to facilitate teacher development and school-based curriculum development.
 - These groups usually consist of teachers within the same KLA at the same level, interested in a task or project within their own KLA, or with other teachers across KLAs or across levels. A project should always have the learning targets/objectives in mind and have concern for the kind of difficulties students may experience. The groups can find common lesson preparation time to discuss issues related to learning and teaching in their own classrooms, adapt textbook materials and other learning materials, and develop strategies based on theories or other research findings to improve students learning, etc.
 - There is strong evidence to show that support from external agents, such as ED or university partners, in the form of regular school visits and collaborative lesson preparation with teachers is most effective especially at the initial stage.



Refer to Exemplar VI.1 校本課程發展模式-「點、線、面」



Refer to Exemplar VI.3 課程發展,全校參與



Refer to Exemplar VI.2 校本課程發展歷程

- The following modes of school change are observed:
 - ⇒ "From point, line to area" approach:
 - ♦ Starting with one CDG in one KLA at one level in the first year, usually supported by an external agent from CDI.
 - Dissemination of informed practices and successful experiences to teachers in the same school so as to develop CDGs in other KLAs and eventually throughout the whole school.
 - ⇒ Whole school approach
 - ♦ Setting up different CDGs in different KLAs to make sure that everyone is involved.
 - CDGs are supported either by external agents from different sources e.g. ED, tertiary institutes etc., or by curriculum leaders who have emerged from previous curriculum development teams.
 - ⇒ Integrated team approach
 - ♦ Setting up a large team of teachers from different KLAs to complete a large-scale project, usually on integrated studies.
 - ♦ Teachers will help form CDGs in their own KLAs after they have mastered the skills and strategies of curriculum design.
- There are always other modes of school change generated by the different needs and contexts of schools.
- The following stages of curriculum development are observed in some schools to illustrate increasing depth of work:
 - ➡ Curriculum tailoring in the mid-1990s (in the form of restructuring and re-organisation of textbooks).
 - Curriculum adaptation in 1999 (trying out learning, teaching and assessment strategies, accompanied by structural change such as in the time-table arrangement or the test and examination system).
 - Curriculum research and development in 2000 (inquiring into practical problems, e.g. why students lack the incentive to write, and exploring means to tackle these problems through development strategies and collecting evidence to inform practice).

EXEMPLARS

Refer to Exemplars

- VII.1 共同備課
- VII. 2 Collaborative Lesson Preparation
- VII. 3 Collaborative Lesson Preparation

3. Collaborative Lesson Preparation

What is collaborative lesson preparation?

- There is a misconception that collaborative lesson **preparation** is the time for teachers to meet and come to a consensus on trimming the number of chapters to be covered or the topics to be taught.
- Collaborative lesson preparation does more than that. It allows teachers, usually in a group (CDG), time and space to discuss and work on the design, learning and teaching strategies, assessment modes, etc. of one or a series of classroom lessons, to improve learning and teaching.
- There is evidence that collaborative lesson preparation contributes to effective learning and teaching.

Why collaborative lesson preparation?

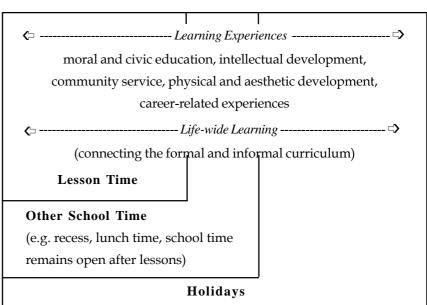
- It allows teachers to focus directly on actual classroom practices, and to reflect and improve on action taken, based on evidence from students' feedback. The knowledge generated helps to inform further practice and decisions.
- It provides the context for teacher interaction, development and mentoring, thus fostering a collaborative and interdependent culture.
- It provides a platform for continuous improvement through developing and trying out new learning and teaching strategies, assessment modes, curriculum design and organisation, etc.

What to focus on in collaborative lesson preparation?

- The main focus is to enhance students' capabilities in learning to learn through the study of KLAs and in other contexts.
- Priority is given to the generic skills of communication, creativity and critical thinking, and to core values of national identity, responsibility, respect for others and perseverance, through the study of KLAs and in other contexts.
- Specific questions to be discussed are:
 - ➡ How can my/our students' capabilities in these areas be developed in more powerful ways in my classroom?
 - ⇒ How can I/we make this happen?
 - Solution ⇒ How can I/we tell that my students' capabilities in these areas are being improved?

4. Learning Time and Time-table

- Students can learn different things at different times and in any place. The learning time of students includes:
 - ⇒ Holidays (time outside schools)
 - School time other than lesson time (such as recess, lunch, after-school time, open days, examination days)
 - ▷ Lesson time (time when there is close contact with teachers, normally in the classroom, but not necessarily so)



Components of Learning Time

- Schools can guide students to make good use of their holidays, while respecting students' personal autonomy to use their holidays well. Holidays are good opportunities for students to learn independently according to their interests, to develop interpersonal skills, and to pursue other areas of whole-person development and potential, e.g. aesthetic and physical activities. It is the quality of learning rather than the quantity of activities that matters.
- A positive, trustful and caring environment during school time other than lesson time is essential for whole-person development, whereas the opposite defeats all the good intentions of learning and teaching. Schools can provide opportunities for students to develop interpersonal relationships; self-management and leadership qualities; responsibility and commitment through taking part in activities which serve the school; and exposure to career-related experiences.

- Schools are advised to follow the suggested allocation of lesson time in KLAs and other activities essential for engaging students in learning and teaching as desired by the curriculum and for giving every student the same opportunities to learn. (The suggestions below have drawn on the set of Guides to the Curriculum at various levels of schooling published in 1993 and the latest international comparisons.)
- In addition, schools are encouraged to use their professional autonomy to decide on how to use the time flexibly to suit the needs of the specific students and contexts of their schools.

Suggested Lesson Time Allocation for Different Stages of Schooling

Key Learning Areas		Suggested Percentage
Chinese Language Education		25% - 30%
English Language Education		17% - 21%
Mathematics Education		12% - 15%
Science Education		
Technology Education	General Studies for	12% - 15%
Personal, Social and	Primary Schools	
Humanities Education		
Arts Education		10% - 15%
Physical Education		5% - 8%

Junior Secondary

Primary

Key Learning Areas	Suggested Percentage
Chinese Language Education	17% - 21%
English Language Education	17% - 21%
Mathematics Education	12% - 15%
Science Education	10% - 15%
	8% - 10%(1)
Technology Education	8% - 15%
	25% - 35% ⁽²⁾
Personal, Social and Humanities Education	15% - 20%
	10% - $15\%^{(3)}$
Arts Education	8% - 10%
Physical Education	5% - 8%



Refer to Exemplar VIII. 2 新時間表架構的試驗



Refer to Exemplar VIII. 1 School Time - table Arrangement - Cross Level Subject Setting



Refer to Exemplars VIII.3 靈活運用上課時間 VIII.4 全日制小學時間表

- (1) The time allocation of 8% to 10% is intended for schools whose curriculum has a technology education orientation. This curriculum should connect students' learning experiences in science and technology education.
- (2) For schools where technology subjects are better vehicles for their students to develop generic skills, the time allocation for technology education could be 25%-35%. 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, the lesson time, in terms of percentages allocated to other Key Learning Areas, could be adjusted accordingly.
- (3) The time allocation of 10% to 15% is intended for schools whose curriculum has a technology education orientation, such that the essential contents for personal, social and humanities learning, including Chinese history and culture, can be accommodated.
- For Senior Secondary (S4-5 and S6-7), flexibility is given to schools to allocate lesson time according to the needs of the students and the characteristics of the school, for both examinable, and non-examinable subjects. At the same time, schools must bear in mind the aims of education and provide all the essential learning experiences: moral and civic education, intellectual development, community service, physical and aesthetic development and career-related experiences.
- A substantial amount of time should be allocated to **promoting reading** in the form of library periods, language classes, or other forms of reading time.
- Schools should review yearly how much learning time students have in school, and how effectively it is used. Over-assessment and activities without student engagement deprive students of meaningful learning time.

Time-table

- Schools and teachers can facilitate effective student learning by improving the class time-table. A more flexible time-table arrangement will help learning and teaching by facilitating, for example, the organisation of activities of different duration to suit different students needs and learning targets, the consolidation of learning, collaborative learning and teacher-pupil interaction.
- The following are some suggestions on time-tabling arrangements:
 - ⇒ Reduce excessive dictations, tests and examinations to release learning time for more useful learning activities
 - Flexible use of lesson time such as more double periods, longer periods, a combination of long and short periods, periods for reading and collaborative learning, e.g. thematic study, project learning



Refer to Exemplars VIII.6 中學時間表 VIII.7 長、短課節的安排



Refer to Exemplar VIII. 5 半日制小學時間表



Refer to Exemplar I.1 愉快語文學習試驗 — 跨越「一本書的年代」

- Longer/more class-teacher periods to provide individual supervision and more elements of learning, e.g. reading and writing
- ⇒ Longer/more tutorial periods to consolidate learning
- Solution ⇒ More time and opportunity for students to participate in co-curricular activities
- → More time for teachers' collaborative lesson preparation
- Different class time-tables for various school terms to facilitate balanced class hours for all subjects and to attain a well-balanced curriculum which suits the needs and characteristics of the students.
- It must be borne in mind that the inclusion of specific elements such as those listed above into the time-table will not automatically enhance student learning. Teachers' preparation for and delivery of each lesson, learning activities and assignments matching learning objectives, etc., are crucial for effective learning.

Actions with Direct Impact on Learning and Teaching Inside and Outside Classroom

5. Effective Learning and Teaching Strategies

- We can motivate students by expressing due expectations of them, and build learning and teaching on their success (even when it is small). We should avoid behaviour that ignores their emotional reactions and hurts their self-esteem. There is both intrinsic and extrinsic motivation, which includes informal rewards such as verbal recognition and prizes. It is essential to strike a balance between the two rather than to depend only on the latter.
- To motivate students with weaker performance, teachers may structure the tasks to suit their abilities and let them experience success, pride and confidence in having attained a goal through reasonable effort. Individual progress and improvement should be recognised.
- Schools should provide students with an appropriate level of curriculum to suit the capability of the students, but should beware of lowering their expectations of students.
- Schools should also encourage students to inquire beyond the confines of "curriculum prescriptions" and textbooks, and to process information and make their own judgements in order to enhance their knowledge-building capacity.



Refer to Exemplar

I. 2.1 Promoting Shared Reading and Developing Phonics and Vocabulary Building Skills : "Using My Five Senses"



Refer to Exemplar I. 4.2 Inquiry Approach



Refer to Exemplar

I. 5.2 Exploring New Scientific Developments and Demonstrating Concern about Their Impact on Society

- We should not view mixed ability groups as problematic, though sometimes groups that are homogeneous in ability work better. Students of different abilities can learn well together (e.g. through co-operative learning) if the learning processes allow them to contribute different ideas at different levels. Learning from peers and collaboration helps to remove the feeling of failure and provides the emotional basis to boost motivation and learning.
- Different forms of classroom organisation (such as variations in grouping, whole-class setting and seating arrangements) facilitate the delivery of diverse learning and teaching strategies such as and whole-class teaching, group learning and individual works. But they do not automatically result in the desired effect without suitable lesson/activity planning, teacher-student interaction, learning and teaching resources and other factors affecting effective learning and teaching.
- Understanding can be treated as a means of solving problems. We can help students to move from being recipients of knowledge to seeing the relationships between ideas, applying ideas, and ultimately thinking critically and creatively and constructing knowledge.
- Some people may think that understanding and memorisation contradict each other. This is not true. Understanding something is usually the best way of remembering it. So when students are trying to make sure that they will remember something, they are not necessarily engaged in rote-memorisation. They may simply be trying to understand and remember something at the same time.
- Teachers can give students opportunities to express themselves openly and share their work in class and publicly to enhance their confidence.
- Teachers can capitalise on opportunities (e.g. current affairs, school/ classroom contexts) to facilitate spontaneity and change in responding to different demands and situations. This widens the exposure of students and helps them to learn in a changing environment.
- It is important to vary the role of teachers, parents and students in different learning and teaching strategies to achieve different purposes. Teachers' roles range from a transmitter of knowledge to resource person, facilitator, consultant, counsellor, and assessor.

For example	
-------------	--

Roles of teachers	Actions
Transmitter	Give lecture, provide information
Facilitator	Discuss with students
Resource person	Advise on sources of information
Counsellor	Advise on developing one's interests
Assessor	Inform students of progress

- Teachers can use different learning and teaching strategies to achieve the different purposes of learning and to suit the learning styles, abilities, interests and needs of students. There is no fixed rule regarding which strategy is the best. Teachers master learning and teaching strategies differently. They can develop the repertoire which is most effective for them to enhance the independent learning capabilities of students for whole-person development.
- We can widen student learning through life-wide learning opportunities outside the classroom, such as on the school premises, at home and in the community, and organise co-curricular activities to complement classroom learning.
- The attitudes and abilities of students are also profoundly influenced by students' family background, experiences and life circumstances. Teacher have to understand their students, and adapt to the needs of students in collaboration with counsellors, parents, peers, social workers and other sources of community support.

6. Assessment for Learning

- Assessment is the practice of collecting evidence of student learning. It is an integral part of the learning and teaching cycle rather than a separate stage at the end of teaching. It helps to provide information for both students and teachers to improve learning and teaching (assessment for learning). Yet there is also a need for assessment to select students at senior secondary level for higher education (assessment for selection).
- Both the processes (e.g. inquiring, independent learning, use of generic skills, reflections) and the products of learning (e.g. knowledge/concepts, problem-solving capacities) are important in student learning. Evidence of student learning should be collected by the assessment methods most suited to them (e.g. oral tests for oral communication, discussion for collaboration, presentation/ performance for creativity, tests and examinations for knowledge).



