

Data Speaks – The Practice of Data Use in School Improvement for Hong Kong

Dr Catherine K. K. CHAN
Deputy Secretary, Education Bureau

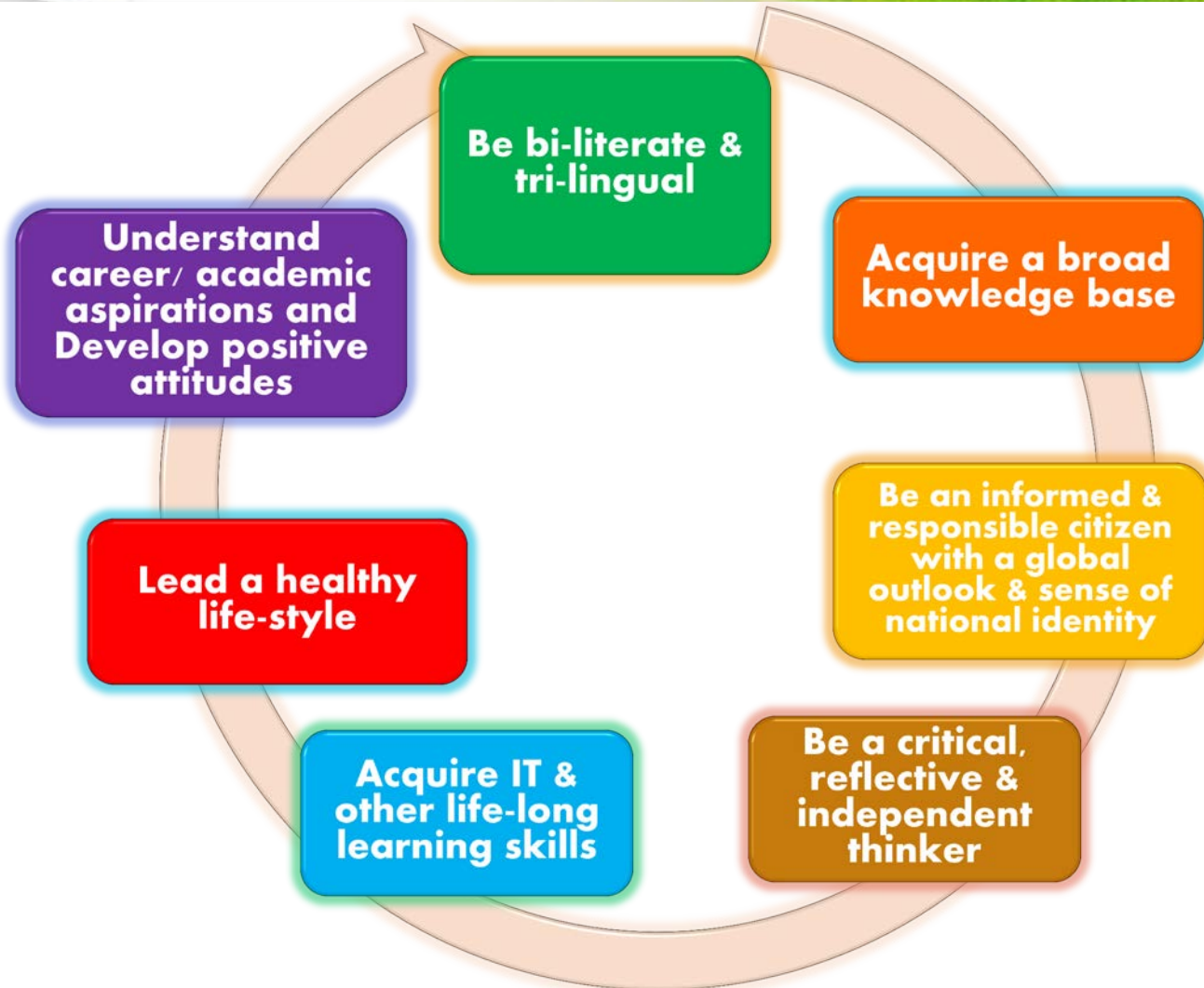


January 2015

Education Bureau
Hong Kong SAR Government



Seven Learning Goals for Whole-person Development and Life-long Learning





The Journey of Assessment Reform towards building synergy of assessment of, for & as learning

Curriculum reform since 2000 through which to promote assessment for learning (AfL)

*

Assessment as an integral part of the curriculum

Major change to system-level assessment to promote AfL

* Territory-wide System Assessment (TSA) first administered at P3 in 2004, at P3 & P6 in 2005 and at P3, P6 & S3 in 2006

Using standards-referenced reporting in the Hong Kong Diploma of Secondary Education (HKDSE) Examination, to replace norm-referenced reporting

Institutionalising School-based Assessment as a key component of the HKDSE Examination

Promoting assessment as learning (AaL) through such reform initiatives as OLE and SLP to develop students into self-directed learners





Guiding Principles

- 🌳 Visionary Aims of Education 2000
- 🌳 All students can learn
- 🌳 Building on strengths
- 🌳 Top-down and bottom-up approaches
- 🌳 Professionally driven
- 🌳 Striking a balance between accountability and support (low-stakes and trust in schools)
- 🌳 Partnership with multi-stakeholders

