The Development of An Information Literacy Framework for Hong Kong Students

James Henri

Acknowledgement given to

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Background to the Study

The Five-year Strategy 1998/9-2002/3

Provided substantial :

- IT infrastructure and digital resources
- Professional development in IT

The Five-year Strategy 1998/9-2002/3

Provided some :

• Shift in pedagogical practices towards student centred learning

Background to the Study

EMB Vision for the Future as defined in the 2004 IT in Education Strategy

'Defining information literacy levels to set targets for students to develop IT skills and use them for learning and communications.'

Background to the Study

Information Literacy on the agenda across the Region including:

Sri Lanka

Philippines

Thailand

Background to the Study

Movement towards information literacy driven curriculum development in Australia.

Background to the Study

Movement towards information literacy driven curriculum development in Australia.

- ***Essential Learnings*** **(Tasmania)**
- ***Every Chance To Learn*** **(ACT)**

The student knows how to learn

The student knows that learning can be individual and social and is a lifelong process.

Students define their learning goals and actively pursue them by making connections with what they already know, planning approaches and organising their time and resources.

They develop their own repertoire of strategies that will help them to learn, including the use of technologies.

They reflect on their learning, monitor their own progress and achievements and seek support as needed.

The student uses information critically

The student uses information in different forms from a range of sources.

Students assess the need and purpose for information and use successful strategies to access and retrieve it. They organise, analyse, synthesise, interpret and present information purposefully.

They recognise the need for trustworthy information, are critically aware of who owns the information and avoid plagiarism.

The student applies methods of inquiry

The student uses methods of inquiry characteristic of disciplines in the sciences and the humanities.

Students understand the distinctive features of each form of inquiry and appreciate them as valid ways of constructing knowledge.
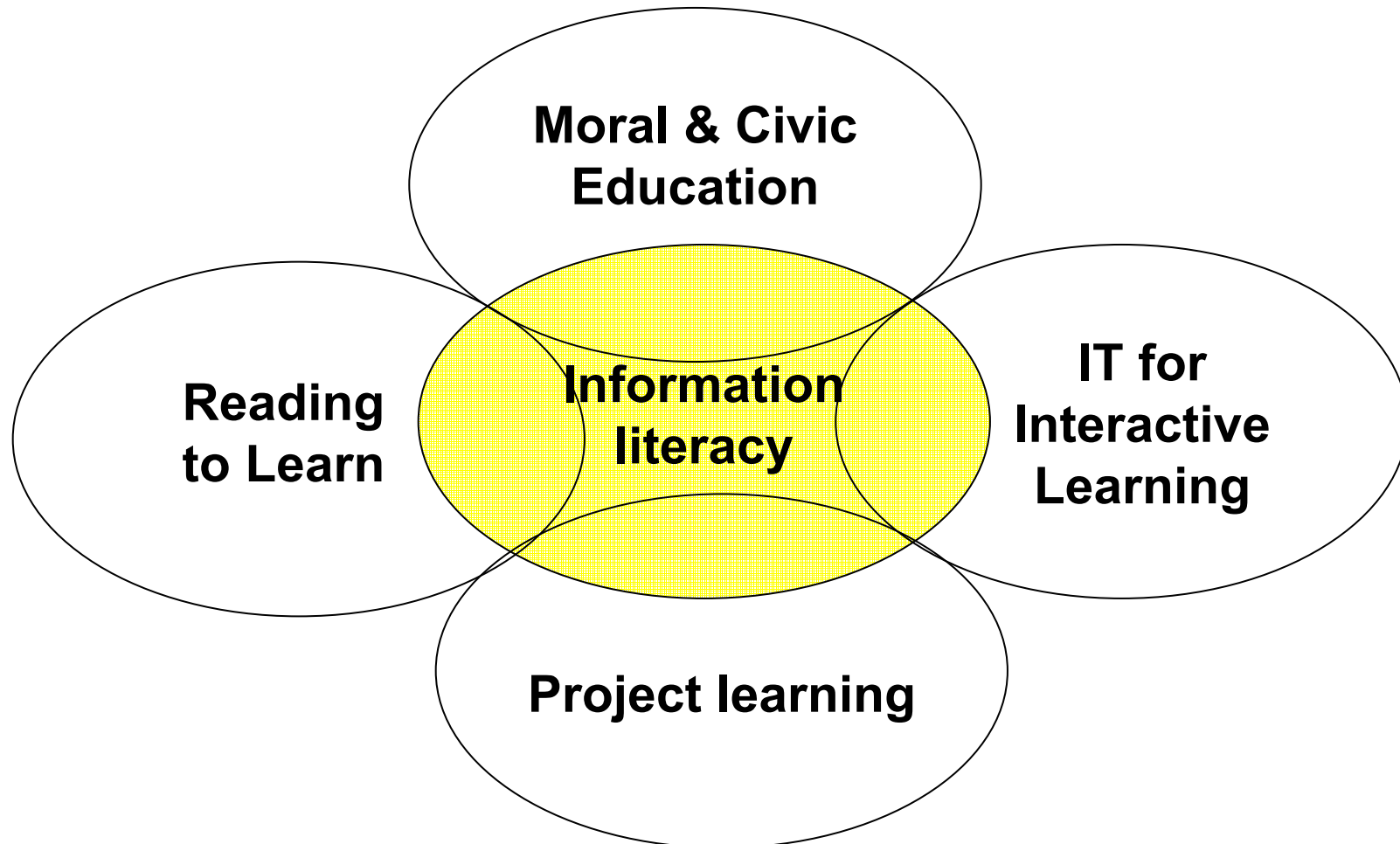
They recognise that different questions require different methods of inquiry.