Refer to Exemplar I. 7.3 Hong Kong Regional Culture -Communication Design



Refer to Exemplar II.9 全方位學習的評估-「大澳戶外考察活動」



Refer to Exemplar

II. 3 Comparison of Open-ended and Close-ended Questions



Refer to Exemplars

- II. 4 Promoting Language Learning through Two Approaches to Assessing Writing
- II. 6 Effective Teaching, Learning and Assessment Cycle : Process Writing in English Language Education
- II. 7 Teaching, Learning and Assessment Cycle -A Case in Science Education
- II. 8 A Multi-stage Assessment in Technology Education -The Design of the Package for a Product to be Put on Sale in Supermarkets



Refer to Exemplar

II. 5 Enhancing Learning in Mathematics Lessons through Immediate Feedback

- Hong Kong has relied on written tests and examinations as major methods of public assessment as well as within schools. Written tests and examinations assess the products of learning such as memory, understanding of knowledge and concepts at a certain point in time. However, independent learning capabilities and other learning experiences are better reflected in the processes of learning rather than in tests and examinations. Therefore, the latter would have a narrowing effect on learning if they continued to dominate assessment in Hong Kong. Curriculum change will not succeed without corresponding changes in assessment.
- It is therefore important for public assessment, the Basic Competency Assessment recommended by the Education Commission, and assessment in schools and classrooms to:
 - S assess students on what and how they are expected to learn in the curriculum
 - use different modes of assessment suited to the purposes and processes of learning (e.g. projects, observation, portfolios, tests, examinations) throughout the school years
 - ⇒ avoid excessive assessment, and unproductive uses of dictation, memorisation, and assessment for the sake of recording only
- The idea of assessment for learning is not new. It is underpinned by the confidence that all students can learn and that assessment can contribute to better learning. The following practices will encourage assessment for learning:
 - Schools can develop a school assessment policy and practices consistent with widening the space and opportunities for learning and emphasising independent learning capabilities, e.g. more diversified modes of assessment, more value attached to creativity, expression of ideas, knowledge building and catering for learner differences (with different contents, modes of assessment, and different expectations of students).
 - Schools can make better use of the space left by the abolition of the Academic Aptitude Test (AAT) in primary schools for more meaningful learning activities.
 - Schools and teachers can use feedback (e.g. informal, formal, verbal, written), whenever appropriate, to inform students of their strengths and weaknesses. Students will then be motivated by recognition of their achievements and they will also know what steps they need to take to address their weaknesses.



Refer to Exemplars

II.1 同儕互改作文

II.2 同儕互評與自我修訂一 中學中國語文 「游說技巧」單元

Basic Competency Assessment (BCA) consists of "Student Assessment Programme" which is for P1 to S3 student, while "System Assessment Programme" is for P3, P6 and S3 students only.

- Teachers can share with students the goals of learning and let them recognise the standards they are aiming for in order to enhance students' ownership of learning.
- Teachers can take the opportunities to do assessment collaboratively with students, or allow students to assess work among themselves (peer assessment) or by themselves (self-assessment). These modes of assessment will promote reflective thinking and self-improvement, which are qualities of independent learning.
- Teachers can use assessments to find out what and how students think, probe students' higher order thinking skills, creativity and understanding of concepts rather than rote memorisation of facts.
- Schools can use the "Student Assessment Programme" of the Basic Competency Assessment (Eng, Maths, Chinese) at P1 to S3. This will be offered by the government as a complementary tool to diagnose students' weaknesses and strengths as one basis for improving learning and teaching.
- Schools can help students to develop a portfolio of learning and assessment throughout the school years. (A collaborative research and development project will be developed in both primary and secondary schools.)
- Schools should include key attitudes, self-management, and moral and civic qualities in report cards as part of student achievement and also as a basis for further improvement.
- Schools can set their own base-line of student achievement suited to the background of students and schools, and also as a basis for planning for their own progress.
- To support the above, the CDC will undertake the following measures at the systemic level to ensure that public assessment is consistent with the curriculum, i.e. what students are expected to learn:
 - develop evidence-based quality criteria in line with the curriculum framework, to help teachers judge the performance and progress of students in relation to the learning targets
 - ⇒ work with HKEA to develop combined curriculum and assessment guides for various examination subjects (such as the pilot guides for AL Biology, CE Computing Studies and Applications), so that the scope and modes of assessment are consistent with the learning objectives and contents

liaise with the university sector and relevant agencies about broadening university admission criteria and about other means of providing information on student achievement (e.g. portfolios)

7. Four Key Tasks

- It is often asked what teachers can do to help students develop independent learning capabilities through KLAs and across KLAs more readily. The following four key tasks are recommended:
 - ⇒ Moral and civic education.
 - → Reading to learn
 - → Project learning
 - ⇒ Information technology for interactive learning,
- They are recommended for the following reasons:
 - Moral and civic education is one of the five essential learning experiences. Development of positive attitudes and a sense of commitment provide the affective basis for students to learn more effectively.
 - Reading to learn and project learning are not new. Schools and teachers can easily make good use of them to promote more independent learning capabilities and achieve the learning targets of the school curriculum.
 - Information technology is becoming part of daily life. It develops the competency needed for gaining access to large amounts of information and for closer interaction with different people and parts of the world.
- The four key tasks are inter-connected. Schools can use any of them as an entry point to strengthen their students' independent learning capabilities and help them ultimately to achieve the objectives of in all four tasks. For instance, a focus on reading to learn helps students to do better in project learning, which involves searching and reading different kinds of materials. Similarly, project learning requires students to read widely for information, develop critical thinking and construct personal knowledge.
- Schools and teachers are advised to adopt, for each task, appropriate strategies that have an effect on learning and achieving relevant learning targets, rather than focussing the activities superficially and causing futile effort.



Refer to Exemplar

III. 2 Linking Reading to Creative Writing

Moral and Civic Education

Key messages about moral and civic education:

- Moral and civic education is one of the essential learning experiences required for whole-person development and is vital in helping students build up positive values and attitudes.
- A holistic perception of moral and civic education covering various issues related to value development such as sex education, environmental protection, media education, religious education, ethics and healthy living is proposed for promotion in schools.
- In the domain of values and attitudes, national identity, a positive spirit, perseverance, respect for others and commitment to society and nation are the five values and attitudes regarded as paramount to students' personal development during the short-term phase of 2001-02 to 2005-06.
- The implementation of moral and civic education should be learnerfocused. Learning opportunities should be provided for students to develop and reflect on their values and attitudes using events relevant to their daily life.
- In the school context, principals and teachers are crucial facilitators in students' value formation. Various means of support will be provided to enhance their professional competency, empowering them to be effective facilitators in developing students' positive values and attitudes.

Strategies to promote moral and civic education:

 It is necessary to involve various key players such as schools, parents, government departments, non-government organisations and various sectors of society. Measures will be taken to collaborate with them and to strive for a concerted effort in bringing about desirable outcomes. For the effective promotion of this goal, different key players play differ ent roles as follows:

Students

- Students should take an active role in participating in learning opportunities, both inside and outside the classroom to cultivate their values;
- They need to constantly reflect upon their own values and be committed to them.



Refer to Exemplar III. 1.2「傷健共融:暑期親子樂 續紛,學習服務齊相長」



Refer to Exemplar

I. 8.2 Understanding Etiquette and Development of Sportsmanship through Basketball Activities



Refer to Exemplars III. 1.3 「認識國民身分和一國 兩制」一公民教育徑 考察活動 III. 1.5 導師計畫



Refer to Exemplars

- III. 1.4 言教身教一推動學校德 育公民教育的有效方法
- III. 1.6 處理學生偏差行為問題 一以身作則,以關顧代 替懲罰



Refer to Exemplar III. 1.1 服務學習

⇒ Teachers

- Teachers can help students develop positive values and attitudes through their interaction with students;
- An open learning and teaching culture has to be developed to nurture students' moral and civic development;
- Teaching through deed is crucial in developing positive values and attitudes among students.
- ⇒ School
 - A favourable school ethos and learning environment should be created, conducive to developing students' values and attitudes;
 - Life-wide learning opportunities should be provided for students to build up their values and attitudes.

→ Parents

Collaboration has to be established with schools in helping students cultivate positive values and attitudes.

⇒ Other key players

- Life wide learning opportunities should be provided to promote moral and civic education, such as learning through service;
- Support can be provided to enhance teachers' and parents' capabilities in helping students develop positive values and attitudes.

Reading to Learn

Key messages about reading:

- Reading is not just for the improvement of language proficiency, but serves many other important purposes, which add value to the quality of our life. These include reading for interest, appreciation, enrichment of knowledge and experience.
- The choice of reading material should not be confined to storybooks. Quality reading materials embracing different text-types can be chosen from a wide variety of sources (printed and non-printed) to widen students' exposure and knowledge.

EXEMPLARS

Refer to Exemplar

III. 2.3 Reading Across the Curriculum



Refer to Exemplar III. 2.1 家校合作閱讀學習活動

- Reading can take place anytime and anywhere. Students can be encouraged to read during reading lessons, library periods, after class and at home. This enables students to develop a good reading habit.
- Some students will read on their own if they are interested in reading. However, their interest needs to be sustained. Uninterested readers need to be motivated, supported and taught how to read. The ultimate aim is to develop students into independent, willing readers.
- To monitor students' reading is important. It is equally important to help students review their own progress in reading. Through establishing a reading profile, for instance, a clear picture of the reading habits, achievements and problems of the student can be gained for remediation and recognition purposes.

Strategies to promote reading to learn:

- The promotion of reading is not the business of language teachers alone. The whole school has to become involved. Whole school involvement lays the foundation of a reading culture within the school. Language teachers may focus more on the teaching of reading strategies and skills while other teachers encourage students to broaden their knowledge and exposure through reading materials with different subject content. The librarian plays a crucial role in developing students' information skills. Administrators can provide a mechanism which favours collaboration on reading among departments.
- Schools can also draw upon the support of parents and the resources of the community (e.g. public libraries, the mass media, educational and youth organisations) in promoting a reading habit and culture among students.
- The existing time-table can be re-structured to cater for new needs. For instance, the designation of a reading time during school hours enables students to read regularly on their own or with the help of their teachers.
- The provision of incentives can be an effective method to motivate students to read . The good use of reading schemes, reading programmes, etc. can help sustain students' interest and effort in reading.
- The availability of quality reading materials, computers and software packages in the school library is crucial to attracting students to read at school and to extend their reading habit beyond school time.

Project Learning

Key messages about project learning:

- Project learning is a powerful learning and teaching strategy to promote self-directed, self-regulated and self-reflecting learning.
- It usually starts with challenging questions or problems, and involves students in working together or individually plan, read and take decision over a period of time.
- Project learning enables students to connect knowledge, skills, values and attitudes and to construct knowledge through a variety of learning experiences.

Strategies to encourage project learning:

- Teachers play a crucial role in project learning by offering the sort of structure that enables students to take risks without fear of failure. Teachers can vary their role, leading, guiding, supporting or merely facilitating as students become more independent in the learning process.
- Use generic skills such as problem-solving, critical thinking, collaboration and self-management skills in the learning process, and use communication skills to present the product.
- Begin a project with a focused question or problem. Approach the question or problem from different perspectives, using and integrating knowledge, skills, values and attitudes from different KLAs. The collaboration of subject teachers is of great significance in promoting inter-disciplinary projects in schools.
- Students develop their skills at different key learning stages. For example, P1-3 students use observation skills and simple information skills; P4-6 students search for information using different media, such as reference books, CD-ROMs and the Internet, and begin to analyse information; S1-3 students would use all these processes and evaluate the information themselves to generate personal ideas.
- Arrange different projects for different levels of students:
 - ⇒ e.g. Collaborative projects for S1-3 on an issue:
 - S1 reading and searching for information
 - S2 setting questionnaires and interviewing
 - S3 scientific investigation.

Project learning aims at:Developing skills

- •Constructing
- knowledge
- •Nurturing values/ attitudes

Projects involve:

- •Planning
- •Reading
- •Observing
- JudgingEnquiring
- •Communicating
- •Theorising



Refer to Exemplar III. 3.1 Introducing a Web-based Tool for Supporting Project Learning School-based curriculum plan for project learning can provide students with coherent and continuous learning experiences.