Key Messages



Part One: Data Sources

- Student Data
- School Data

Part Two: Connecting Data Sources for Schools

- Evidence-informed Instruction and Intervention
- Chinese Language Curriculum – Second Language Learning Framework

Part Three: Challenges and Way Forward

- School Improvement through Effective Data-driven Practices and Other Considerations



Part One

Data Sources – Student Data





Part One: Data Sources

– Student Data



Territory-wide System Assessment (TSA)

Nature	<ul style="list-style-type: none">• A low-stakes assessment for Chinese Language, English Language and Mathematics to provide feedback for schools and to inform policy review• For teachers and parents to understand students' strengths, learning needs and problems
Task design reference	<ul style="list-style-type: none">• Basic Competency Descriptors• Curriculum Guides by Curriculum Development Council
Frequency	Annually at Primary 3 & Secondary 3 ; alternate years at Primary 6
Marking	Centralised marking by trained teachers
Reporting	<ol style="list-style-type: none">(1) Territory-wide Report(2) School report (with NO individual student data)

Part One: Data Sources

– Student Level Data

What Have TSA Data Shown?



System Performance–Territory-wide Report

- Territory-wide Percentages of Students Achieving Basic Competency
- General report/students' overall performance
- Exemplars to demonstrate students' performances
- Comparison of students' performances in Key Stages 1-3 in Chinese Language, English Language and Mathematics (CEM) over the years

Territory-wide Percentages of Students Achieving BC

Territory-wide Percentages of Students Achieving BC												
		Percent Achieving Basic Competency										
		2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Chinese Language (Listening, Reading and Writing)	P.3	82.7	84.7	85.2	84.9	85.4	#	85.9	86.4	86.1	86.6	86.3
	P.6	--	75.8	76.5	76.7	76.4	#	77.0	77.2	^	78.1	^
	S.3	--	--	75.6	76.2	76.5	76.5	76.8	76.7	76.9	77.1	77.0
English Language (Listening, Reading and Writing)	P.3	75.9	78.8	79.4	79.5	79.3	#	79.2	79.8	79.7	80.4	80.3
	P.6	--	70.5	71.3	71.3	71.5	#	71.6	71.7	^	72.4	^
	S.3	--	--	68.6	69.2	68.9	68.8	69.2	69.2	69.1	69.5	69.3
Mathematics	P.3	84.9	86.8	86.9	86.9	86.9	#	87.0	87.0	87.3	87.5	87.4
	P.6	--	83.0	83.8	83.8	84.1	#	84.2	84.1	^	84.2	^
	S.3	--	--	78.4	79.9	79.8	80.0	80.1	80.1	79.8	79.7	79.9

Individual School Performance– School Level Report

- Basic Competency (BC) attainment rates in CEM subjects (for Secondary 3 only)
- Online and paper version Item Analysis Report (sorted by sub-papers & BCs)

2010 年全港性系統評估
Territory-wide System Assessment 2010
題目分析報告 (以基本能力為序)
Item Analysis Report (sorted by Basic Competencies)

機 密
CONFIDENTIAL

學校 School: School B (全日制) (hkp00999)
級別 Level: 小六

數學 Mathematics

範疇 Dimension	基本能力+ Basic Competency	卷別 Sub- paper	題號 Item no.	選項 Option	得分/等級 Score/ Grade	學校百分率 School percentage	全港百分率 Territory-wide percentage	
數 Number	KS2-N1-1	6M1	Q01	A		0.0%	0.7%	
				B		0.0%	0.4%	
				C*		100.0%	97.9%	
	D		0.0%	1.0%				
	U#		0.0%	0.1%				
			6M2	Q01		0	0.0%	4.6%
				I		100.0%	95.4%	
				U#		0.0%	0.0%	
		KS2-N1-2	6M3	Q01		0	0.0%	2.1%
				I		100.0%	97.9%	
				U#		0.0%	0.0%	



Part One: Data Sources – Student Data

What Have TSA Data Shown?

Macro Level Research (examples)

- **Helping Non Chinese Speaking (NCS) students learn**
 - Performance of NCS students in Chinese Language could be compared against the territory-wide standards
 - NCS students' performance in Mathematics could be compared between those using English or Chinese papers
- **Impact of socio-economic status on performance**
 - Varied degrees of correlation between the socio-economic status of students and their TSA performance in Chinese Language, English Language and Mathematics

Part One: Data Sources

– Student Data



Hong Kong Diploma of Secondary Education (HKDSE) at end of Year 12 since 2012

- High-stakes assessment
- **Standards-referenced reporting** of candidates' results against a **set of prescribed levels of achievement** based on typical performance of candidates at those levels