They identify what evidence is needed in specific investigations.

They gather evidence and make judgements about its value.

They draw conclusions based on evidence, and evaluate and communicate their findings.

As a way to realize the four key learning tasks (Hong Kong)

Moral & Civic Education

Reading to Learn

Information literacy

IT for Interactive Learning

Project learning

Background

The trend in curriculum design

Subjects $\longrightarrow$ KLAs $\longrightarrow$ Essential Learnings

Is framing the what to learn within the how to learn.

Scoping the Study

- April 2004 a Task Force was established by the Steering Committee on Strategic Development of Information Technology in Education
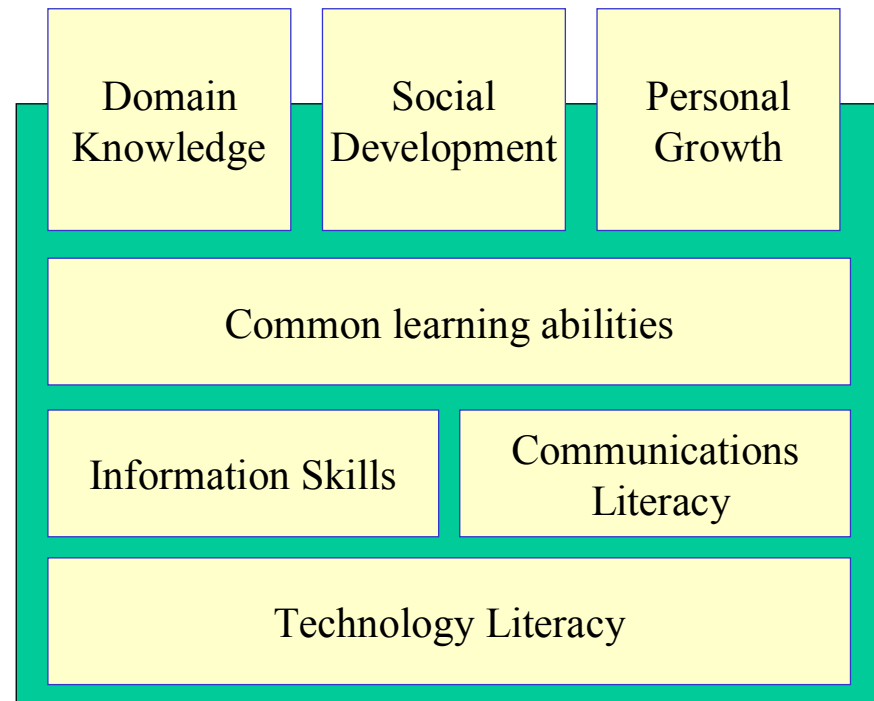
The Objective

- *"A broad framework of information literacy for students will be developed to help teachers and students have a clearer picture on the learning targets of using IT in education."* (Education and Manpower Bureau, 2004 section 3, 24 a, http://www.emb.gov.hk/elt
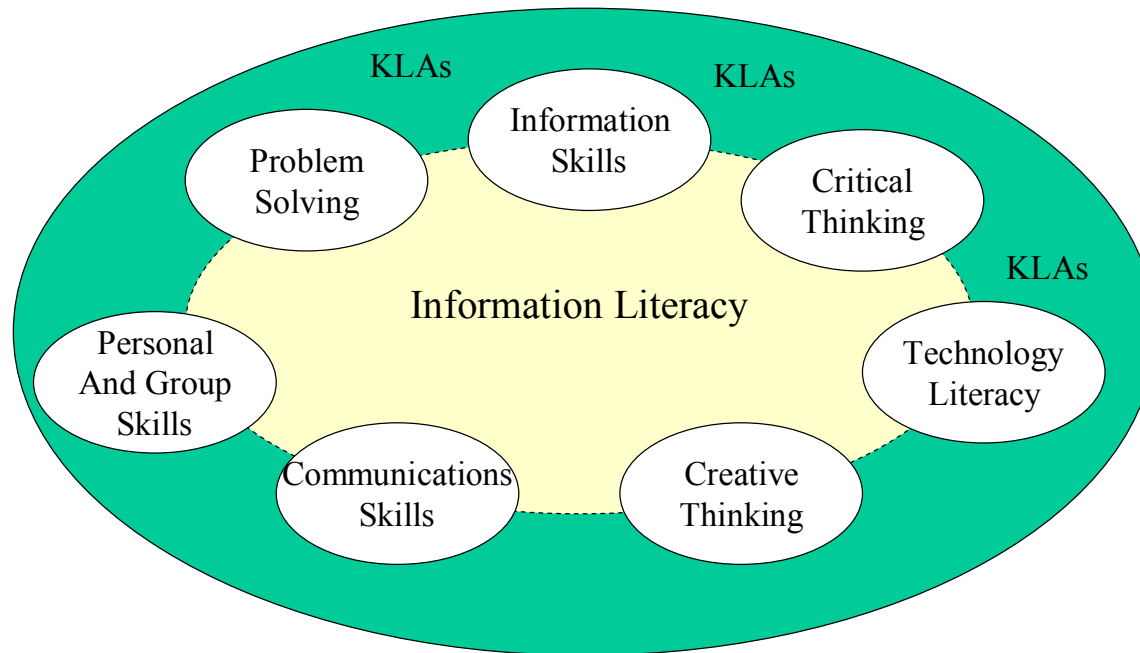
Draft Framework