Refer to Exemplar III. 3.2 Assessment for Project Learning

- e.g. Arrangement by KLAs/themes: S1 - PSHE
 S2 - Science KLA
 S3 - Arts across KLAs.
- Students of varying competencies may work on different tasks which suit their capabilities but should share their work with others so that they learn from each other.
- Students can be assessed in the following ways:
 - continuous feedback is recommended for focusing on giving advice instead of providing only a grade
 - authentic performance assessment should be employed for reporting on the rich knowledge and skills acquired
 - feedback related to different dimensions of learning is preferred to the giving of a single grade
 - Students' reflections can be an integral part of assessment and parents can also contribute their views

Information Technology (IT) for Interactive Learning

Key messages about IT for interactive learning:

- Information technology for interactive learning complements strategies of learning and teaching inside and outside the classroom but it neither replaces them nor the role of teachers. IT helps learning in the following situations:
 - → Providing audio/visual aids for difficult concepts
 - Searching for information from various sources and handling large quantities of information
 - Allowing students to work at their own pace, including using specially designed software
 - ⇒ Interaction between the learners, resources and teachers
 - ⇒ Collaboration between learners and teachers
 - Facilitating the acquisition of information, the development of critical thinking and knowledge building, especially under proper guidance

EXEMPLARS

Refer to Exemplar III. 4.1 善用資訊科技,互動學習 更有效

- Students can learn essential IT skills in different ways, such as through school subjects of Computer Literacy, Computer Studies and Information Technology, through integration of IT skills in other subjects, and/or through learning and practising outside lesson time.
- It is not necessary for teachers to be experts in IT skills before they
 can use IT for learning and teaching, though the rapid advancement
 of IT does present a challenge to teachers and others in society.
 Teachers can take the opportunity to empower themselves, enhance
 their work through an appropriate use of IT skills, and experience
 the pleasures and difficulties of life-long learning, which will
 enable them to give students the useful guidance in the coming
 years.
- A well-prepared lesson harnessing IT in the situations described above can be vivid and interesting. Teachers are not required to develop commercial grade IT-based learning and teaching resources. They need to know how to select, adopt and use available and appropriate IT-based resources. At times, they may need to develop a small number of such resources, but the principle is that they use IT resources that facilitate student learning.
- IT also facilitates student learning through drawing on:
 - ⇒ Presentations by teachers or students
 - Multimedia learning packages providing rich sensory stimuli for enhancing students' understanding
 - ⇒ Simulation and modelling tools for exploratory learning
 - Interactive CAL packages for the active participation of students in the learning process
 - Non-specific communication tools or electronic discussion forums for student reflections and the expression of views
- IT complements other learning and teaching strategies. However, excessive and improper use of IT becomes distracting and sometimes annoying with little or no educational value.
- IT resources, especially the Internet, provide authentic contexts for students to learn in joint projects, sometimes with students in another part of the world. Collaborative learning, however, usually begins with students interacting face to face with their fellow students. There are reports that IT tools help to build closer relationships between students through collaborative learning, but there are also worries that they form a barrier separating the skilful from the less skilful. Teachers need to observe and monitor progress closely to ensure that desirable outcomes are achieved.

Strategies to promote IT for interactive learning:

- Curriculum leadership can be nurtured in schools to help promote IT for interactive learning. The IT coordinators in schools, or the more competent teachers, should be given the responsibility of helping others to intergrate IT into the curriculum. They should also conduct school-based development programmes and nurture a culture of using IT for interactive learning. The most important thing of all is to share and reflect upon whether the use of IT has helped students achieve the learning targets/objectives set for particular learning tasks, and to adjust strategies accordingly. The priority is not for teachers to develop packages for others and advance their own IT skills.
- Teachers should be encouraged to use a variety of student-focussed learning strategies (e.g. project-based learning, issue-based learning, etc.) so that students are provided with opportunities to use IT to acquire and construct knowledge in the various knowledge domains.
- Students benefit from teachers' guidance in:
 - ⇒ searching for information purposefully
 - ⇒ appraising the credibility of the information
 - organising and presenting the information logically and coherently
 - protecting themselves when exploring the different frontiers of the Internet
 - constructing knowledge and concepts, and knowing whether they are making progress
 - ⇒ applying ethics in using IT, such as respect for intellectual property (a school may have a house rule for it)
- IT is a good communication and learning tool. Opportunities should be given to students to organise and present their ideas or assignments with the support of IT in class. Students should be encouraged to communicate and share information electronically for collaborative problem-solving with teachers and peers throughout their course of study, so that the use of IT skills becomes a useful means and not an end.

8. Effective Use of Textbooks and Learning /Teaching Resources

- Well-written textbooks developed in accordance with the new curriculum framework will serve the purpose of effective learning and teaching. Textbooks should be written for students. They should provide the core elements of learning in KLAs or subjects recommended by the CDC, develop critical and creative thinking and other generic skills in the learning resources and activities provided, and also open up space for learning through suggestions that go beyond their confines. Quality textbooks help students to achieve learning targets and objectives, consolidate what they have learned, and extend their personal knowledge.
- Teachers can use textbooks as the basic resource for learning and teaching activities, but not as the only resource. Teachers should use materials in textbooks selectively, rather than feel that they have to finish teaching the whole textbook even when the material is not entirely relevant to students' abilities and interests. Teachers can adapt textbooks to the different needs of the students and complement them with other learning resources (e.g. different media, the natural environment, people, the Internet and other community resources).
- Knowledge transmission alone is no longer adequate. Learning activities in textbooks should be used flexibly to help students to actively integrate, practise and apply new knowledge. Activities that involve students in interaction with each other can actively engage them in the learning process.
- Teachers are advised to use their professional judgement to select tasks and exercises provided in textbooks, make use of a variety of educational sources, or develop learning and teaching resources based on the needs of their students.
- Teachers can help students to learn from a variety of resources (e.g. media, objects, people) and authentic situations rather than focus on textbook knowledge alone.
- The ED will continue to review textbooks written to support curricula recommended by the CDC. A Recommended Textbook List will be compiled and updated to facilitate the choice of textbooks. Schools can refer to the List when choosing textbooks for their students. Schools can choose not to use textbooks if they are able to provide students with other learning and teaching resources better suited to implementing the curriculum.

9. Catering for Learner Differences

- The suggestions in sections 4, 5, and 6 in this chapter are universally applicable to catering for student diversity when they are used to address different students' needs. The suggestions below try to highlight some significant points which address the issue more deeply.
- Every student is different in cognitive and affective development, social maturity, ability, motivation, aspiration, learning styles, needs, interests and potential.
- The factors explaining learner differences include: innate differences in intelligence, differences in social and economic background, variations in past learning experience, variation motivation to learn, and perhaps variations in the level of congruence between the learner and the curriculum. The fact that a child does not seem to learn as well as other children in a certain area may be due to a number of factors which are outside the child's own control. Schools may refer to 《小學加強輔導教學計劃指引》 (Education Service Division, Education Department 2001) for guidance.
- Schools, teachers, parents, students and the community should make concerted efforts to help every student learn.
- Catering for learner differences is intended neither to narrow the gap between individuals nor to even out their abilities and performance. The actions taken to cater for learner differences should involve trying to understand why certain students are unable to learn well and find appropriate ways to help them learn better. Otherwise, the gaps between the high achievers and the low achievers will widen as children move through progressive stages of schooling.
- A positive self-perception is crucial to student motivation for learning. The most immediate means to raise the self-esteem of students is to encourage their strengths in sport, practical skills or dance and thus give recognition to their special abilities. There is no need to force students to be good at everything.
- Teachers can use a diversity of resources (print, human, electronic) rather than focus only on textbooks. Teachers can make use of a spectrum of intelligences and multi-sensory experiences to tap the different potential of students, especially lower achievers.
- Schools can use different modes of assessment to find out the strengths and weaknesses of students, and then decide on the appropriate curriculum, learning and teaching strategies for them.



Refer to Exemplars

- V.1 Catering for Various Reading Styles
- V. 2 Designing Differentiated Writing Tasks for Different Ability Groups
- V.6 玩具圖書館



Refer to Exemplars

- V. 3 Motivating Students to Learn - Writing Mathematics Diaries
- V. 4 Different Ways of Understanding - the Case of Fractions in Mathematics
- V. 5 Developing a Community of Learners - Using Co-operative Learning



Refer to Exemplars

- V.7 資優教育(情意教學) 「讓我們做得更好」
- V. 8 資優教育(創意思考教學) 「拾球記」



Refer to Exemplars

- IX. 1 An Assignment on 'My hand.....'
- IX.2 功課多元化
- IX.3 另類課業一遊戲
- IX.4 另類課業一訪問

There is no need for a school to have standardised assessment practices if the students' abilities are wide ranging. Constant failure with no recognition of any personal achievement will de-motivate weaker students.

- In view of the complexity of the factors underlying individual differences (social, curricular, pedagogical, psychological and personal), a multi-dimensional consultancy project has been launched. It is adapting the curriculum, learning and teaching strategies and assessment as a means to cope with learner difference in the context of Hong Kong schools. We hope that there will be other projects to fill gaps in the social and psychological arenas.
- Practices that have worked, based on evidence, include:
 - Solution ⇒ Using co-operative learning
 - ▷ Varying teaching from the viewpoint of the students
 - → Cross-level subject setting
 - Pacing learning and teaching according to the abilities of students
 - Using information technology as a learning tool (http:// cd.ed.gov.hk/rep/Eindex.htm)
- Useful practices will be continuously disseminated for the reference of schools in the curriculum bank described in *Chapter 5*. Teachers are encouraged to develop their repertoire to cater for the unique needs of their students through reference to useful experiences, mastery of learning and teaching techniques, and the supportive measures given in *Chapter 5*.
- With regard to catering for students with high potential (the gifted), a three-tiered gifted education programme funded by QEF is being piloted from 2000 to 2002 (http://cd.ed.gov.hk/sen/giftedproject. htm). All schools can work at Level 1, in which students' potential in higher order thinking, creativity, and personal-social competence can be stretched through the learning and teaching of KLAs in regular classrooms. Experiences from pilot projects at Level 2 (schoolbased pull-out programmes) and Level 3 (special enhancement programmes with outsourcing support) will be further developed and disseminated in due course.
- As for catering the special educational needs of students, reference could be made to the web site http://serc.ed.gov.hk developed by the Special Education Resource Centre, Education Department.

10. Homework

- Homework is an important factor for academic success in Asian communities. It is therefore to be seen as a friend to learning rather than as a foe.
- Quality homework encourages independence in learning at home (e.g. reading, projects), consolidates, extends and applies learning at school (exercises, reading, revision).
- Quality homework should avoid drilling such as excessive copying, repetitive exercises (without purposeful meaning), and it should never be excessive (not more than half an hour for lower primary and an hour for upper primary students).
- Quality homework should promote the reinforcement of higher order thinking and the motivation to strive for excellence.

Actions via Partnership with Other Organisations and Sectors

11. Life-wide Learning Opportunities for Whole-person Development

- Life-wide learning offers learning opportunities conducive to whole-person development. It offers learning in real contexts, and experiential learning that cannot be provided by classroom learning, especially in moral and civic education, physical and aesthetic development, career-related experiences and community service.
- It complements some aspects of learning in the eight KLAs which are less effectively achieved in the classroom, e.g. conducting urban surveys in geography, marine investigation into biodiversity, and artistic appreciation in museums.
- It also offers experience of interdisciplinary studies, e.g. making a decision about the use of a piece of land.
- It should focus on processes and their impact on learning rather than "quantity" and "activity formats".
- New initiatives need to be supported by research and development to inform our understanding of how students change in terms of values, attitudes and actions.
- The choice of life-wide learning activities should be both schoolbased and learner-focussed as it is more geared towards personal development. A related web site is available at http://cd.ed.gov. hk/life-wide/main/default asp for reference.



Refer to Exemplars

- IV.1「全方位學習日/夜 多面睇」
- IV.2 全方位學習日/夜的延續 活動一中文科寫作教學
- IV.3 把全方位學習活動編進 校曆表
- IV. 4 An Educational Tour of an Overseas Country

• Different government departments (e.g. the Leisure and Cultural Services Department), non-government agencies, educational institutions and employer sectors can make a unique contribution to enriching life-wide learning opportunities that keep pace with the future needs of curriculum development. Further partnerships with these organisations will be established.

12. Smooth Transition between Kindergarten and Primary School, Primary and Secondary School

- Students need to adapt to changes in their school environment during the transition from Kindergarten to Primary 1, and also from Primary 6 to Secondary 1. It should not be the responsibility of students alone, but of both institutions and parents.
- Kindergarten, primary and secondary schools should collaborate closely on goals, learning and teaching methods and assessment to ensure smooth continuity from one level of schooling to another. The pre-primary sector should not be given pressure to teach in a more "school-like" manner, upper primary schools should not be asked to teaching like "junior secondary" schools.
- Kindergartens can do the following to enhance children's readiness for Primary:
 - ⇒ Offer children positive experiences in group settings and strengthen their social skills and understanding of routines
 - Provide children with ample opportunities for conversation, discussion, co-operative work and playing with peers
 - Create a stimulating environment to enhance children's interest in learning
 - ➡ Establish partnerships with parents in fostering children's motivation to learn
- Primary schools can do the following to promote conditions and behaviours that ease the transition process:
 - Provide pupils with a warm social climate within the school and an inviting physical environment
 - Implement a pupil-centred curriculum consisting of a wide range of activities related to pupils' direct experiences
 - ⇒ Reach out to kindergartens and child-care centres in pursuit of continuity in the curriculum



Refer to Exemplar XI.1 幼稚園與小學的銜接



Refer to Exemplars

- XI. 2 Helping Primary Six Students to Prepare for Life in a Secondary School with English as the Medium of Instruction
- XI. 3 Developing Self-Esteem of Secondary One Students through Summer Bridging Programmes



Refer to Exemplars

- X. 1 Home School Communication Approach - Information Technology for Parent and Child
- X.2 家校合作一提高學生中文 寫作興趣及能力

- ➡ Eliminate the early use of direct instruction and formal assessment methods
- Solution ⇒ Continue to enhance motivation to learn by providing active, engaging and meaningful learning activities for the pupils
- Provide adequate time for pupils to adjust to the new environment
- S ⇒ Ensure teachers are responsive to the wide range of developmental levels, experiences and needs of pupils
- Encourage parents to participate in school activities such as meetings, school visits and parent support groups
- Secondary schools can do the following to enhance students' skills to become competent learners:
 - □ Invite primary pupils to visit their schools or attend open days
 - Organise induction programmes in the early weeks of Secondary 1
 - Conduct life education programmes in collaboration with other professionals, such as educational psychologists and community service workers, to strengthen students' time management skills and foster their self-esteem, learning motivation and sense of responsibility

13. Home-School Co-operation

- It is important for schools and teachers to solicit participation and positive attitudes from parents right from the beginning. There is evidence to show that this leads to improved learning.
- Schools and teachers can help parents to
 - understand that standardised learning and teaching materials alone cannot help children to achieve high standards. Instead, to optimise the different potential of students, diversified learning and teaching styles, strategies, contexts and resources are more important.
 - understand the purposes of assessment. Enable them to see that marks and ranking in class do not reveal the actual abilities of students. Knowing the strengths and weaknesses of students is more important.