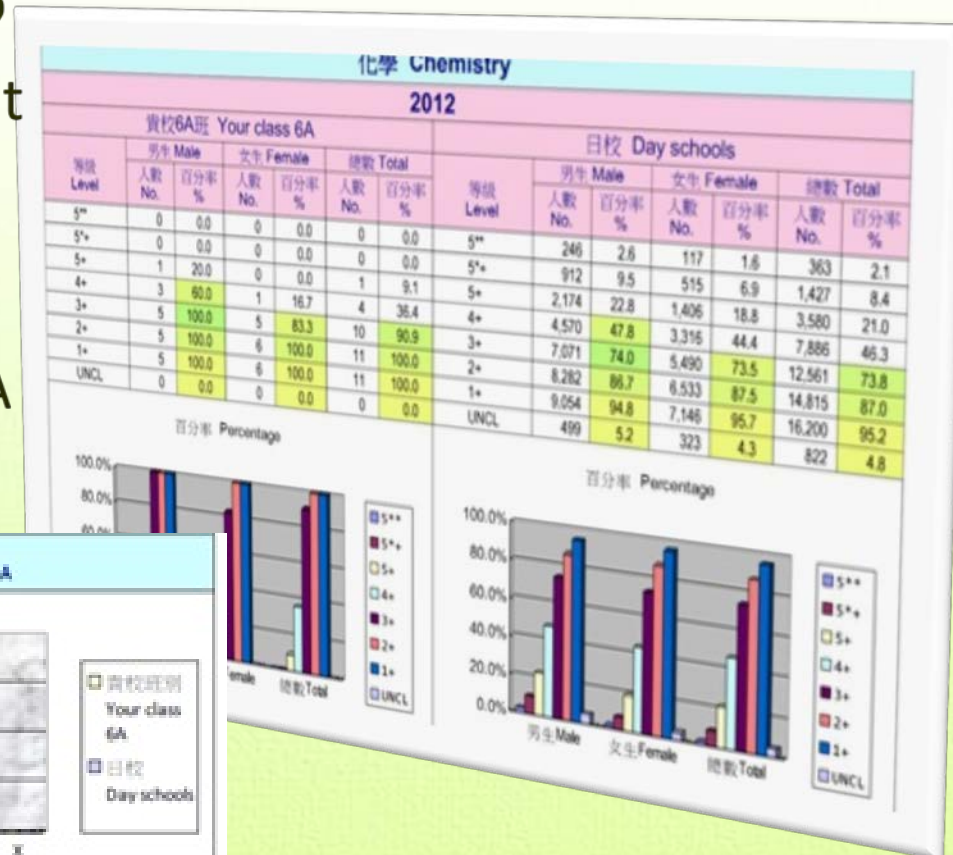
Part One: Data Sources

– Student Data



Hong Kong Diploma of Secondary Education (HKDSE) since 2012

- students' report for selection to further studies and employment
- statistical reports at class and school levels (optional)
- tracing cohort changes with TSA and HKDSE

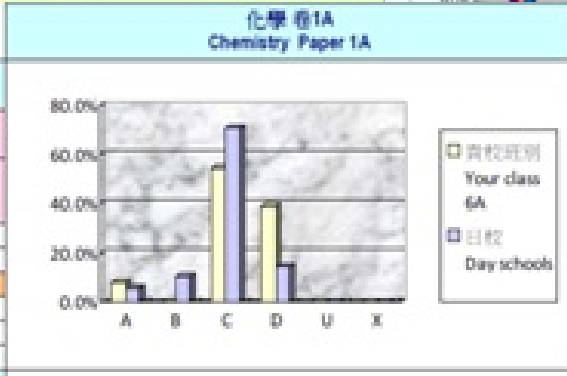


4. 多項選擇題分析 Multiple choice item analysis

(U=0-1) 單選 Unanswered, X=0-1) 多選 Multiple response)

化學 卷1A Chem Paper 1A

試題 Question	化學 卷1A Chem Paper 1A				差額 Difference
	貴校班 Your class 6A		日校 Day schools		
1	人數 No. of cand.	百分率 % (a)	人數 No. of cand.	百分率 % (b)	百分率 % (a) - (b)
填畫答案 Answer marked					
A	1	7.7	883	8.5	+2.1
B	0	0.0	1,569	10.0	-10.0
C <input checked="" type="checkbox"/>	7	53.8	11,166	70.1	-16.2
D	5	38.5	2,269	14.3	+24.2
U	0	0.0	11	0.1	-0.1
X	0	0.0	6	0.0	0.0



Part One: Data Sources

– School Data

Data for school self-evaluation (SSE)

- School-level data
- Low-stakes
- For self-evaluation of school work in management and organisation, learning and teaching, student support & student performance
- For enhancing transparency and accountability of school work
- Examples:
 - % of lesson time for KLAs, **stakeholders' perception** of school work, public examination results, **value-added data**, student attendance, **Assessment Program for Affective and Social Outcomes**, etc.