Domain Knowledge	Social Development	Personal Growth
	Common learning abilities	
Information Skills	Communications Literacy	
	Technology Literacy	

Information literacy for learning to learn
- Skills
-Attitudes

Information Literacy as a building block for learning to learn

Draft Information Literacy Framework

KLAs · KLAs · KLAs

Problem Solving · Information Skills · Critical Thinking · Personal And Group Skills · Technology Literacy · Communications Skills · Creative Thinking

Information Literacy

Information Literacy as the Core for Student Holistic Learning and Development

The Scope of the Information Literacy Framework

Information literacy framework	1. Objectives, standards and learning outcomes 2. Essential learning content in IL 3. Relationships with IT and other curriculum
Implementation policies and strategies	8. Policies and strategies 9. School leadership, models, class practices and quality assurance

Professional development and teacher assessment

Students assessment and support

4. Professional development and culture
5. Roles and responsibilities of stakeholders

6. Assessment rubrics, tools, reporting
7. Funding, support and tool kits

The IL Study

- The development of the IL Framework was contracted to a consortia of the leading teacher training providers:

The Principal Investigators

LI Siu Cheung, Sandy (BU)

LEE Fong Lok (CUHK)

KONG Siu Cheung (HKIEd)

James HENRI (HKU)

What is Information Literacy?

- Is this a matter of personal perception or is there consensus?

What is Information Literacy?

- According to some writers information literacy comes down to perception (Bruce 1977)

1. *Information literacy is seen as using information technology for information retrieval and communication.*

2. *Information literacy is seen as finding information located in information sources.*

What is Information Literacy?

3. *Information literacy is seen as executing a process.*

4. *Information literacy is seen as controlling information.*

5. *Information literacy is seen as building up a personal knowledge base in a new area of interest.*

What is Information Literacy?

6. *Information literacy is seen as working with knowledge and personal perspectives adopted in such a way that novel insights are gained.*

7. *Information literacy is seen as using information wisely for the benefit of others.*

    http://sky.fit.qut.edu.au/~bruce/inflit/faces/faces1.php

What is Information Literacy?

- According to American Library Association Presidential Committee on IL (1989), the information literate person is,

- *"… able to recognize when information is needed and have the ability to locate, evaluate, and use it effectively."*

What is Information Literacy?

- This study employed the definition developed by Henri (1995)

  "Information literacy is the ability to master the processes of becoming informed."

The Need for Information Literacy

- Information is abundant and intensive in the 21st century
- Individuals are faced with diverse information choices in their studies, workplace, and in their lives
- Sheer abundance of information and technology will not in itself create more informed citizens without a complementary understanding and capacity to use information effectively

The Theoretical Model
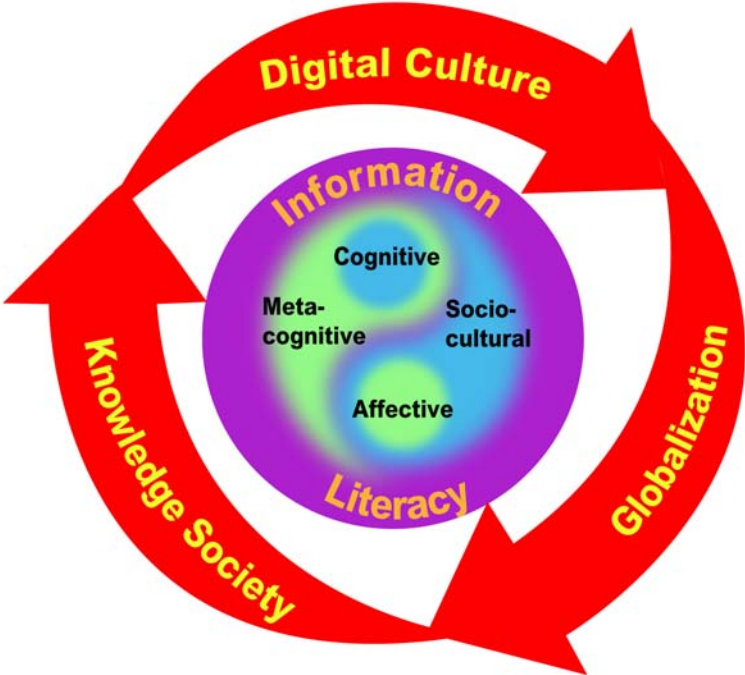
Information Literacy for Hong Kong Students in the 21st Century