• It is useful to communicate with both parents and students together (e.g. using a newsletter, an open door parent-teacher conference, a parent bulletin board, assignment notebooks) to build up trust and rapport with each other.

Conclusion

We do not expect all schools to implement all the above initiatives at the same time. Schools are advised to make reference to them and decide which should be implemented in their contexts to suit their students' needs.

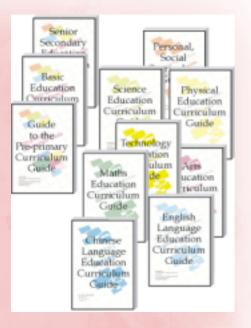
Chapter 5

Measures and Resources to Support Schools and Teachers

Characteristics of Measures and Resources to Support Schools and Teachers

The purpose of this chapter is to recommend measures and resources to support schools and teachers (including teacher librarians), premised on the principles and strategies set out in *Chapter Two*. We are especially aware of the concerns of teachers about the know-how to carry out the reforms and the workload which this will involve. Instead of the topdown linear model of "syllabus-teacher training-inspection" used in the past, we recommend the following measures and resources, which are flexible and diverse enough to suit the different needs of teachers and the varying contexts of schools:

- Continuous central support for essentials such as curriculum guides, textbook review, quality assurance
- A respect for professional knowledge, evidence-based practice, and capacity building amongst all parties involved
- Flexible time arrangements, and a diversity of options of supportive measures for schools and teachers
- Consideration of incentives for schools and teachers (e.g. recognition of courses for promotion and the professional career ladder)
- Measures and resources to target specific levels:
 - Systemic and community level curriculum guides, examination reforms, curriculum bank, textbook review, learning and teaching resources, local and international consultancies, dissemination strategies and networks
 - School level on-site school-based support, collaborative research and development projects, library development, dissemination strategies and networks, partnership amongst all parties
 - Teacher level professional development programmes for teachers and principals, on-site school-based support, creation of time and space for teachers, dissemination strategies and networks
 - Student level making use of the "space" of learning



Curriculum Guides of Key Learning Areas and different Key Stages.

Curriculum Guides and Documents

Purpose

The purpose of curriculum guides is to make the following recommendations for planning the whole-school curriculum:

- setting learning targets for learning and teaching based on the proposed framework in the consultation documents (November 2000) and public feedback
- time allocation and time-tabling
- different modes of organising the framework (e.g. content outline, subjects, modules) and subject choices
- learning and teaching strategies
- student assessment
- resources, exemplars for practice and any other useful information for teachers

Schedule

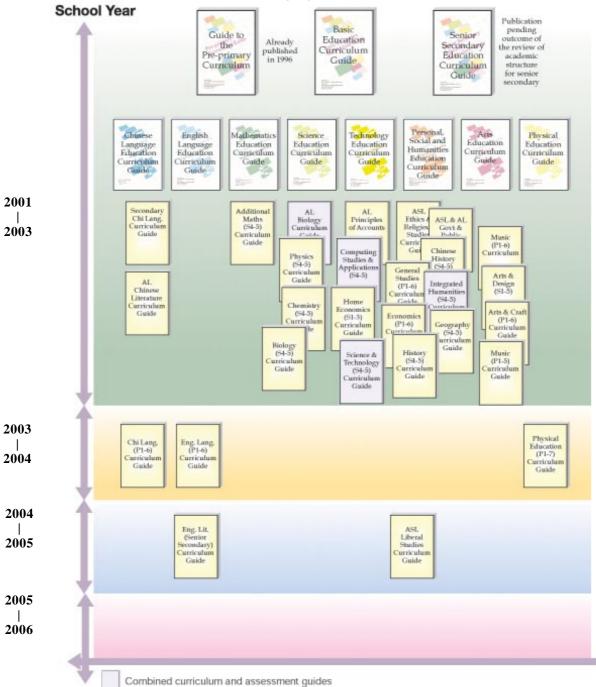
Curriculum Guides

- The new curriculum guides for basic education (P1-6; S1-3) and all the Key Learning Areas in basic education are scheduled to be completed in mid 2002.
- CDI will work jointly with tertiary institutions, experts and schools to conduct "seed" projects to inform recommendations in the curriculum guides, and/or to try out some of the recommendations.
- Any necessary new subject guides for Key Learning Areas and General Studies for Primary Schools in basic education arising from the new framework will be completed in 2003-04.
- All schools should start to implement the new curriculum framework gradually, starting from 2006-07, with a view to putting it into full implementation by 2010-11.
- Some examination subject guides (for S4-5, S6-7) scheduled for revision will be prepared in accordance with the new framework.
- AL Biology Curriculum Guide, Computing Studies and Applications (S4-5) Curriculum Guide, Integrated Humanities (S4-5) Curriculum Guide and Science and Technology (S4-5) Curriculum Guide are combined curriculum and assessment guides, jointly developed by HKEA and CDC.

Cross-Curricular Guidelines

The four cross-curricular guidelines (for sex/civic/moral/ environmental education) in the past will continue to serve schools. Learning and teaching resources as well as exemplars will be developed for the reference of schools when designing school-based life event programmes for promoting moral and civic education.

A schedule for the issue of the curriculum guides is presented in the following figure:



Teacher and Principal Development Programmes

Purpose and modes

- The purpose of the professional development programmes for teachers and principals is to enhance their knowledge and skills in curriculum change, learning and teaching, assessment and school-based curriculum development, so that they can enable students to achieve the learning goals and targets in the school curriculum.
- Different modes of professional development (e.g. web courses, fixed-hour courses, workshops, action learning) are planned in order to meet the specific purpose of each programme, and to cater for the different needs and roles of teachers and principals.
- "Learning through practice" should be a key feature of the programmes implemented to realise the reforms and provide the means for teachers to develop a life-long learning capacity. The contents of the courses will include updating experiences generated by research and development projects, action research and evaluation.

Programmes and Schedule

Priority will be given to the following in 2001-02 to 2005-06:

- Nurturing school heads and principals as curriculum leaders in primary and secondary schools (in all facets of curriculum development)
- Nurturing curriculum leaders in each Key Learning Area, General Studies for Primary Schools, and Moral and Civic Education.
- Enhancing teacher professionalism in :
 - four key tasks moral and civic education, reading to learn, project learning, information technology for interactive learning
 - ⇒ infusing critical thinking and creativity into learning and teaching of KLAs
 - \Rightarrow assessment for learning
 - → catering for learner differences
 - ⇒ curriculum change and school-based curriculum development

- Enhancing teachers' knowledge in the specific requirements of the Key Learning Areas (e.g. updating knowledge, curriculum planning, learning and teaching strategies)
- Refresher training for all in-service teacher librarian
- Regular annual induction courses for new teachers and new panel chairpersons in each Key Learning Area and for new teacher librarians

Incentives for Teachers

- It is recommended that courses related to curriculum reform should be regarded as equivalent to "Refresher Training Courses" for primary and secondary school teachers, teacher librarians or to any similar course needed for advancement to senior levels.
- Due recognition should also be considered for participation in action research, and research and development projects related to curriculum development in the long run.
- Reviews of professional career development in the future should take into consideration in-service courses in curriculum reform and participation in research and development projects.
- Schools and principals are adviced to recognise teachers' professional development in staff appraisal.

Teacher and Principal Development Programmes from 2001-02 to 2005-06

Curriculum management and leadership	Primary Schools heads and middle managers			
	Secondary School principals and middle managers			
	Curriculum leadership in KLAs, General Studies for Primary Schools and Moral and Civic Education	Chinese Language Education		
		English Language Education		
		Mathematics Education		
		Personal, Social and Humanities Education		
		Science Education		
Tourionip		Technology Education		
		Arts Education		
		Physical Education		
		General Studies for Primary Schools		
		Moral and Civic Education		
	Project learning			
	Reading to learn			
Learning and teaching	Information technology for interactive learning			
strategies,	Assessment for learning			
assessment	Infusing generic skills e.g. critical thinking, creativity			
	Catering for learner difference			
	Chinese Language Education			
Specific needs of KLAs and General Studies for Primary Schools	English Language Education			
	Mathematics Education			
	Personal, Social and Humanities Education			
	Science Education			
	Technology Education			
	Arts Education			

	Physical Education	
	General Studies for Primary Schools	
Regular courses	In-service training course for new teacher librarians	
	Refresher courses for teacher librarians	
	Induction of new teachers in KLAs	
	Induction of new panel heads in KLAs	

Textbooks and Resources on Learning and Teaching

Textbooks

- Well-written textbooks have a positive role to play in student learning.
- Textbooks to be written in the future will follow the new curriculum framework. They will contain the core elements, while leaving space for students to further acquire and build up knowledge and for teachers to develop students' diverse learning skills.
- Textbooks should not only provide materials to be taught but also help learners to understand key concepts and use generic skills.
- To facilitate the preparation of textbooks and learning materials, publishers will be informed of the latest curriculum developments and the multiple stages of the consultation process through the CDC Homepage.
- To ensure the quality of textbooks, a set of guiding principles for quality textbooks supporting the curriculum framework and a learner-centred approach to learning and teaching has been formulated for the writing, reviewing and selection of textbooks.
- Teachers should use textbooks flexibly in combination with other learning materials to achieve learning targets and enhance learning effectiveness.
- A web site called "Textbook World" is being developed in **HKeducationCITY** (http://www.hkedcity.net) to provide teachers, parents and students with a platform to express their views and provide user feedback on the standards and contents of textbooks.

Resources on Learning and Teaching for Teachers

The following resources are being developed to support teachers and schools:

- The Learning and Teaching Series
 - ⇒ Guidebooks / Tool kits
 - → Multi-media packages
 - ⇒ Exemplars of learning and teaching practices
 - Self-access learning materials for teachers on specific issues (e.g. on motivation, catering for learner differences, assessment for learning)

- ⇒ CD-ROM Curriculum Planners
- Action Research publications
- Reports on research and development projects
- Educational Television programmes and other multimedia developments
- Life-wide learning database
- *HKeducationCITY* web site
- Resource lists on web sites (including the updated work of different organisations)

Collaborative Research and Development ("Seed") Projects

Purpose

The purpose of collaborative research and development projects is to:

- generate/"seed" useful experiences for the reference of schools, teachers and the community
- develop a critical mass of curriculum change agents and leaders (e.g. teachers, school heads, teacher librarians) to enhance the capacity for reform
- act as an impetus to school-based curriculum development

Themes

All projects are geared towards promoting the learning capabilities of students to achieve the learning targets of the school curriculum in KLAs, General Studies for Primary Schools and other relevant contexts. The following themes will either stand alone as separate projects (in line with the key emphases of the reforms) or act as an integral part of projects in Key Learning Areas:

- Critical thinking and creativity
- Catering for learner differences
- Assessment for learning (including portfolio)
- Four key tasks moral and civic education, reading to learn, project learning, information technology for interactive learning
- School-based curriculum development
- Curriculum organisations and learning and teaching strategies in KLAs/subjects

107

Characteristics

Each project:

- begins with practical issues (e.g. enhancing students' capability to learn in the classroom, assessment needs, KLAs) in the natural settings of schools and the community in Hong Kong.
- is based on principles/theories and puts them into practice.
- is evidence-based, evaluative, adaptable to other situations, and suggests actions for improvement.
- is collaborative, involving the participation of schools, curriculum developers, tertiary institutions, and local and international consultants.
- empowers teachers and schools.
- varies in size and objectives (e.g. a single lesson, an activity, a unit, a 3-year longitudinal study), and in the way development and research components interact.
- may build on some earlier success that has worked to the benefit of students learning, for example:
 - ⇒ innovations initiated by the schools themselves
 - → consultancy studies on learner differences
 - ⇒ action research projects in school undertaken by CDI, QEF and tertiary institutions.
- serves the immediate needs of schools faster than basic research, which segregates development from research and is not yet translated into practice.
- will be evaluated and improved on the basis of experience at the end of each year, in terms of change processes, teacher change and impact on learning.
- the experience generated from the "seed" projects will be disseminated through effective channels.

Participation

• There will be an invitation to schools each year. Schools who have successfully completed a project and nurtured curriculum leaders can help other schools in the next year. It is quality rather than quantity that matters. Additional resources (e.g. in the form of supply teachers) should be given to schools in which teachers will play the role of leaders.

• There will be continuous liaison among schools, ED, tertiary institutions, QEF, SCOLAR and research associations to exchange information, collaborate and complement the work of each other.