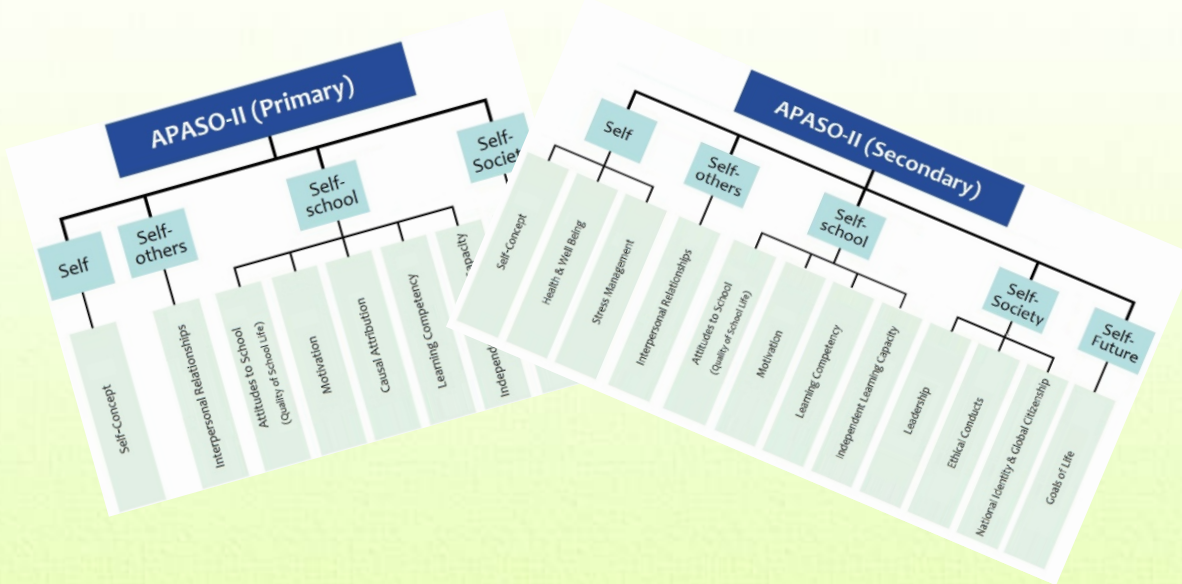


Part One: Data Sources

– School Level Data

Example of SSE data
 (1) Assessment Program for Affective and Social Outcomes – whole-person development

(APASO-II)



APASO-II Report

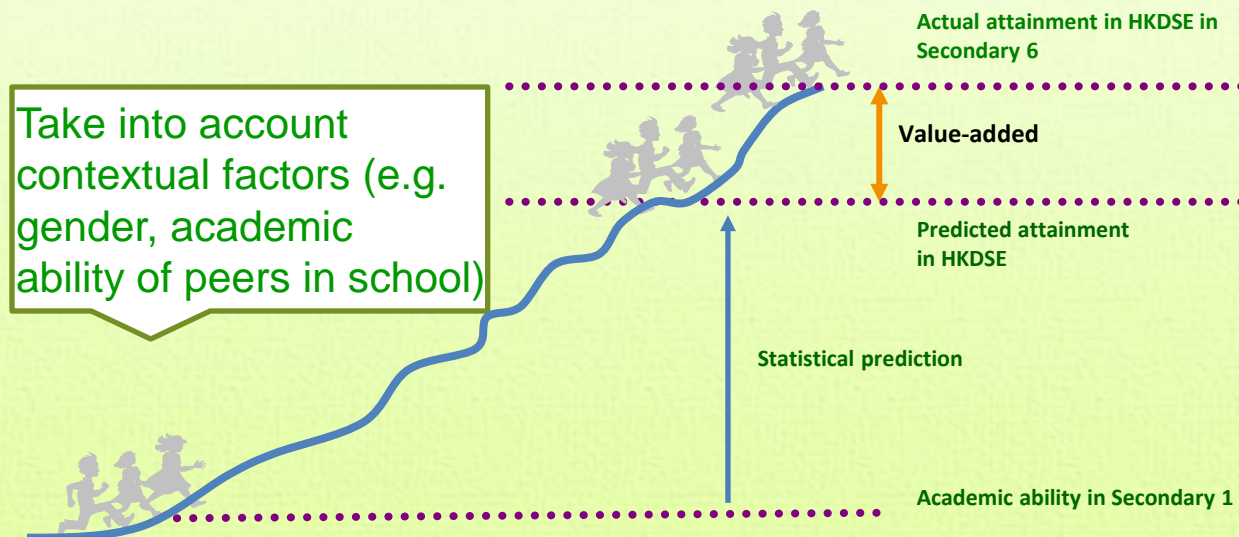


Facilitating schools' review of **students' needs in their whole person development** and the effectiveness of related measures at school.

Part One: Data Sources – School Level Data

Example of SSE data (2) Value-added data

- Data for the S1-S6 student cohort, for individual subjects
- To reflect schools' relative performance in Hong Kong Diploma of Secondary Education Examination (HKDSE)