- The Emerging Knowledge Society
  - Capability for information processing

- Digital culture
  - Desktop access (or even handheld access) to the world

- Globalization
  - Capacity building with global perspectives

Information Literacy for Hong Kong Students in the 21st Century

Recognition of the need to address all of the human person

– Socio cultural

– Cognition

– Metacognition

– Affective

– (Decision made to ignore the physical dimension…such things as keyboarding)

Coding Scheme of IL Standards

Coding Scheme

cognitive dimension
- find
- comprehend
- apply
- analyse
- synthesize
- evaluate
- integrate

meta-cognitive dimension
- awareness
- planning
- monitoring
- reflection

affective dimension
- attitude
- motivation
- value

socio-cultural dimension
- communal/cultural
- social
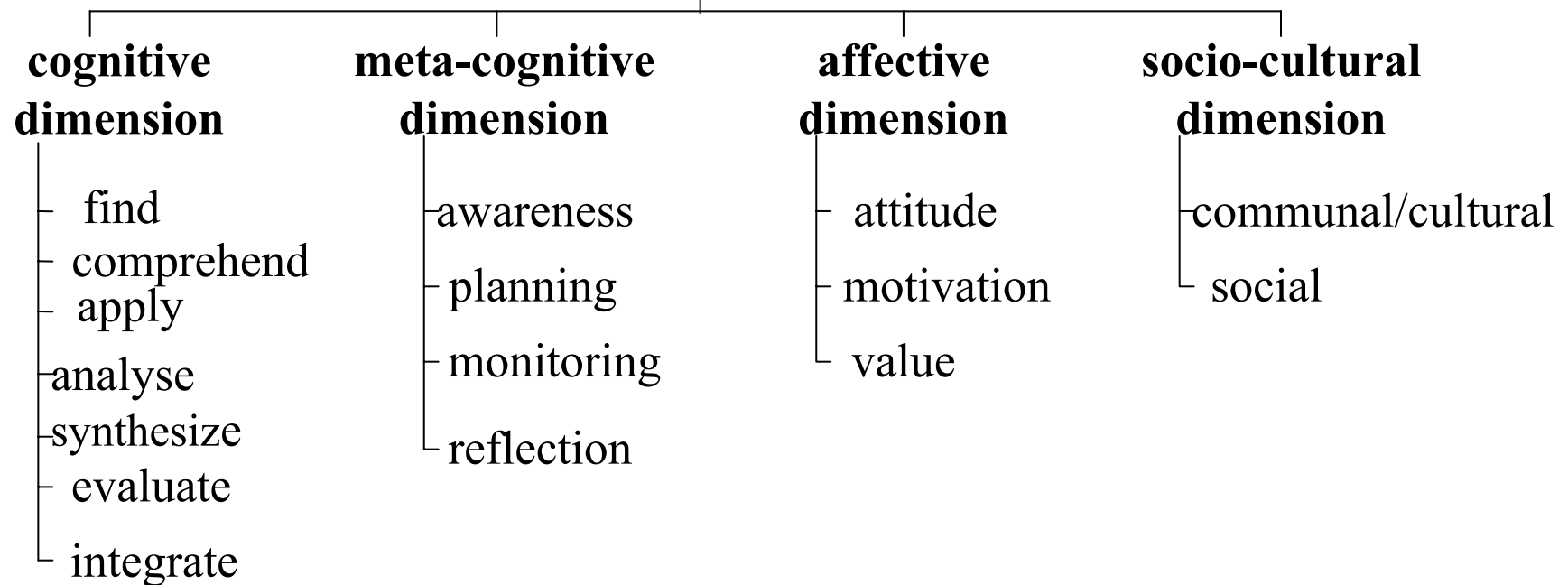
Classification of IL Standards of the 8 Selected Models