Curriculum Bank

Purpose

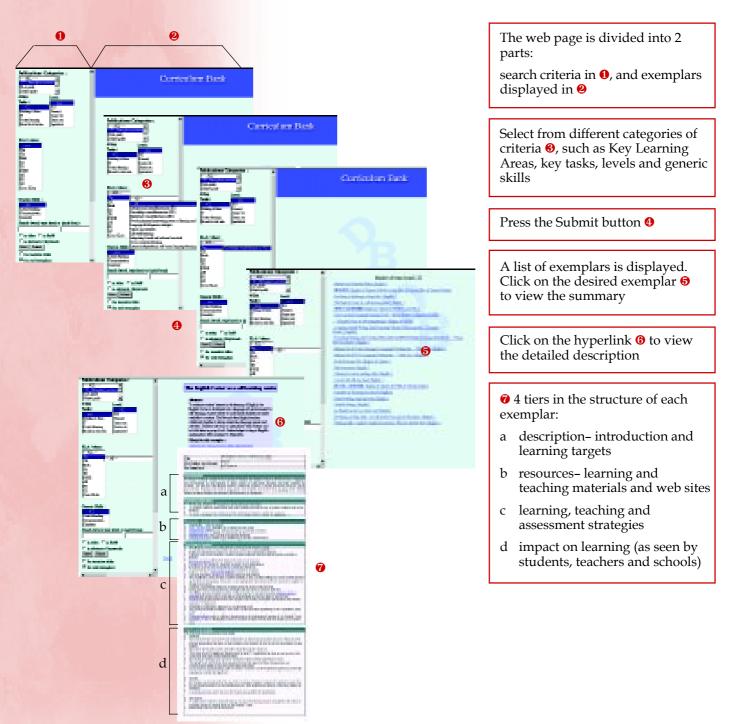
- A curriculum bank of authentic exemplars showing how students can learn in the curriculum has been developed. It is available at http://cd.ed.gov.hk and its purpose is to provide:
 - ⇒ useful references to inform daily practice
 - ⇒ ready-to-use learning and teaching resources
 - opportunities for teacher development through the conceptualisation of useful experiences in the exemplars
 - ⇒ a platform for contributions from teachers and the exchange of experiences

Focus

- The bank will focus on the key emphases of curriculum development for 2001-02 to 2005-06:
 - Development of generic skills (critical thinking, creativity and communication), and values and attitudes through the contexts of KLAs
 - Learning and teaching processes to achieve learning targets in KLAs
 - ➡ How new forms of curriculum organisation in KLAs facilitate the achievement of learning targets
 - ⇒ The four key tasks of moral and civic education, reading to learn, project learning, IT for interactive learning
 - Catering for learner differences
 - S Assessment for learning
 - School-based curriculum development

Sources and Schedule

- The bank of exemplars is to be enriched by research and development projects. Contributions from teachers and schools, tertiary institutions and all partners will be highly valued.
- By 2005-06, a full bank of exemplars for the whole curriculum framework will be available.



Seven Steps to Access the Curriculum Bank

Screen Capture of Seven Steps to Access the Curriculum Bank

Library Development

Our vision for school libraries is that they should empower each student to attain information literacy through collaborative teaching and resource-based learning. We recognise the importance of having professional full-time teacher librarians in schools and expect each of them to play a new role as information and media specialist, teaching partner, curriculum change agent and learning and teaching resources coordinator.

Support Strategies

- Strategies to support library development include:
 - Promoting resource-bases learning through a collaborative planning and teaching (CPT) "seed" projects
 - Developing an interactive problem-solving and skill-learning web site known as "Internet Hunt" for Primary 3 to 6 students
 - Developing and maintaining an updated reading list on recommended materials across the school curriculum
 - Providing a web-based sharing database on library materials to facilitate cataloguing work among schools
 - → Assisting schools in library automation
 - Seconding teacher librarians to the Library Section of the ED to support schools without central libraries

Enhancing the Professionalism of Teacher Librarians

- To enhance teacher librarians' professionalism, the following measures have been drawn up:
 - → Refresher workshops/courses for all serving teacher librarians
 - A resource pack to be developed embodying practical ideas for school heads/principals, teachers, teacher-librarians, parents and students, on how to make effective use of library and information services for promoting learning to learn among students
 - ⇒ Annual induction for all new teacher librarians
 - Close liaison with professional associations and tertiary institutions on latest developments, and with the Leisure and Cultural Services Department on the interface between public and school libraries, to promote the collaboration between teacher librarians and teachers

School-based Curriculum Development Support

Professional Support to Primary Schools

- The CDI school-based curriculum development primary team will provide the following professional support to primary schools to help promote students' learning to learn capabilities:
 - Conducting collaborative action research with teachers
 - Adapting the central curriculum through collaborative lesson preparation
 - Providing a consultancy service on curriculum-related areas in line with the curriculum reform
 - ➡ Helping schools to link experience obtained at teacher level to the whole school through:
 - ♦ setting up a school-based curriculum policy
 - ♦ coherence of curriculum initiatives
 - ♦ teacher development
 - generating and conceptualising different models of change for the reference of schools
 - contributing to the curriculum and leadership course for primary school heads

Professional Support to Secondary Schools

- The CDI school-based curriculum development secondary team will provide professional support to secondary schools which have a high concentration of academically low achievers or have a wide mix of students of different abilities, in the following areas:
 - → curriculum planning
 - ⇒ learning, teaching and assessment strategies
 - ⇒ catering for learner differences
 - ⇒ life-wide learning
 - ⇒ curriculum management and leadership
- The support given will also be in line with the focuses for actions in Key Learning Areas and whole-person development, and will ultimately contribute towards whole-school curriculum development.

Other Support

- The Regional Education Offices (REO) will work in collaboration with schools in their development.
- The Advisory Inspectorate Division will provide post inspection support to schools which have undergone quality assurance inspection.

Creating Time and Space for Teachers and Learners

Teachers can create more time and space to help students learn in the following ways:

- "Trim down" the curriculum as recommended in Chapter Three
- Re-engineer work processes and reduce unnecessary administrative workload of teaching staff, supported by the principal and the School Management Committee (SMC)
- Introduce common lesson preparation time during which teachers can discuss and work together on how to help students to achieve learning targets
- Reduce the number of tests/examinations, to be replaced by the effective use of formative feedback
- Trust that all students can learn, so that some rules/regulations can be relaxed
- Reduce the amount of direct transmission of knowledge, so as to offer more space for student thinking (as suggested for learners below)
- Use readily available materials and resources for learning and teaching rather than preparing over-sophisticated ones
- Design flexible time-tables with flexible time allocation, and use library support
- Make good use of the Capacity Enhancement Grant (CEG)
- Harness the contributions of senior students to support younger learners and cultivate their responsibility and commitment
- Share useful practices with other teachers through networks

Learners can gain more learning "space" through the opportunities offered by teachers and their initiatives in the following ways:

- Take part more in life-wide learning activities outside the classroom
- Read more, see more, and think more about the meaning of what they read and see
- Reduce rote-learning, ask why things are as they are, and reflect on the answers
- Find better ways of studying and doing things, and find ways of making things better
- Pay more attention, and pay attention to more

Dissemination Strategies and Networks

Effective strategies for documenting, collecting and disseminating useful experiences and for building up networks of people are important for developing the overall capacity of schools, teachers, the community and the government. Through forming a variety of learning groups, everyone can benefit from everyone else's experiences of how to help students achieve learning targets, raise levels of achievement and work effectively. The following are examples of important networks:

- Learning communities in research and development projects formed by the participants, consultants and the Curriculum Development Institute
- University partnership projects
- District Teacher Networks (DTN) formed by professional education associations
- Regional Education Offices networks formed by the Education Department
- Professional and subject-based academic associations
- Self-initiated networks of principals and teachers
- HKeducationCITY
- Curriculum expert groups to be formed by the government of Hong Kong and Mainland China
- International educational networks

Local and International Consultancies

- To cope with the scale of the reforms, professional input and evidence-based practice are essential for capacity building of quality assurance. Local and international consultancies should be harnessed so that we can learn from and share experiences with other countries in order to meet international standards.
- A global community of partners can be formed for specific areas:
 - ⇒ learning and teaching
 - ⇒ critical thinking and creativity
 - ⇒ assessment for learning
 - → curriculum planning for each KLA
 - ⇒ moral and civic education
 - ⇒ curriculum change and evaluation

Partnership – All to Contribute

A major strategy and characteristic of the mode of curriculum development presented in this report is the call for partnership among all parties. Many parties can contribute in different ways to helping our students to learn effectively. A spirit of partnership and concerted effort is advocated so that all will collaborate and act together. The specific roles of each party are suggested below.

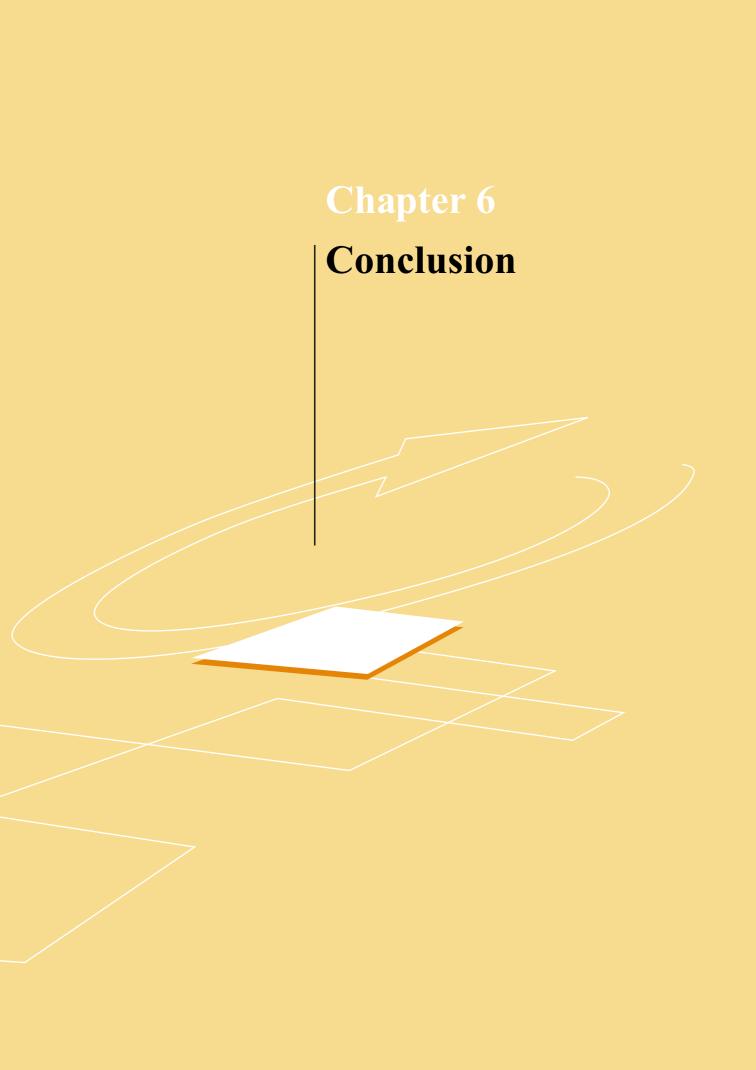
Parties	Tasks
Government	 Steer the direction of curriculum development with the CDC Support schools, teachers and students with different measures Conduct continuous review and evaluation
School heads/principals	 Lead whole-school curriculum development consider students' needs and the school's context develop a curriculum and learning plan for the schools broaden students' opportunities for whole-person development and life-long learning

	 Encourage teachers to take part in professional development programmes Evaluate the impact of change in school Suggest measures to improve learning
Department heads/ middle managers in schools	Develop plans for relevant KLA and curriculum areas in collaboration with other subjects/departments whenever necessary
	 Assist principals in implementing curriculum plans
	Develop a professional development plan for staff in the department
	⇒ Evaluate and improve continuously
Teachers	Promote priority generic skills (critical thinking, creativity communication) in the learning and teaching of KLAs
	Use appropriate teaching, learning and assessment strategies to motivate students and to improve learning
	Develop a personal plan of professional development and life-long learning
Teacher librarians	Work collaboratively with other teachers in planning, teaching, and topping up library resources
	Help students to use the library in ways that are conducive to learning to learn
	Improve the library service in schools e.g. extend the opening hours with help from other people where appropriate
Students	Take responsibility for their own learning
	Provide feedback to teachers on how to help them learn better
	Contribute, along with schools, teachers, and other parties to their own whole-person development
Parents	⇒ Support the school's curriculum plans
	Complement the work of the school in moral education at home
	Communicate with the school on expected changes
	Share the values of learning to learn and support the students and the school

	Develop a culture of parent participation in the curriculum development of the school
Employers	 Broaden recruitment criteria Provide work experience opportunities for students Provide feedback to the government on Students' capabilities in the workplace Areas requiring improvement
Teacher educators	 Develop and conduct RD and longitudinal research projects to inform curriculum policy and practice in schools Share the significant findings of the research through contributions to the bank of exemplars Strengthen pre-service and in-service programmes to help teachers promote learning to learn to fill gaps in areas such as assessment for learning to provide life-long learning opportunities to teachers
Other government departments and non-government organisations (to support life-wide learning) Publishers	 Provide more services for the school sector Provide opportunities for teacher development in the field Provide students with appropriate learning experiences Follow the new curriculum guidelines for textbook writing Provide more quality reading and learning materials

Conclusion

The measures and resources needed to support schools and teachers are more diversified than before and serve a range of purposes. It is important for the users (i.e. schools and teachers) to judge their own needs in areas which can have effects on promoting the independent learning capabilities of students.



- This report, Learning to Learn-The Way Forward in Curriculum Development, is prepared by the Curriculum Development Council. It is based on the holistic review of the school curriculum undertaken in 1999-2001 in parallel with the review of the education system undertaken by the Education Commission.
- The school curriculum should provide all students with essential life-long learning experiences for whole-person development, help students to learn how to learn through cultivating positive values, attitudes and a commitment to life-long learning, since these are essential elements in the effective shaping of our world in the 21st Century.