Part One: Data Sources

– School Level Data



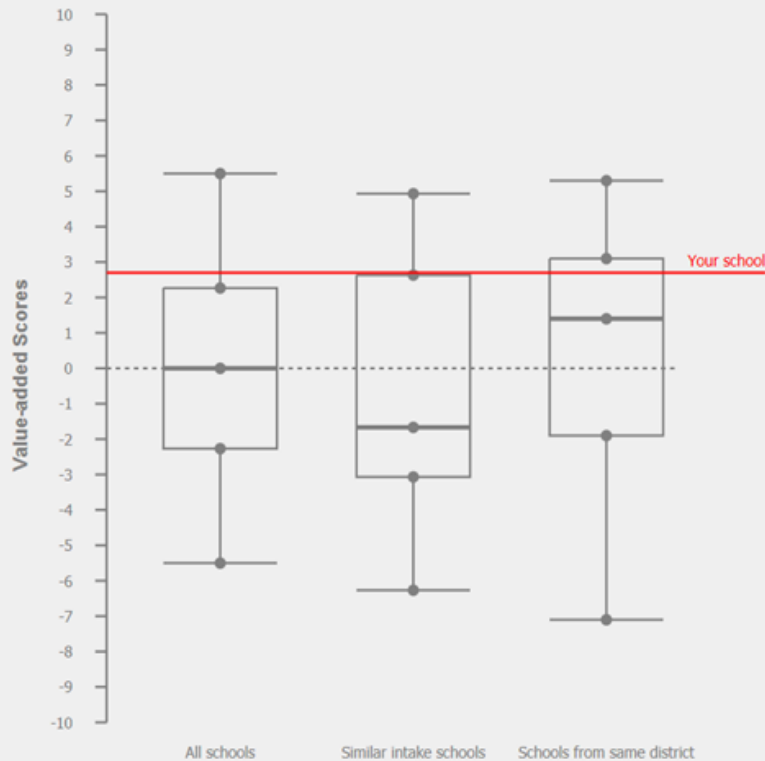
Example of SSE data (2)

Value-added Reports - giving schools **feedback** on their performance

Subject : English Language

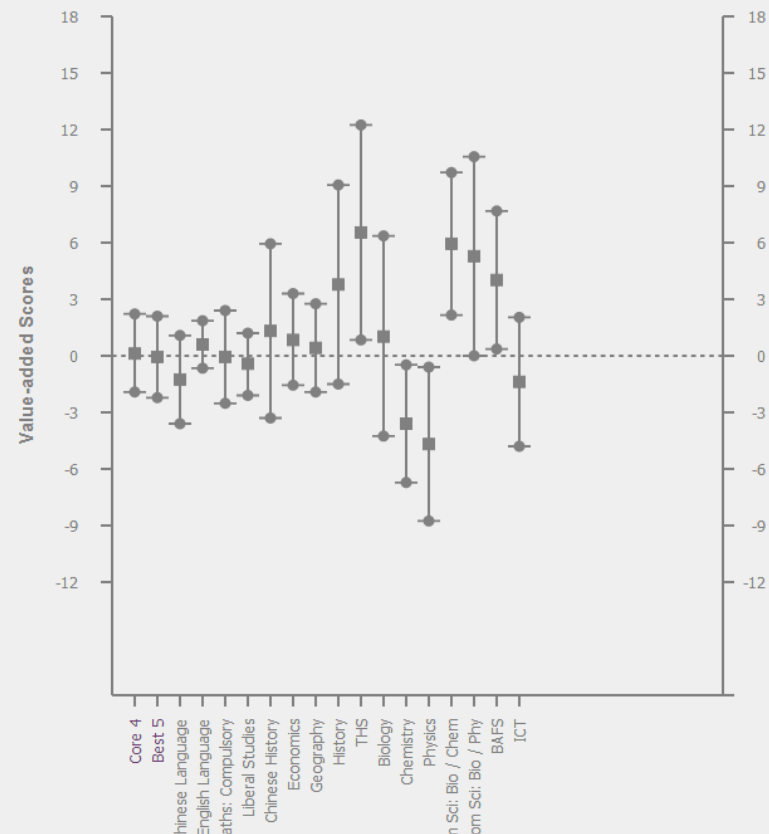
The chart below shows the distribution of the value-added scores of all schools, schools with a similar intake of students and schools within the same district.

Distribution of value-added scores in English Language (2013)



The chart below provides a graphical display of the value-added information of all subjects in a single year.

Multi-Subject Graph (2013)



Part One: Data Sources

– School Level Data

Example of SSE data (3)

Stakeholder Survey

A set of questionnaires to help schools collect the views of teachers, specialists, students and parents on various survey scales to inform their SSE



Student Questionnaire (Primary Schools)

School Name : _____ Date : _____

Year level:	3	4	5	6
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My gender:	Male	Female
	<input type="radio"/>	<input type="radio"/>

I. My views on teaching	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know/ N.A.
1. The teachers often arrange learning activities outside class for us, such as project learning week, visits, field trips, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The teachers often provide us with guidance in learning strategies, such as doing pre-lesson preparation, using concept maps, tool books and on-line resources, etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The teachers often tell us about our progress and problems in learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The teachers often ask us thought-provoking questions in lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The teachers often make us inquire into different issues in lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The teachers often arrange learning activities such as group discussion and oral presentation in lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The teachers often give us encouragement in lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

II. My views on student learning	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know/ N.A.
----------------------------------	----------------	-------	---------	----------	-------------------	------------------