Cognitive	Meta-cognitive	Affective	Socio-Cultural
ANZIIL1, ANZIIL2, ANZIIL3, ANZIIL4, ANZIIL5, WL1, WL2, WL3, WL4, WL5, WL6, AkASL1, AkASL2, SCONUL1, SCONUL2, SCONUL3, SCONUL4, SCONUL5, SCONUL6, SCONUL7, AASL1, AASL2, AASL3, AASL4, AASL5, ACRL1, ACRL2, ACRL3, ACRL4, SUNY1, SUNY2, SUNY3, SUNY4, SUNY5, SUNY6, SUNY7, JULM1, JULM2, JULM3, JULM5, JULM6, JULM7	ANZIIL1, ANZIIL2, ANZIIL3, WL4, WL6, AkASL4, AASL1, AASL4, AASL5, ACRL1, ACRL2, ACRL3, ACRL4 SUNY1, SUNY2, SUNY9, JULM4	AkASL3, AkASL4, AASL4, AASL5, ACRL3, SUNY9	ANZIIL6, AkASL4, AkASL5, UK4, SCONUL6, AASL3, AASL4, AASL7, AASL8, AASL9, ACRL4, ACRL5, SUNY3, SUNY7, SUNY8, JULM8

The Information Literacy Framework Development

Information Literacy Standards & Indicators

Information Literacy Models

Comparison of Information Process Models

ASLA/ALIA (1993) Information Process	Eisenberg & Berkowitz (1987) Big Six Skills	Pitts & Stripling (1998) Research Process	McKenzie (2000) Research Cycle	Kuhlthau (1993) Information Search Process
1. Defining	1. Task Definition	1. Choose a broad topic 2. Get an overview of topic 3. Narrow the topic 4. Develop thesis/purpose statement	1. Questioning 2. Planning	1. Initiation 2. Selection
2. Locating	2. Information Seeking Strategies 3. Location and Access	5. Formulate questions to guide research 6. Plan for research & production 7. Find,	3. Gathering	3. Exploration 4. Focus Formulation 5. Collection
3. Selecting	4. Information Use	analyse & evaluate resources	4. Sort & sifting	
4. Organising	5. Synthesis (Organise)	8. Evaluate evidence, take notes & compile bibliography	5. Synthesising	
5. Creating/Sharing	5. Synthesis (Present)	9. Establish conclusions/ organise information in outline 10. Create and present final product	6. Evaluating 7. Reporting	6. Presentation
6. Evaluating	6. Evaluation	Reflection point		7. Assessment

The Standards: Cognitive Dimension

- An information literate person is able to:

Code	Information literacy standards
C1	Determine the extent of and locate the information needed
C2	Apply information to problem-solving and decision-making
C3	Analyse the collected information and construct new concepts or understandings
C4	Critically evaluate information and integrate new concepts with prior knowledge

The Standards: Meta-Cognitive Dimension

- An information literate person is able to:

Code	Information literacy standards
M1	Be aware that information processing is iterative, time-consuming and demands effort
M2	Plan and monitor the process of inquiry
M3	Reflect upon and regulate the process of inquiry

The Standards: Affective Dimension

- An information literate person is able to:

Code	Information literacy standards
A1	Recognise that being an independent reader will contribute to personal enjoyment and lifelong learning
A2	Recognise that information processing skills and freedom of information access are pivotal to sustaining the development of a knowledge society

The Standards: Socio-Cultural Dimension

- An information literate person is able to:

Code	Information literacy standards
S1	Contribute positively to the learning community in knowledge building
S2	Understand and respect the ethical, legal, political and cultural contexts in which information is being used

A Selection of Indicators: Cognitive

- An information literate person is able to:

Code	Information literacy indicators
C1	Frame appropriate questions based on information needs
	Determine the nature and scope of the information Needed
	Identify a variety of potential sources of information
	Develop strategies for locating information
	Collect primary/empirical data to address the research questions

A Selection of Indicators: Meta-Cognitive

- An information literate person is able to:

Code	Information literacy indicators
M1	Recognise that the information seeking process is evolutionary and changes during the course of investigation
	Understand that information processing requires time, diligence, and practice

A Selection of Indicators: Affective

- An information literate person is able to:

Code	Information literacy indicators
A1	Read information for pleasure
	Recognise that accurate and comprehensive information is the basis for intelligent decision-making

A Selection of Indicators: Socio-Cultural

- An information literate person is able to:

Code	Information literacy indicators
S2	Recognise that information is underpinned by values and beliefs
	Understand and respect the principles of equitable access to information
	Understand and respect for the principle of intellectual freedom
	Observe laws, regulations, institutional practices and social etiquette related to the access and use of information resources

Research on Information Literacy Implementation

Questionnaire Survey

- Total of 3,924 questionnaires sent to 1,308 primary and secondary schools in December 2004
- Invited participants included
  - Principals
  - Curriculum coordinators
  - Teachers responsible for coordinating IT across the curriculum
  - Teacher librarians

Questionnaire Survey

Category	No. of schools Invited	No. of Questionnaires sent	No. of Questionnaires replied
Primary schools	786	2358	1589
Secondary schools	522	1566	1019
Total	1308	3924	2608

Questionnaire Survey: Results

- Is information literacy education needed for Hong Kong students?