• The report:

- 1. Aligns curriculum development with the aims of education prepared by the Education Commission, the assessment reforms of the Hong Kong Examinations Authority, and other policy contexts in Chapter One.
- 2. Sets clear aims, guiding principles, strategies and critical success factors for the way forward in curriculum development in Hong Kong in the next decade, with a clear emphasis on promoting students' independent learning capabilities for whole-person development and the vision of life-long learning in Chapter Two.
- 3. Changes the concept of curriculum as "syllabus" to five essential "learning experiences" and replaces fragmented and overlapping subjects with a holistic, open curriculum framework based on Key Learning Areas, suited to a broad and balanced curriculum for whole-person development in Chapter Three.
- 4. Based on a broad range of authentic and practical experiences in local schools and research projects, it identifies a range of actions that facilitate effective learning, teaching and assessment while noting some pitfalls of existing practices in Chapter Four.
- 5. Proposes supportive measures and resources to support curriculum changes, schools and teachers in *Chapter Five*.
- 6. Summarises monitoring and review strategies for the curriculum development till 2006 in Chapter Six.

Monitoring and Review

- Taking gradual steps, building up the capacities of all parties, and partnership are key strategies for realising the reform proposals, as is the need to monitor and review the progress of change continuously, to reflect upon it, and to suggest actions for improvement. The Council will undertake a review in 2005-06 on the progress and experiences accumulated during the first phase (i.e. from 2001-02 to 2005-06) to provide a basis for mapping out a detailed action plan for the medium phase (i.e. from 2006-07 to 2010-11). In view of the complexity of the contexts and multiple reforms, it is suggested that the interim review to be conducted in 2005-06 should include the following:
 - \Rightarrow The Contexts :
 - ♦ Policy contexts
 - Multiple innovations during the same period introduced by the Education Commission, the Education Department, the Hong Kong Examinations Authority, Board of Education
 - ♦ Critical success factors for curriculum development
 - ⇒ The curriculum framework and priority tasks
 - ⇒ The Change process at the following levels
 - Systemic and inter-organisational networks
 - ♦ Parents and Community
 - ♦ Schools
 - ♦ Teachers and teacher-librarians
 - Learning contexts (classroom, outside classroom and life-wide)
 - ♦ Students
 - \Rightarrow The impacts on :
 - Student learning (e.g. motivation, range of learning opportunities)
 - ♦ Teachers (e.g. beliefs in learning, classroom practices)
 - ♦ Other change agents and organisations (e.g.curriculum developers, teacher education institutions, parents)
 - ⇒ The review is expected to be evidence-based and informed by:

- ♦ Reports of work carried out by the CDC and feedback to the CDC
- Programme evaluation of major developments, supportive measures and resources (e.g. "seed" projects, on-site schoolbased support to schools, dissemination strategies)
- ♦ Self-evaluation of schools and participants
- ♦ Information collected by Quality Assurance Inspections
- Public feedback including publications, commentaries and media
- Information provided by external parties or agents
- ♦ Other relevant projects and sources
- Throughout the first phase of curriculum development, the Council will continue to monitor the progress and urge the Government to provide continuous support to schools by offering central curriculum guides, teacher and principal development programmes, on-site school-based support and other helpful measures. Each school builds on its existing strengths and improves the school curriculum at its own pace according to the readiness of its teachers, school conditions and characteristics of students.
- With regard to monitoring, we recommend that the government should improve the accountability and quality assurance mechanisms in education, e.g. the yardsticks of Quality Assurance Inspectorate, evaluation report and the involvement of participants in on-going evaluation and decision-making. It is important to strike an appropriate balance between conflicting values such as transparency and confidentiality, quality and quantity, rights and responsibilities. This requires professional judgement.
- It is crucial to stress that time must be given for curriculum change to take place in different contexts. While information regarding changes should be continuously collected, a formal comprehensive evaluation should be well planned and conducted at a later stage.

Final Word

• We appreciate all the hard work and co-operation of all concerned in curriculum development over the past years. We are deeply grateful to all those who have contributed to this report in various ways. In particular, we thank those who have generated numerous useful experiences relevant to our recommendations and have shared them with us. We are now having to prepare our students for new challenges. We need the support and participation of the public in this, to help us realise the various proposals in the report.

• Curriculum development is an on-going improvement process. We will keep up the momentum for the reform, while remaining open to advice and constructive comments along the way. We share the same goals as many others, and sincerely hope that through working in close partnership with them we will together enable our students to achieve whole-person development and life-long learning.

APPENDICES

Existing Subjects and New Subjects under the 8 Key Learning Areas (KLAs) for 2001-02 to 2005-06

KLA 學習領域 Level 年級	Chinese Language Education 中國語文教育	English Language Education 英國語文教育	Mathematics Education 數學教育	Science Education 科學教育	Technology Education 科技教育	Personal, Social and Humanities Education 個人、社會及 人文教育	Arts Education 藝術教育	Physical Education 體育
P1 - 6 小一至小六	Chinese Language 中國語文 Putonghua 普通話	English Language 英國語文	Mathematics 數學	Gen	eral Studies for Primar 小學常識科	y Schools	Art and Craft 美勞 Music 音樂	Physical Education 體育

2001-02至2005-06年八個學習領域內的現行科目及新科目

KLA 學習領域 Level 年級	Chinese Language Education 中國語文教育	English Language Education 英國語文教育	Mathematics Education 數學教育	Science Education 科學教育	Technology Education 科技教育	Personal, Social and Humanities Education 個人、社會及 人文教育	Arts Education 藝術教育	Physical Education 體育
S1 - 3 中一至中三	Chinese Language 中國語交 Putonghua 普通話	English Language 英國語交	Mathematics 數學	Science 科學	Automobile Technology/* Auto Repairs 汽車科技 / *汽車修理 Business Fundamentals/* Book-keeping, * Office Practice, * Typing 基本商業 / *簿記、*商業實務、*英文打字 Catering Services/* Accommodation & Catering Services 膳食服務 / *膳宿服務 Computer Literacy 普通電腦 Design Fundamentals 基本設計 Design & Technology / Design & Technology(Alt. Syll.) 設計與科技/設計與科技 (另選課程) Desktop Publishing / * Printing 桌面出版 / *印刷 Electronics & Electricity /* Electrical Studies 電子與電學 / *電工 Fashion Design /* Fashion & Clothing 時裝設計 / *時裝及成衣 Graphical Communication/ *Technical Drawing 圖象傳意 / *工業繪圖 Home Economics 家政 Retail Merchandising 商品零售 Technology Fundamentals/ *Metalwork 基本科技 / *金工 Textiles 紡績	Chinese History 中國歷史 Civic Education 公民教育 Economic & Public Affairs 經濟與公共事務 Geography 地理 History 歷史 Ethical/Religious Education/Buddhist Studies 倫理/宗教教育/佛學 Social Studies 社會教育	Art and Design 美術與設計 Music 音樂	Physical Education 體育

KLA 學習領域 Level 年級	Chinese Language Education 中國語文教育	English Language Education 英國語文教育	Mathematics Education 數學教育	Science Education 科學教育	Technology Education 科技教育	Personal, Social and Humanities Education 個人、社會及 人文教育	Arts Education 藝術教育	Physical Education 體育
S4-5 中四至中五	Chinese Language 中國語交 Chinese Literature 中國文學 Putonghua 普通話	English Language 英國語文 English Literature 英語文學	Mathematics 數學 Additional Mathematics 附加數學	Biology 生物 Chemistry 化學 Human Biology 人類生物 Physics 物理	Accommodation & Catering Services 膳宿服務 Commerce 商業 Computer Studies 電腦 Design & Technology/Design & Technology (Alt. Syll.) 設計與科技/設計與科技 (另選課程) Electronics & Electricity 電子與電學 Engineering Science 工程科學 Fashion & Clothing 時裝及成衣 Graphical Communication/ *Technical Drawing 圖象傳意 / *工業繪圖 Home Economics (Food, Home & Family) 家政 (膳食、家居與家庭) Home Economics (Dress & Design) 家政 (IB裝與設計) Information Technology 資訊科技 Principles of Accounts 會計學原理 Technological Studies/ *Metalwork 科技概論 / *金工 Textiles 紡織 Word Processing & Business Communication (English)/ *Typewriting 英文文書處理及商業通訊 / *英文打字 echnology	Chinese History 中國歷史 Economic & Public Affairs 經濟 Geography 地理 Government & Public Affairs 政府與公共事務 History 歷史 Religious Studies (Christianity)/ Buddhist Studies 宗教(基督教)/ 佛學 Social Studies 社會教育 Travel & Tourism 旅遊與旅遊業 Integrated Humanities 綜合人文科	Art and Design 美術與設計 Ceramics 陶藝 General Music 普通音樂 Music 音樂	Physical Education 體育
				科學與科技				

KLA 學習領域 Level 年級	Chinese Language Education 中國語文教育	English Language Education 英國語文教育	Mathematics Education 數學教育	Science Education 科學教育	Technology Education 科技教育	Personal, Social and Humanities Education 個人 、社會及人文教育	Arts Education 藝術教育	Physical Education 體育
S6 - 7 中六至中七	ASL Chinese Language & Culture 高級補充程 度中國語交 及文化 AL Chinese Literature 高級程度 中國文學	AL English Literature 高級程度 英語文學 ASL English Literature 高級補充程度 英語文學 ASL Use of English 高級補充程度 英語運用	AL Applied Mathematics 高級程度應用數學 AL Pure Mathematics 高級程度純粹數學 ASL Applied Mathematics 高級補充程度 應用數學 ASL Mathematics and Statistics 高級補充程度數學 及統計學	AL Biology 高級程度生物 ASL Biology 高級補充程度生物 AL Chemistry 高級補充程度化學 ASL Chemistry 高級補充程度物理 ASL Physics 高級補充程度物理	AL Business Studies 高級程度企業概論 ASL Computer Applications 高級補充程度電腦應用 AL Computer Studies 高級程度電腦 ASL Design & Technology 高級補充程度設計 與科技 ASL Electronics 高級補充程度電子學 AL Engineering Science 高級程度工程科學 AL Principles of Accounts 高級程度會計學原理	AL Chinese History 高級程度中國歷史ASL Chinese History 高級補充程度中國歷史AL Economics 高級程度經濟ASL Economics 高級補充程度經濟ASL Ethics & Religious Studies 高級補充程度倫理及宗教AL Geography 高級程度地理AL Government & Public Affairs 高級裙充程度政府與公共事務ASL Government & Public Affairs 高級裙充程度政府與公共事務ASL Government & Public Affairs 高級補充程度政府與公共事務ASL Government & Public Affairs 高級補充程度ASL Government & Public Affairs 高級補充程度ASL Government & Public Affairs 高級補充程度ASL History 高級補充程度歷史ASL Liberal Studies 高級補充程度通識教育	AL Art & Design 高級程度美術與 設計 ASL Art & Design 高級補充程度美術 與設計 AL Music 高級程度音樂 ASL Music 高級補充程度音樂	Physical Education 體育

* Subjects being phased out 逐步取消的科目

Values and attitudes as generic elements in the school curriculum

1. "Learning for Life, Learning through Life - Reform Proposals for the Education System in Hong Kong" by the Education Commission (September 2000) puts forth the following, amongst others, as the Vision of the Education Reform:

- To raise the overall quality of students: to improve the overall quality of our society through upgrading the knowledge, ability and **attitudes** of all students
- To acknowledge the importance of **moral education**: to provide students with structured learning experiences in the areas of moral, emotional and spiritual education

2. To realise the above vision, the development of values and attitudes should become essential elements of the school curriculum. In fact, these values and their associated attitudes permeate the curricula of the eight Key Learning Areas (KLAs) and are reflected in the learning targets as well as curriculum objectives at different educational levels.

Core Values, Sustainable Values and Attitudes

3. **Values** may be defined as those qualities that an individual or society considers important as principles for conduct and that are intrinsically worthwhile. Values may be broadly categorised as **core and sustaining values.** They are fundamental to the formation of **attitudes**, which in turn affect the acquisition and application of values. An elaboration of these terms is provided below:

"Values constitute the foundation of one's attitudes and beliefs, which subsequently influence one's behaviour and way of life. Values can vary across societies, as different social and economic conditions in different geographical locations may lead to different value emphases. However, across societies, we can also identify certain values that are commonly or universally emphasised. The emergence of these universal values illustrates the common concerns of human societies, the basic qualities for human existence, the common elements in human civilisation, and also the common characteristics of human nature...we call these universal values **core values**." And sustaining values are "other values that are also important at an instrumental level, being regarded as important or helpful for **sustaining the core values**." (extracted from the Guidelines on Civic Education in Schools (1996), pp. 12 and 14)

4. The following set of core and sustaining values and attitudes are proposed for incorporation in the school curriculum:

A Proposed Set of Values and Attitudes for Incorporation in the School Curriculum

Core Values:	Sustaining Values:
Personal	Personal
 sanctity of life truth aesthetics honesty human dignity rationality creativity courage liberty affectivity individuality 	 self-esteem self-reflection self-discipline self-cultivation principled morality self-determination openness independence enterprise integrity simplicity sensitivity modesty perseverance

Core Values: Social

- equality
- kindness
- benevolence
- love
- freedom - common good
- mutuality
- justice
- trust
- interdependence
- sustainability
- betterment of
- human kind

Sustaining Values: Social

- plurality
- due process of law
- democracy
- freedom and libertv
- common will
- patriotism
- tolerance
- equal opportunities
- culture and civilisation heritage
- human rights and responsibilities
- rationality
- sense of belonging
- solidarity

Attitudes

- optimistic
- participatory
- critical
- creative
- appreciative
- empathetic - caring and concerned
- positive
- confident
- cooperative
- responsible
- adaptable to changes
- open-minded
- with a respect for
- •self
- •life
- quality and excellence
- •evidence
- fair play
- •rule of law
- different ways of life, beliefs and opinions
- the environment
- with a desire to learn
- diligent
- committed to core and sustaining values

It is believed that the development of the above values and attitudes, together with the strengthening of students' self-management and interpersonal skills, should enable them to make wise decisions on emerging issues in society and cope with stress and negative influences from various sources. Different KLAs have, in their contexts, included a range of learning objectives contributing to the development of these values and attitudes at different key stages of learning. These learning objectives, however, are by no means implying that values and attitudinal development should progress in the order of key stages. They are proposed to facilitate the planning of relevant learning experiences in or across the KLAs

Life Event Approach to Moral and Civic Education

During primary and secondary schooling, students encounter various types of life events at different stages of their personal and social development. Though the life events may be quite different for different individuals, each event is significant in the way that it provides an authentic context for school to develop moral and civic education curriculum. This approach helps generate students' ownership and motivate them to understand the events related to their daily life and reflect upon the values and attitudes embedded. Through exploring these life events, issues in moral education, civic education, sex education, environmental education, media education, drug education, health education etc. can be discussed to develop students' knowledge, skills as well as values and attitudes.