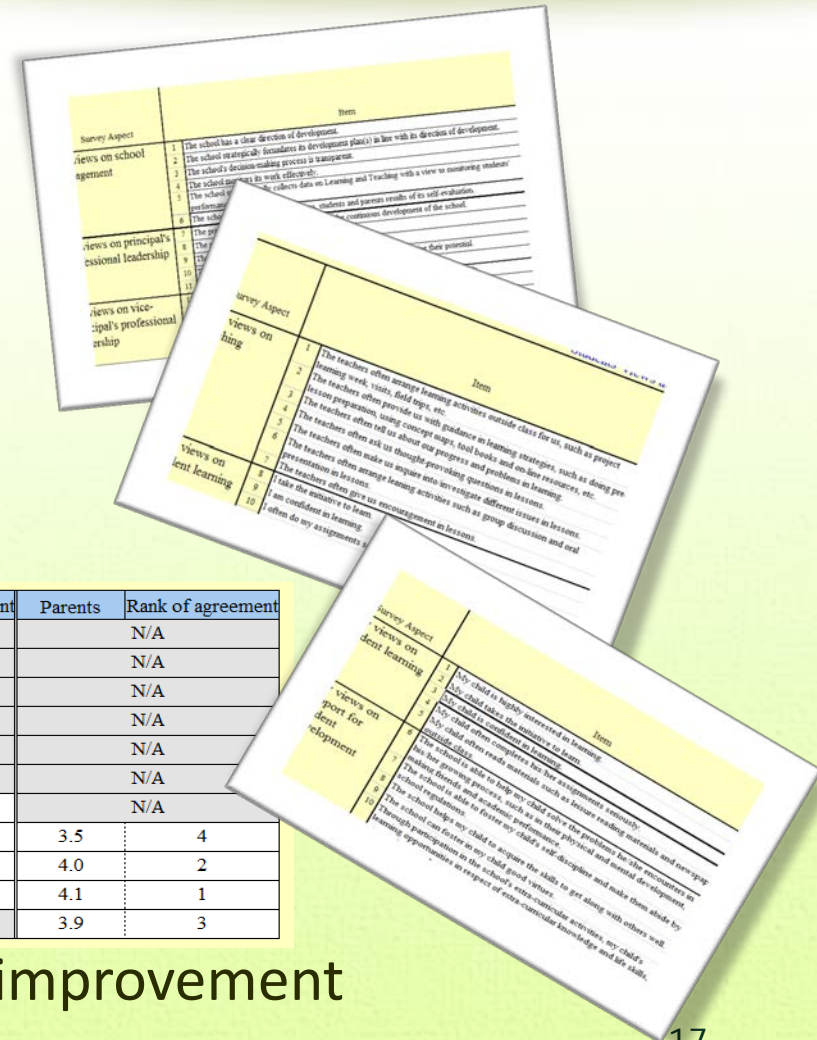
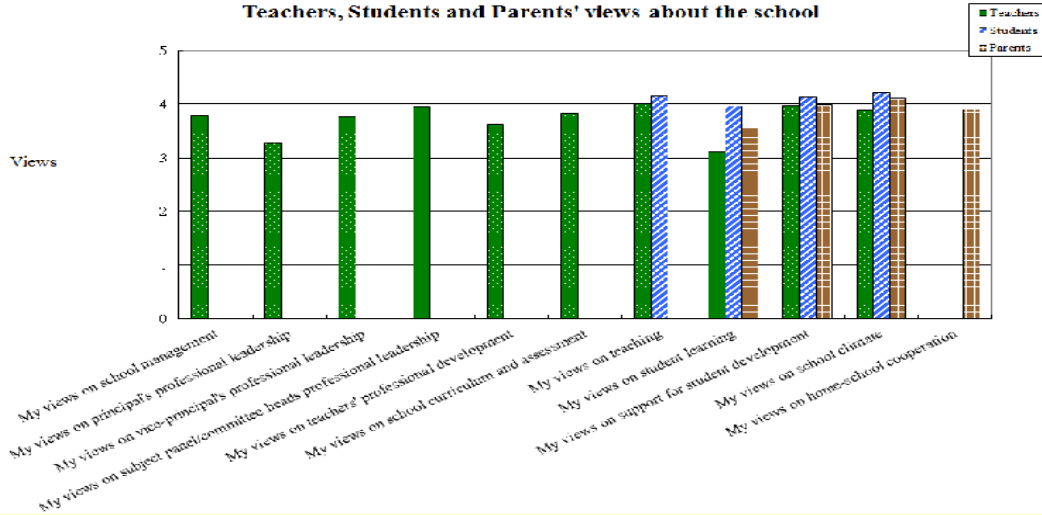
Part One: Data Sources

– School Level Data

Example of SSE data (4)

Stakeholder Survey Reports

Teachers, Students and Parents' views about the school



Survey aspect	Teachers	Rank of agreement	Students	Rank of agreement	Parents	Rank of agreement
My views on school management	3.8	6	N/A	N/A	N/A	N/A
My views on principal's professional leadership	3.3	9	N/A	N/A	N/A	N/A
My views on vice-principal's professional leadership	3.8	7	N/A	N/A	N/A	N/A
My views on subject panel/committee heads professional leadership	3.9	3	N/A	N/A	N/A	N/A
My views on teachers' professional development	3.6	8	N/A	N/A	N/A	N/A
My views on school curriculum and assessment	3.8	5	N/A	N/A	N/A	N/A
My views on teaching	4.0	1	4.2	2	N/A	N/A
My views on student learning	3.1	10	4.0	4	3.5	4
My views on support for student development	4.0	2	4.1	3	4.0	2
My views on school climate	3.9	4	4.2	1	4.1	1
My views on home-school cooperation	N/A	N/A	N/A	N/A	3.9	3