No
4. 97%

Yes
95. 03%
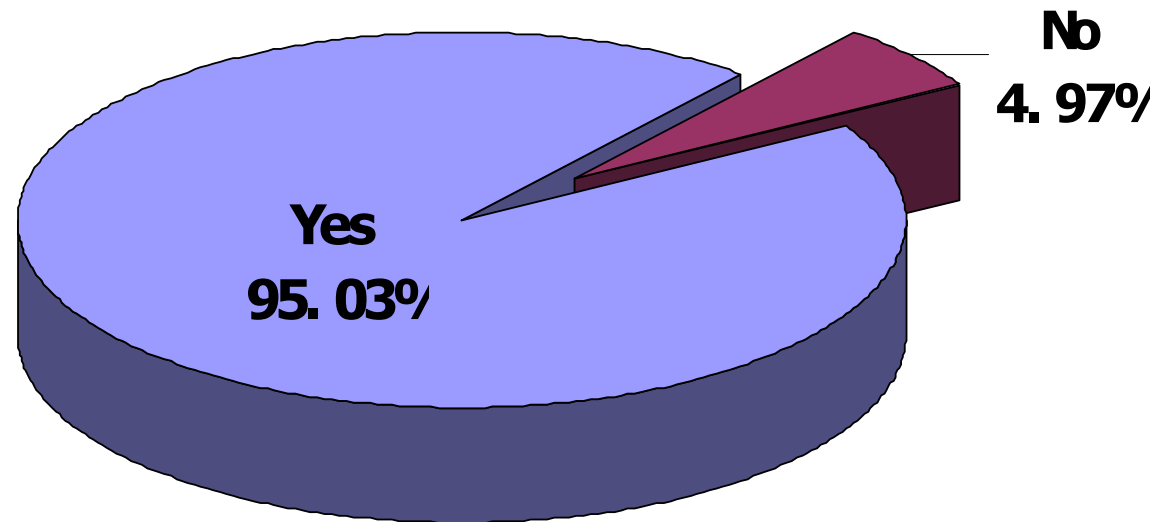
Questionnaire Survey: Results

- The *top* 3 ratings by *primary and secondary school practitioners* on the expected abilities (indicators) possessed by *primary and secondary students*:

Primary students	Secondary students
Read for information and pleasure (A)	Recognise that being an independent learner will contribute to lifelong learning (A)
Understand the information processing requires time, diligence and practice (M)	Recognise and select materials appropriate to personal abilities and interests (A)
Recognise and select materials appropriate to personal abilities and Interests (A)	Apply information in problem Solving (C)

Questionnaire Survey: Results

- The *bottom* 3 ratings by *primary and secondary school practitioners* on the expected abilities (indicators) possessed by *primary and secondary students*:

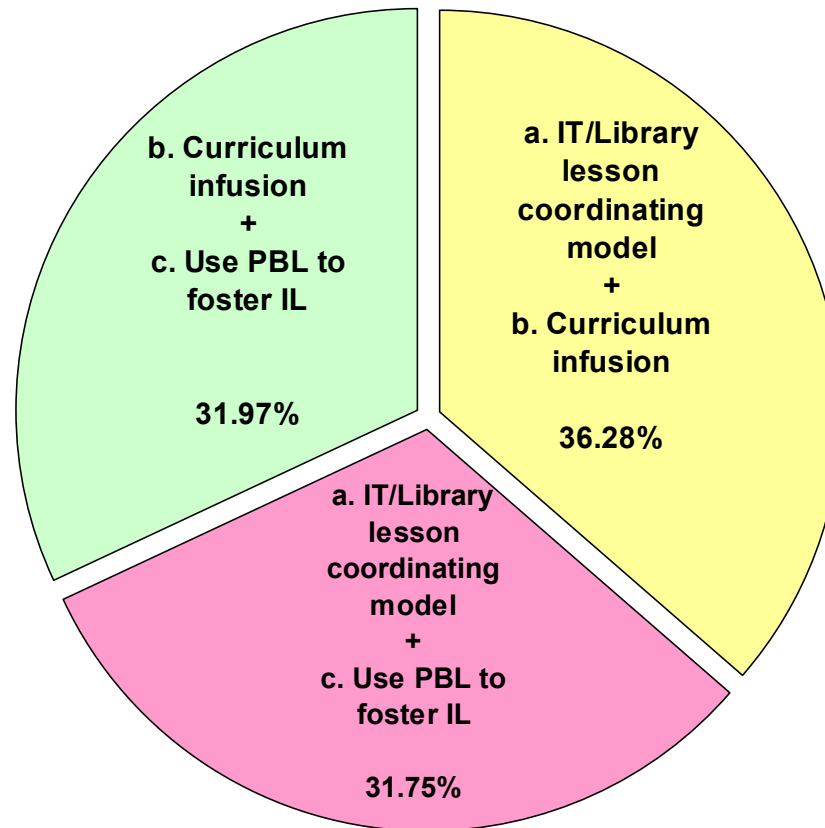| Primary students	Secondary students
Recognise the information seeking process is evolutionary and changes during the course of investigation (M)	Read for information and pleasure (A)
Apply information in problem solving (C)	Observe laws, institutional policies and social etiquette related to access and use information (S)
Recognise that being an independent learner will contribute to lifelong learning (A)	Collaborate effectively in groups to pursue and construct knowledge (S)