A learner-centred orientation is adopted in the choice of the life events. The events, grouped under 6 themes, are selected with a view to equipping students to face the future challenges that may emerge during their course of personal and social development. The life events under each theme have to be modified with reference to time change and social development. The content of the themes can be flexibly tailored according to the needs of students, the school and society when designing school-based moral and civic education programme. The same life event can be revisited at next key stage to encourage students to further develop the knowledge and skills and reflect upon the values related to the events.

Suggested Themes and Life Events for Moral and Civic Education

(1) Personal Developm	ent and Healthy Living
• Permanent teething	 Managing personal finance (e.g. expenditure and saving)
• Entering Puberty	•Facing media (Reading newspaper and
•Self caring	magazines, watching TV, listening to radio programmes etc.)
•Selecting reading materials	•Worshipping idols
 Developing good habits/Getting rid of bad habits 	•Surfing the Internet
(e.g. environmental preservation / punctuality/balanced diet/eye protection /	•Managing emotions
exercise and rest/personal and community	•Handling sexual harassment
hygiene)	•Facing serious illness/death
•Developing interest/hobbies	•Hurting oneself/Committing suicide
• Dressing up oneself	
•Using pocket money	

(2) Family life				
•Showing love and concern to family members	•Moving house			
•Eating out with family	•Being alone at home			
 Teaching siblings doing homework 	•Negotiating for self-independence from parents			
•Doing housework	•Family member(s) being unemployed			
 Celebrating birthday with family 	•Handling family disputes			
• Family outing	•Parents getting divorced			
•Having new family member(s)	•Facing illness/death of family member(s)			
(3) School Life				
 Adapting to new life in primary/ secondary school 	•Having school holiday			
•Taking lunch in school	 Participating in election activities of class association/Student Union/House/Club 			
 Handling problems in studies 	•Holding responsible post(e.g. monitor/			
•Being praised/punished by teacher	monitress, prefect, posts in Student Union / House/Club)			
•Serving teachers and school-mates	•Choosing courses			
•Going on a school outdoor trip/picnic	 Promoting to a new class/repeating in the 			
•Making choice among different school	same class			
activities	•Graduation			
•Receiving the report card	 Preparing for public examinations 			
•Attending tutorial lesson	•Making choice between further study or work			

(4) Sc	ocial Life
•Making new friends	•Attending feast
 Respecting different opinions and cultures Going out with friends of opposite sex Playing games Camping Participating in religious activities 	 Showing concern and helping classmates/ friends(e.g. falling ill, poor academic results) Handling undesirable peer pressures (e.g. drug taking, smoking, engaging in law-breaking activities) Handling problems in peer relationships (e.g. conflicts, problems with money) Being in love/lovelorn
	•Attending funeral
(5) Lif	fe at work
 Striking a balance between part-time job and study Taking up a summer job Meeting requirements of work and facing 	 Being praised/ reproached by supervisor Wearing uniform / Choosing clothes for work Receiving salary Being injured during work
work pressure Handling interpersonal relationship at work 	Senig injured during work

(6) Life in the communit	(6)	Life	in	the	community
--------------------------	-----	------	----	-----	-----------

- •Using public facilities (such as library, museum, park, swimming pool and beach)
- •Riding on public transport
- Blood donation
- •Responding to recycle campaign
- •Helping neighbour/needy in society
- Participating in fund-raising activities
- •Participating in voluntary work
- Participating in community activities
- Participating in public affairs discussion

- •Participating in election activities
- •Facing temptations and undesirable societal influences
- •Expressing opinions on issues of social injustice
- Participating in National Flag hoisting ceremony
- •Understanding and showing concern on major events in the mainland
- Visit to the mainland
- •Supporting improvement project on education and living in the mainland
- •Discussing current issues of local/national/ international community

Proposed Re-organisation and Trimming of the Content of the Present General Studies Syllabus

Teachers can re-organise and trim the current General Studies curriculum to create space for enhancing student learning. The following table shows examples for different class levels:

Level	Proposed Contents to be Re-organised/ Trimmed	Remarks
P1-2	•Specific topics on science, e.g. magnets; light and shadow; stars, moon and sun; animal world	Integrate elements of science into topics related to the daily life of students where appropriate
Р3	• Specific topics in science e.g. reflection of light, fog and dew, water supply	Integrate science, technology and social elements with daily life
	 Facilities in the district, urban development in HK, characteristics of new towns and housing in Hong Kong 	Reduce factual information
	• Use of scales on maps, impact of population change on housing development, causes and solutions of transportation problems in Hong Kong	Abstract skills and complicated social issues can become extension elements
P4	• Work of some government departments (e.g. Urban and Regional Services Departments) and organisations	Delete obsolete information; instead of providing related information, encourage and guide students to search for it where necessary
	Major manufacturing industries in Hong Kong	
	 Types and distribution of land use in Hong Kong, how the relief affects development and land use in Hong Kong 	Reduce factual information and abstract concepts
	• Specific topics on air, electricity for living	Integrate the topics into themes related to daily life
P5-6	Names of organisations providing certain	Reduce factual information
	services, structure of the HKSAR government, work of international organisations	Instead of introducing the factual content, teachers should encourage and guide students to search for and update information where appropriate
	• Revolution of the Earth and the seasons, eclipses of the sun and the moon, force, how government policy affects economic development in HK, economic relationships between the mainland of China and the HKSAR	Abstract concepts may become extension elements
	• Coal and oil, machines, gravity	Integrate the topics into themes related to daily life or make them into extension elements

The curriculum space created through re-organisation and trimming of contents can be used to:

- strengthen personal and social development at P1-2 levels,
- enhance moral and civic education at all levels,
- enhance students' learning in science and technology through hands-on problem-solving and investigative activities,
- enhance IT skills,
- provide life-wide learning experiences for students.

Bibliography 參考文獻

The bibliography has listed only the major documents consulted during the curriculum review; they are by no means exhaustive. Many other local and international government and non-government publications, academic books and journals are also used during the review process.

Local

Hong Kong 1998. Hong Kong: Printing Department, 1997.

Hong Kong 1999. Hong Kong: Printing Department, 1998.

Board of Education. Report on Review of 9-year Compulsory Education. Hong Kong: Printing Department, 1997.

- . Educational Aims Implementation in Schools: a report by Educational Aims Implementation Sub-committee, Board of Education. Hong Kong: The Board, 1998.
- Cheng, Kai-ming et al. POSTE: Preparation of Students for Tertiary Education, Final Report. 4th ed. Hong Kong: Government Printer, 1996.
- Commission on Strategic Development. Bringing the Vision to Life: Hong Kong's Long-term Development Needs and Goals. Hong Kong: Printing Department, 2000.

Curriculum Development Council. Guide to the Primary Curriculum. Hong Kong: Government Printer, 1993.

- -. Guide to the Secondary 1 to 5 Curriculum. Hong Kong: Government Printer, 1993.
- -. Guide to the Sixth Form Curriculum. Hong Kong: Government Printer, 1993.
- -. Guide to the Pre-primary Curriculum. Hong Kong: Government Printer, 1996.
- -. Guidelines on Civic Education in Schools. Hong Kong: Government Printer, 1996.
- -. Guidelines on Environmental Education in Schools. Hong Kong: Government Printer, 1999.
- -. Guidelines on Sex Education in Schools. Hong Kong: Printing Department, 1997.
- . Learning to Learn: General Studies for Primary School, Consultation Document. Hong Kong: The Council, 2000.
- . Learning to Learn: Key Learning Area, Arts Education, Consultation Document. Hong Kong: The Council, 2000.
- . Learning to Learn: Key Learning Area, English Language Education, Consultation Document. Hong Kong: The Council, 2000.
- . Learning to Learn: Key Learning Area, Mathematics Education, Consultation Document. Hong Kong: The Council, 2000.
- . Learning to Learn: Key Learning Area, Personal, Social & Humanities Education, Consultation Document. Hong Kong: The Council, 2000.
- -. Learning to Learn: Key Learning Area, Physical Education, Consultation Document. Hong Kong: The Council, 2000.
- Learning to Learn: Key Learning Area, Science Education, Consultation Document. Hong Kong: The Council, 2000.

- Learning to Learn: Key Learning Area, Technology Education, Consultation Document. Hong Kong: The Council, 2000.
- . A Holistic Review of the Hong Kong School Curriculum: Proposed Reforms Consultative Document. Hong Kong: The Council, 1999.
- . Learning to Learn: The Way Forward in Curriculum Development Consultation Document. Hong Kong: The Council, 2000.
- Curriculum Development Institute. Directory of School-based Curriculum Projects 1997-98. Hong Kong: Printing Department, 1998.
- -. Directory of School-based Curriculum Projects 1998-99. Hong Kong: Printing Department, 1999.
- -. Directory of School-based Curriculum Projects 1999-2000. Hong Kong: Printing Department, 2000.
- -. Target Oriented Curriculum, Feedback and Assessment in Hong Kong Primary Schools: Final Report 1999. Hong Kong: Printing Department, 1999.
- Education and Manpower Branch. School Education in Hong Kong: a Statement of Aims. Hong Kong: Government Printer, 1993.
- Education and Manpower Bureau. Review of the Education Department: Final Report. Hong Kong: Printing Department, 1998.
- -. 2000 Policy Address: Quality Education, Policy Objective for Education and Manpower Bureau. Hong Kong: Printing Department, 2000.
- Education Commission. Education Blueprint for the 21st Century: Learning for Life, Learning through Life -Reform Proposals for the Education System in Hong Kong. Hong Kong: Printing Department, 2000.
- Education Department. A Comparison of PupilsÕ HKCEE Results between Schools Using Chinese as Medium of Instruction (MOI) in all Subjects and Schools Using Chinese as MOI by Subject. Hong Kong: Education Research Section, Education Department, 1994.
- -. Education Indicators for the Hong Kong School Education System, 1999 Report. Hong Kong: Educational Research Section, Education Department, 1999.
- -. Enrolment Statistics 2000. Hong Kong: Statistics Section, Education Department, 2001.
- -. Evaluation Study on the Implementation of Medium of Instruction Grouping in Secondary Schools (1994/95 1998/99). Hong Kong: Education Research Section, Education Department, 2000.
- -. General Guidelines on Moral Education in Schools. Hong Kong: Government Printer, 1981.
- -. An Investigation into the Development and Implementation of the TOC Initiative with Special Reference to Professional Competencies, Professional Development and Resources 1999. Hong Kong: The Department, 1999.
- -. Quality Assurance Inspection Annual Report 1997/98. Hong Kong: The Department, 1998.
- -. Quality Assurance Inspection Annual Report 1999/2000. Hong Kong: The Department, 2000.
- -. Review of Prevocational and Secondary Technical Education. Hong Kong: Government Printer, 1997.
- -. A Study on the Continuity of Curriculum and Teaching Practices between the Junior and Senior Secondary Levels of Education. Hong Kong: The Department, 1994.
- -. Survey on Teachers' Job Satisfaction and School Heads' Perception of Teacher Competence. Hong Kong: Educational Research Section, The Department, 1999.