Giving schools **feedback** for continuous improvement based on stakeholders' views

Part Two

Connecting Data Sources for Schools



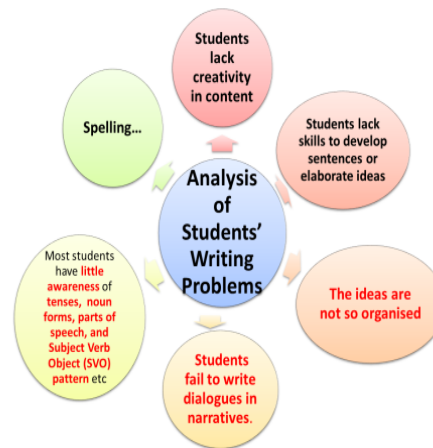
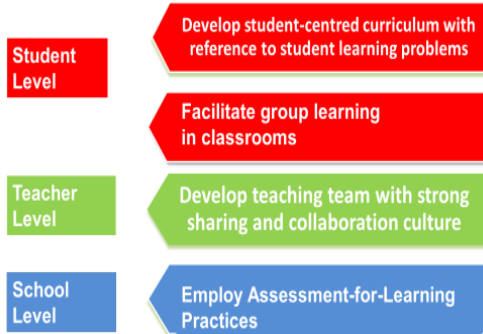
Part Two: Data Sources

– Connecting data sources for schools

Evidence-informed Instruction and Intervention

School Case – Primary 3

School Support Strategies



- Analysing assessment data (including TSA data) helps schools to identify students' strengths and weaknesses
- Setting priorities and turning curriculum expectations into clear learning targets (short-term & long-term)
- Identifying tools to support curriculum development (horizontal & vertical) and implementation to enhance teaching and learning

	B	C
School %		TSA %
	76.70%	71.40%
	79.10%	75.40%
	48.80%	48.10%
	46.50%	43.80%
	88.40%	73.20%
	44.20%	38.50%
	74.40%	74.70%
	41.90%	46.90%
	62.80%	61.00%
	46.50%	53.40%
	69.80%	67.50%
	53.50%	60.40%
	69.80%	65.00%
	72.10%	80.70%
	23.30%	15.00%
	74.40%	51.50%
	34.90%	33.80%
	32.60%	18.50%
	61.10%	63.20%
	16.30%	17.70%
	9.30%	22.90%
	74.40%	73.10%

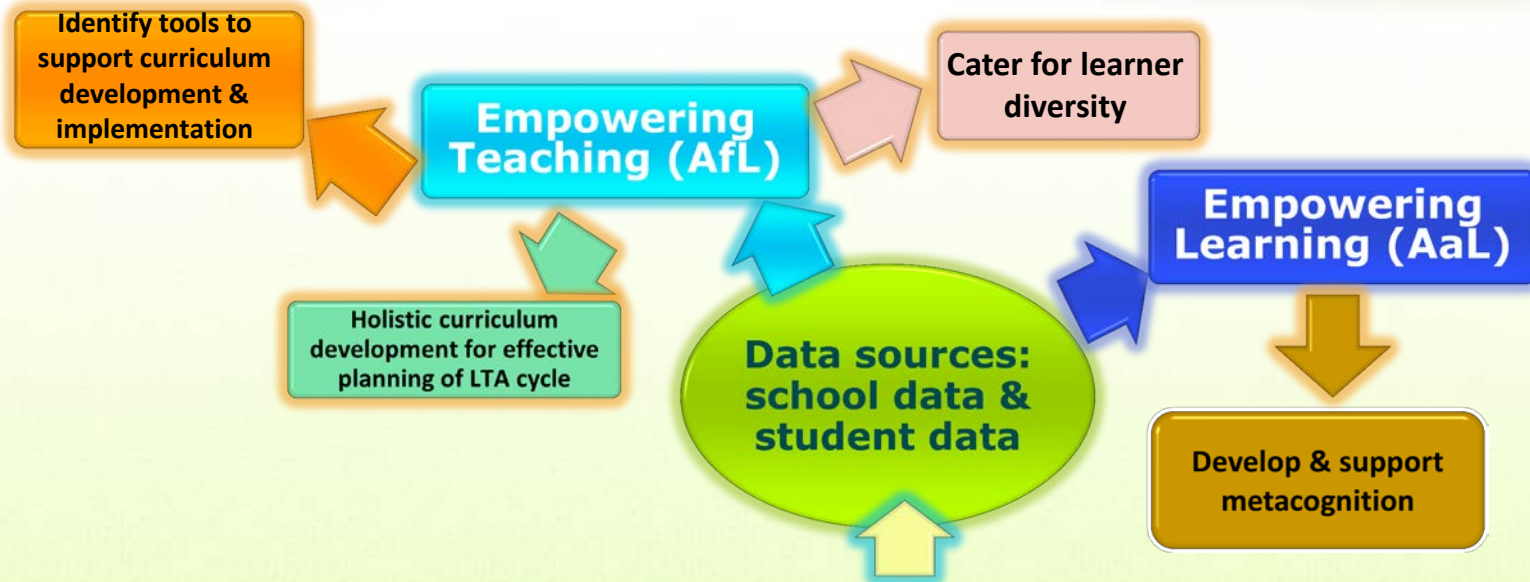




Part Two: Data Sources

= Connecting data sources for schools

Evidence-informed Instruction and Intervention



Professional capacity building – general & targetted

e.g. Professional development programmes, intensive school-based support, Quality Education Fund, Language Fund, NET Scheme, **University-**