The 3 Methods of Implementation

- Curriculum infusion
- Use problem-based learning (PBL) to foster information literacy
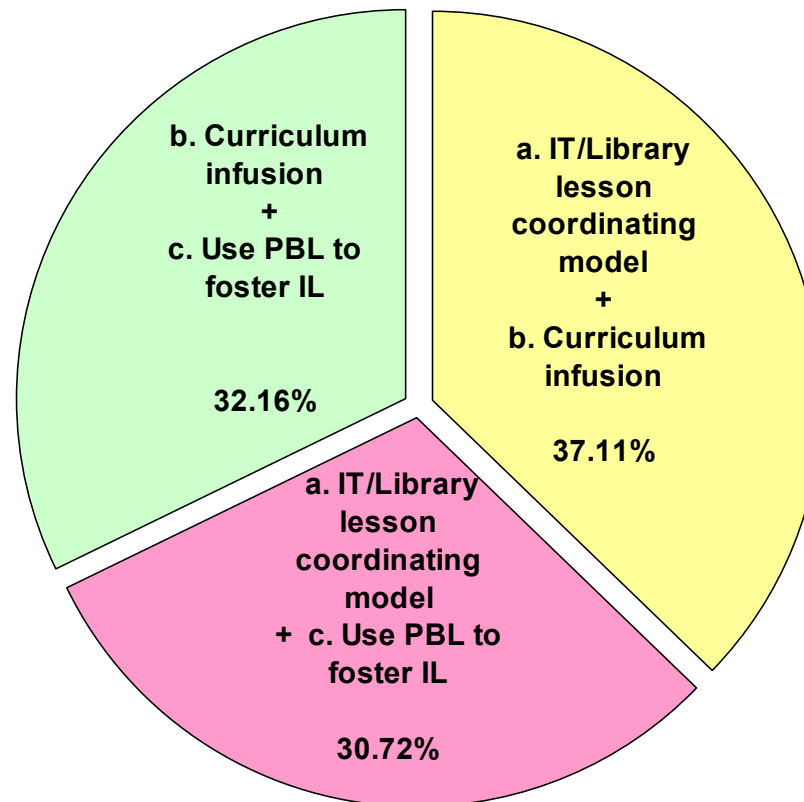- IT/Library lesson coordinating model

The 3 Methods of Implementation: Results

- Proportion from the questionnaire survey by *Principals/Curriculum Coordinators* on choosing 2 out of 3 suitable options as the IL implementation models
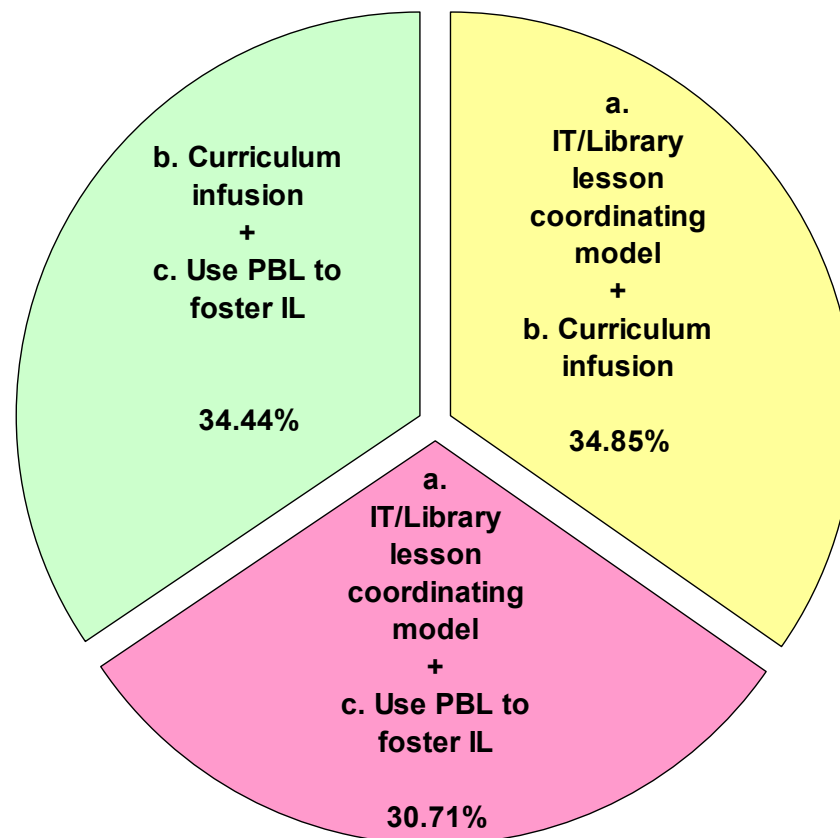