- -. Survey on the Implementation of New Sixth Form Curriculum. Hong Kong: Educational Research Section, Education Department, 1995.
- -. Teacher Statistics 2000. Hong Kong: Statistics Section, Education Department, 2001.
- Environmental Protection Department. Environment Hong Kong 2000. Hong Kong: The Department, 2000.
- -. Environment Hong Kong 2000 Resource Materials. Hong Kong: Printing Department, 2000.
- Government Task Force on Services Promotion. Hong Kong at Your Service: Final Report of the Government Task Force on Services Promotion. Hong Kong: Government Printer, 1997.
- Hau, Kit-tai and Chang Lei. Chinese, English and Mathematics Minimum Competency Standards for Primary and Secondary School Students in Hong Kong. Hong Kong: Education Department, 2000.
- Hong Kong Examinations Authority. Review of Public Examination System in Hong Kong: Final Report. Hong Kong: HKEA, 1998.
- Lok, Helen, Chris Kwok and Sandra Ho. Opinion Survey on Civic Education 2000: Report (Version 4). Hong Kong: AC Nielsen, 2000.
- Opper, Sylvia. Achievement of Hong Kong Primary School Children and its Relationship to Preschool Experiences, Final Report. Hong Kong: The Hong Kong Institute of Education, 1997.
- University Grants Committee. Higher Education in Hong Kong. Hong Kong: Government Printer, 1996.
- Working Group on Sixth Form Education. Report of the Working Group on Sixth Form Education. Hong Kong: The Working Group, 1989.
- 丁朝蓬。〈中國中小學課程教材改革概覽〉。《國內課程改革》。 2000年6月。北京:中國人民教育出版社。2000年6月
 - <http://www.pep.com.cn/kechengjcyjs/1-1b.htm> °
- 上海市教育委員會。《面向21世紀中小學新課程方案和各學科教育改革行動綱領》。上海:上海教育出版社,1999。
- 林國光[等]。《兒童及青少年中文課外閱讀研究:研究報告》。香港:香港小童群益會,1999。
- 青年事務委員會。《研究調查報告書 (系列)》。2001年6月。 香港:青年事務委員會。2001年6月19日 <http://www.info.gov.hk/coy/text/chi/report>。
- 教育部。〈綱要內涵〉。《國民中小學九年一貫課程與教學網站》。2000年1月。台北市:教育部。2001年6月 http://teach.eje.edu.tw/B-list/B-main-frame.htm>
- 資訊教育軟體與教材資源中心。〈學科教材〉。《學習加油站》2000年。台北市:國立臺灣師範大學。2001年6月 ">http://content.edu.tw>。
- 莫禮時。《目標為本課程評鑑研究中期報告》。香港:香港大學教育學院在職教師進修課程,香港教育署¥ 課程發展處,1997。
- 課程發展議會。《學會學習:學習領域¥中國語文教育¥諮詢文件》。香港:課程發展議會,2000。
- 香港教育學院,研究及國際合作中心公民教育/性教育關注小組。《香港中學推行性教育調查報告》。香港: 香港教育學院,2001。
- 教育服務科。《小學加強輔導教學計劃指引》。香港:教育署教育服務科,2001。

International

- American Association of School Librarians. Information power: building partnerships for learning. Chicago: American Library Association, 1998.
- Assessment Reform Group. Assessment for Learning: beyond the Black Box. Cambridge: Cambridge University Press, 1999.
- British Columbia. Ministry of Education. British Columbia Ministry of Education Home Page. 1998. Victoria, B.C.: The Ministry. Mar. 2000 <http://www.gov.bc.ca/bced/>.
- International Consultative Forum on Education for All. Education: a Right or a Privilege? -- Student Journalists Report on the right to Education Worldwide. Paris: UNESCO, 1999.
- Japan. Ministry of Education, Science, Sports and Culture. The Education Reform Plan for the 21st Century: the Rainbow Plan, the Seven Priority Strategies. 2001. Tokyo: Monbusho. Jun. 2001 http://www.mext.go.jp/english/topics/21plan/010301.htm
- -. Formal Education: Elementary and Secondary Education. 1998. Tokyo: Monbusho. Mar. 2000 http://www.monbu.go.jp/aramashi/1998eng/e404.html
- National Center on Education and the Economy. New Standards: Performance Standards and Assessments for the Schools. May 1998. Rochester, NY: NCEE. 2000 <http://www.ncee.org/OurPrograms/nsPage.html>
- New South Wales. Board of Studies. NSW Higher School Certificate (Stage 6) syllabus documents page: for Preliminary 2000 and HSC in 2001. 2000. Sydney: The Board. Jun.2001 <http://www.boardofstudies.nsw.edu.au/syllabus99/syllabus2000_list.html>
- New Zealand. Ministry of Education. "The New Zealand Curriculum Framework." Ministry of Education, New Zealand Home Page. 1993. Wellington: The Ministry. Mar. 2000 http://www.minedu.govt.nz/.
- Ontario. Ministry of Education. The Common Curriculum: Policies and Outcomes Grade 1-9. 1995. Toronto: The Ministry. Sep. 2000 <http://www.edu.gov.on.ca>.

-. The Ontario Curriculum Grade 11 and 12 Course Description and Prerequisites. Toronto, Ont.: Queen's Printer, 2000.

- Organization for Economic Co-operation and Development. Education at a Glance: OECD Database 2000. Paris: OECD, 2000.
- -. The Curriculum Redefined: Schooling for the 21st Century. Paris: OECD, 1994.
- Organization for Economic Co-operation and Development. Employment, Labour and Social Affairs Committee. Labour Market Policies: New Challenges, Lifelong Learning to Maintain Employability. 1997. Paris: OECD. Sep. 2000 http://www.olis.oecd.org/OLIS/1997DOC.NSF/LINKTO/OCDE-GD(97)162.
- Qualification and Curriculum Authority. "The Archive of the International Review of Curriculum and Assessment Frameworks Project." INCA Web Site. 2000. Upton Park, Slough, Berkshire: National Foundation for Educational Research. Feb. 2001 <http://www.inca.org.uk/>.
- -. Primary Handbook. London: QCA, 1999.
- -. The Review of the National Curriculum in England: the Consultation Materials. 1999. London: QCA. Sep. 2000 http://www.qca.org.uk/menu.htm.

-. Secondary Handbook. London: QCA, 1999.

Scottish Consultative Council on the Curriculum. Curriculum Design for the Secondary Stages Guidelines for Schools.

Dundee: Scottish CCC, 1998.

- Singapore. Ministry of Education. Master-plan of IT in Education. 2000. Singapore: The Ministry. Sep. 2000 http://www1.moe.edu.sg/iteducation/masterplan/welcome.htm>.
- -. Ministry of Education, Singapore Home Page. 2000. Singapore: The Ministry. Mar. 2000 http://www1.moe.edu.sg>.
- UNESCO. Report to UNESCO of the International Commission on Education for the Twenty-First Century -Learning: the Treasure Within. Paris: UNESCO, 1996.

-. World Education Report 2000: the Right to Education, towards Education for all throughout life. 2000. Paris: UNESCO.

Sep. 2000 <http://www.unesco.org/education/information/wer/PDFeng/wholewer.PDF>

UNESCO/OECD World Education Indicators Programme. Investing in Education: Analysis of the 1999 World Education Indicators. 2000. Paris: OECD, 2000.

United States. Department of Education. US Department of Education Strategic Plan, 1998 - 2002. 30 Sep. 1997. Washington, D.C.: The Department. Sep. 2000 <http://www.ed.gov/pubs/StratPln>.

- United States. Department of Education. Office of Elementary and Secondary Education. Goals 2000: Educate America Act. H.R. 1804. 25 Jan. 1994. Washington, D.C.: The Department. Sep. 2000 http://www.ed.gov/legislation/GOALS2000/TheAct/.
- United States. Department of Education. Office of Legislation and Congressional Affairs. 1999 State of the Union Education Proposals : 21st Century Schools. 25 Aug. 2000. Washington, D.C.: The Department. Sep. 2000 http://www.ed.gov/offices/OLCA/sotupr.html.

United States. Department of Labor. Secretary's Commission on Achieving Necessary Skills. What work requires of schools: a SCANS report for America 2000, a letter to parents, employers, and educators from the Secretary of Labor and the Secretary's Commission on Achieving Necessary Skills. Washington, D.C.: The Commission, 1991.

- Victoria. Board of Studies. CSF Advisory Committee. Curriculum & Standards Framework II. 2001. Carlton: Victorian Curriculum and Assessment Authority. 1 Jun. 2001 http://www.vcaa.vic.edu.au/csfcd/home.htm.
- Western Australia. Curriculum Council. "Curriculum Framework" Curriculum Council of Western Australia Home Page. 1998. Osborne Park: The Council. 1 Jun. 2001 http://www.curriculum.wa.edu.au.

Websites Consulted

The following has listed major websites consulted during the curriculum review; they are by no means exhaustive.

Active Learning Practices for Schools. [Online] http://learnweb.harvard.edu/alps/

The Department for Education and Skills (DfES) website. [Online] http://www.dfes.gov.uk/

From Now on: beyond Technology to Learning and Information Literacy. [Online] http://fno.org/

Higher Still Website. [Online] http://www.higher-still.org.uk/

International Baccalaureate Organization (IBO). [Online] http://www.ibo.org/

- National Qualifications. [Online] http://www.sqa.org.uk/higher-still/
- United Nations Educational, Scientific and Cultural Organization (UNESCO). [Online]. http://www.unesco.org/
- 〈九年一貫〉。《教師之家》[在線]。http://residence.educities.edu.tw/fullee/INDEX.HTM
- 《上海市中小學教育信息網》 [在線]。http://www.sheisnet.sh.cn/
- 《中華人民共和國教育部》[在線]。http://www.moe.edu.cn/
- 《中國中小學教育教學網》[在線]。http://www.k12.com.cn/
- 《北京市教育委員會》[在線]。http://www.bjedu.gov.cn/
- 〈教育改革〉。《教育部》。[在線]。http://www.edu.tw/minister/action87/action87.htm
- 《教育部基礎教育課程教材研究所》 [在線]。http://www.cbe21.com/ncct/
- 《課程教材研究所》[在線]。http://www.pep.com.cn/index1.htm

Glossary

This glossary is aimed at facilitating readers' understanding of the meanings of some special terms used in the Report.

Central Curriculum	The central curriculum recommended by the Curriculum Development Council includes the aim and goals of the school curriculum, five essential learning experiences, the set of learning targets of each Key Learning Area framework, generic skills, values and attitudes suggested in Chapter Three, and subsequent KLA and subject guides to be issued. Other requirements may include learning time allocated to each KLA, and specific needs of KLAs, e.g. core component, essential elements of learning when appropriate. (See school-based curriculum as well)
Curriculum Framework	A supportive structure to help schools to plan and develop their own curricula. The major components are: essential learning experiences, generic skills, values and attitudes and key learning areas. The framework sets out what students should know, value and be able to do at the various stages of schooling. It gives schools and teachers flexibility and ownership to plan and develop alternative curriculum modes to meet their varied needs.
Exemplar(s)	Examples of approaches/modes of curriculum planning and learning and teaching activities around the curriculum framework, e.g. to illustrate how to strengthen learning to learn within an existing subject or Key Learning Area.
Key Learning Area (KLA)	Organisation of the school curriculum structured around fundamental concepts of major knowledge domains. It aims at providing a broad, balanced and coherent curriculum for all students in the essential learning experiences. The categorisation of KLAs may vary between places depending on contextual factors. The studies in each KLA can have different orientations such as academic, social and practical, depending on the main purpose of learning and teaching, and can also be organised into subjects, modules, units or other modes.
Key Stages	The 4 stages of schooling from primary to secondary: Key Stage 1 (junior primary P1-P3), Key Stage 2 (senior primary P4-P6), Key Stage 3 (junior secondary S1-S3) and Key Stage 4 (senior secondary S4-S5)
Learning Environment	Learning environment denotes learning at home, in the school and in the community.
Learning Objectives	Learning objectives define more specifically what students are expected to learn in accordance with the broad learning targets specified in KLAs at each Key Stage of schooling. They are to be used by teachers as a resource list for curriculum, lesson and activity planning. (See Learning Targets and Quality/ Assessment Criteria.)

Learning Targets	Learning targets of a KLA set out broadly the knowledge/concepts, skills, values and attitudes that students need to learn. (See Learning Objectives and Quality/ Assessment Criteria.)
Life-wide Learning	Learning in different environments: in the classroom, school, home, community and work place. The learning experiences gained in these different environments complement each other.
Modes of Curriculum Planning	Various approaches adopted by schools to plan and develop their own curriculum around the curriculum framework to meet their varied needs and contexts. For example: (i) a subject/integrated studies/unit/module organised around key concepts, skills, values and attitudes in the curriculum framework; (ii) integration of learning elements within a subject/KLA or across subject(s)/ KLAs using key concepts, skills, values and attitudes, etc. in the curriculum framework; (iii) co-curricular activities, community services and work-related experiences, etc. which complement learning and teaching in the classroom; (iv) core elements of the KLA/subject in the curriculum framework.
Quality /Assessment Criteria	These are descriptions of what students are able to do in relation to the set of learning targets and objectives set out in the curriculum. Some of these descriptions may present themselves on a scale of performance, in the form of levels or bands. They could be used by teachers to make judgement on student progress, and to inform students of their progress. (See Learning Targets and Learning Objectives.)
School-based Curriculum	Schools and teachers are encouraged to adapt the central curriculum to develop their school-based curriculum to help their students achieve the learning targets and aims of education. Measures may include readjusting the learning targets, varying the organisation of contents, optional studies, learning, teaching and assessment strategies. A school-based curriculum, hence, is the outcome of a balance between guidance from the CDC and the autonomy of the schools and teachers.
"Seed" Project	A collaborative research and development project to (i) generate/"seed" useful experiences for the reference of schools, teachers and the community; (ii) develop a critical mass of curriculum change agents and leaders (e.g. teachers, school heads, teacher librarians) to enhance the capacity for reform and (iii) act as an impetus to school-based curriculum development.

Membership of the Curriculum Development Council

Chairman:

Dr CHENG Hon-kwan, GBS, JP

Vice-Chairman:

Dr CHAN Ka-ki, Catherine

Member:

Dr CHOW Ming-kuen, Joseph, JP represented by Mr CHOI Chee-cheong

Dr LUI Sun-wing

Mr AU Wai-hung, Anthony

Mr CHAN Yuk-kai

Mr LEUNG Chung-wan, Eric

Mr LO Wai-shing, Vincent

Mr NG Hok-ling

Mr NG Sui-kou

Mrs CHOW LUK Ying-pui, Natalie

Mrs LO LEE Oi-lin

Mrs WONG MAK Kit-ling

Ms CHAN So-ming

Ms KOONG May-kay, Maggie

Ms LEUNG Pui-han

Ms WAN Suk-yi

Ms YUN Fung-king

Professor LEE Ming-kwan

Professor LEE Wing-on

Professor LO Nai-kwai, Leslie

Professor TSUI Bik-may, Amy

Dr WONG King-keung, Peter (until August 2000)

Mr HO Kwok-luen (until August 2000)

Secretary:

Ms KWONG Sin-mee (until June 2000)

Mrs Mimi TSANG (from July 2000)

Terms of Reference

The Curriculum Development Council (CDC) is to advise the Hong Kong Special Administrative Region (HKSAR) Government through the Director of Education on all matters relating to curriculum development for the school system from kindergarten to the sixth form.