b. Curriculum infusion + c. Use PBL to foster IL — 31.97%

a. IT/Library lesson coordinating model + b. Curriculum infusion — 36.28%

a. IT/Library lesson coordinating model + c. Use PBL to foster IL — 31.75%

The 3 Methods of Implementation: Results

- Proportion from the questionnaire survey by *Teachers responsible for coordinating IT across the curriculum* on choosing 2 out of 3 suitable options as the IL implementation models

The 3 Methods of Implementation: Results

- Proportion from the questionnaire survey by *Teacher Librarians* on choosing 2 out of 3 suitable options as the IL implementation models

b. Curriculum infusion
+
c. Use PBL to foster IL

34.44%

a. IT/Library lesson coordinating model
+
b. Curriculum infusion

34.85%

a. IT/Library lesson coordinating model
+
c. Use PBL to foster IL

30.71%

Focus Groups

- Total of 17 focus group discussion sessions
- Each session involved answering a questionnaire and discussions between participants and the Task Group
- Participants included:
  - Teachers
  - Teacher librarians
  - Principals
  - Representatives of other professional organisations

Focus Groups

Focus group categories	No. of Groups	No. of Participants
Associations in education	1	8
Education bodies	1	7
Expert panels on information literacy	2	approx. 30
International schools	2	8
IT pilot primary schools in 1998	1	3
IT pilot secondary schools in 1998	1	7
Primary schools	4	17
Secondary schools	5	22
Total	17	approx. 102

Focus Group Results: Questionnaire

- Average point (5-point scale) on weighting the 4 dimensions for *primary* students

Information literacy dimensions	Average	Total entry
Cognitive	3.98	58
Affective	3.76	58
Socio-cultural	3.40	57
Metacognitive	3.29	58

Focus Group Results: Questionnaire

- Average point (5-point scale) on weighting the 4 dimensions for *secondary* students

Information literacy dimensions	Average	Total entry
Socio-cultural	4.37	57
Cognitive	4.35	57
Affective	4.28	57
Metacognitive	4.21	56

Focus Group Results: Discussion

- Why is information literacy education needed in Hong Kong:

- *"… for the student to know how to learn from information rather than how to memorise information."*

- *"… for everyone to deal with the daily realities of the adult world."*

Focus Group Results: Discussion

- The Hong Kong society tends to focus less on respecting knowledge

- *"… teachers often value the end product and so plagiarism is indirectly encouraged."*

- *"… there is a need to balance between protecting intellectual property and equitable access to information."*

Focus Group Results: Discussion

- Why information literacy standards should be developed:

- *"… let teachers know how to teach information literacy."*

- *"… the standards provide informal guidelines for schools to develop their school-based curriculum."*

- *"… it allows the society to know what we are looking for from our children."*

Focus Group Results: Discussion

- How information literacy standards can be developed:

- *"… should not directly duplicate the American national standards. Ethical value is more emphasised in the Chinese culture."*

- *"… standards, indicators and learning outcomes should be as clear as possible so school teachers can follow them easily."*

Focus Group Results: Discussion

- Reasons for supporting information literacy implementation:

- *"… the purpose of Liberal Studies is to develop information literacy skills."*

- *"… the government has invested large amounts of capital in the IT platform construction. It would be a waste of its resources if this is not used to support the implementation."*

Focus Group Results: Discussion

- Suggestions for implementing information literacy:

- *"… the government can set up a fund for schools to apply for… similar to the Quality Education Fund."*

- *"… information literacy assessments for students should be concise rather than precise."*

Following release of the draft ILF

Seminar on Implementing the Information Literacy Framework

- 8 Consultation sessions for primary and secondary school representatives
- Aimed to gain views from stakeholders
- Held in February 2005

Concerns Raised by School Representatives at the Seminar

- Teacher assessment on information literacy:
  - Benchmarking
  - Increased workload for teachers
- Proposed learning outcomes too rigid to be achieved by students of different schools within same educational levels

Concerns Raised by School Representatives at the Seminar

- Collaboration needed for implementation between the EMB and Hong Kong Examinations and Assessment Authority (HKEAA)

- Standards, indicators and learning outcomes adopted from foreign academic studies may be incompatible with the Hong Kong culture

Reflections on the Study

- Tender issues
- Timeline to achieve the tasks at hand
- Collaboration among partners of the Task Group
- Response from the field
  - Displayed readiness
  - Wanted detailed solutions
  - Did not grasp the central idea of changing mindset

The Final Report

Reflections on the Study

- Where to from here?

Thank You!

Questions & …..

Follow up on IL

- http://iasl-slo.org/conference2005.html