Partnership project for Non-Chinese Speaking Students Learning Chinese as 2nd language

Part Two: Data Sources

– Connecting data sources for schools

Chinese Language Curriculum

Second Language Learning Framework



- Developed a systematic set of learning objectives that describes the learning progress of **Non-Chinese Speaking (NCS) students** at different learning stages
- **Developed assessment tools (with reference to TSA data)** for diagnosing the standards of NCS students for learning and teaching and informing choices for exit Chinese Language examination

(1.1) 1	(1.1) 2	(1.1) 3	(1.1) 4	(2.1) 1	(2.1) 2	(2.1) 3	(3.1) 1	(3.1) 2	(3.1) 3	(4.1) 1	(4.1) 2	(5.1) 1	(5.1) 2	(6.1) 1	(6.1) 2	(7.1) 1	(7.1) 2	(8.1) 1	(8.1) 2
------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------	------------

Progress in small steps

To set higher targets to raise learning aspiration

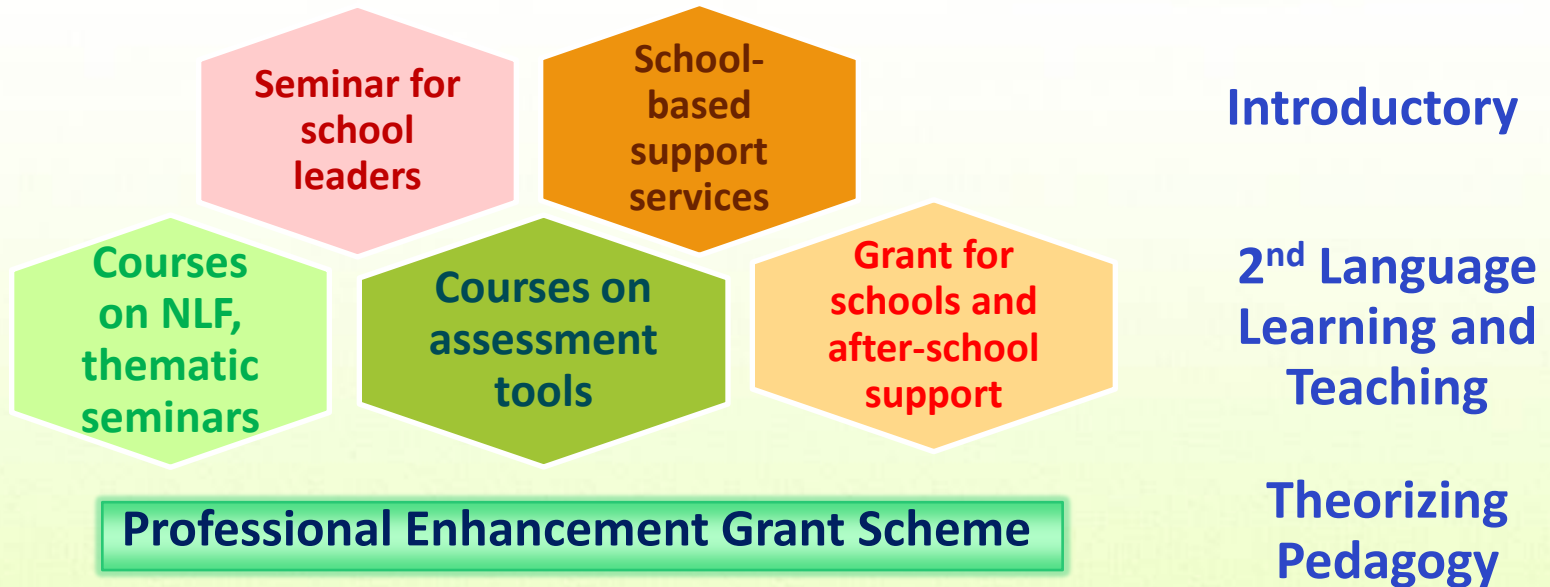




Part Two: Data Sources

– Connecting data sources for schools

Professional Development (NCS)



- Understand students' learning difficulties
- Set suitable learning targets and design modules (incl. pull-out classes)
- Help higher ability students to integrate into mainstream classes
- Raise aspiration for attaining Chinese qualifications (e.g. HKDSE, ApL(C), GCE(AL))

Learning progression of NCS
-The road to **SUCCESS**

HKDSE
(Chinese)



QF1-3
HKDSE ApL(C) "Attained"
"Attained with distinction"

Level 8

Level 7

HKDSE
Chinese

Level 6

Applied
Learning
Chinese
(for NCS)

Level 5

LPF
(mainstream)

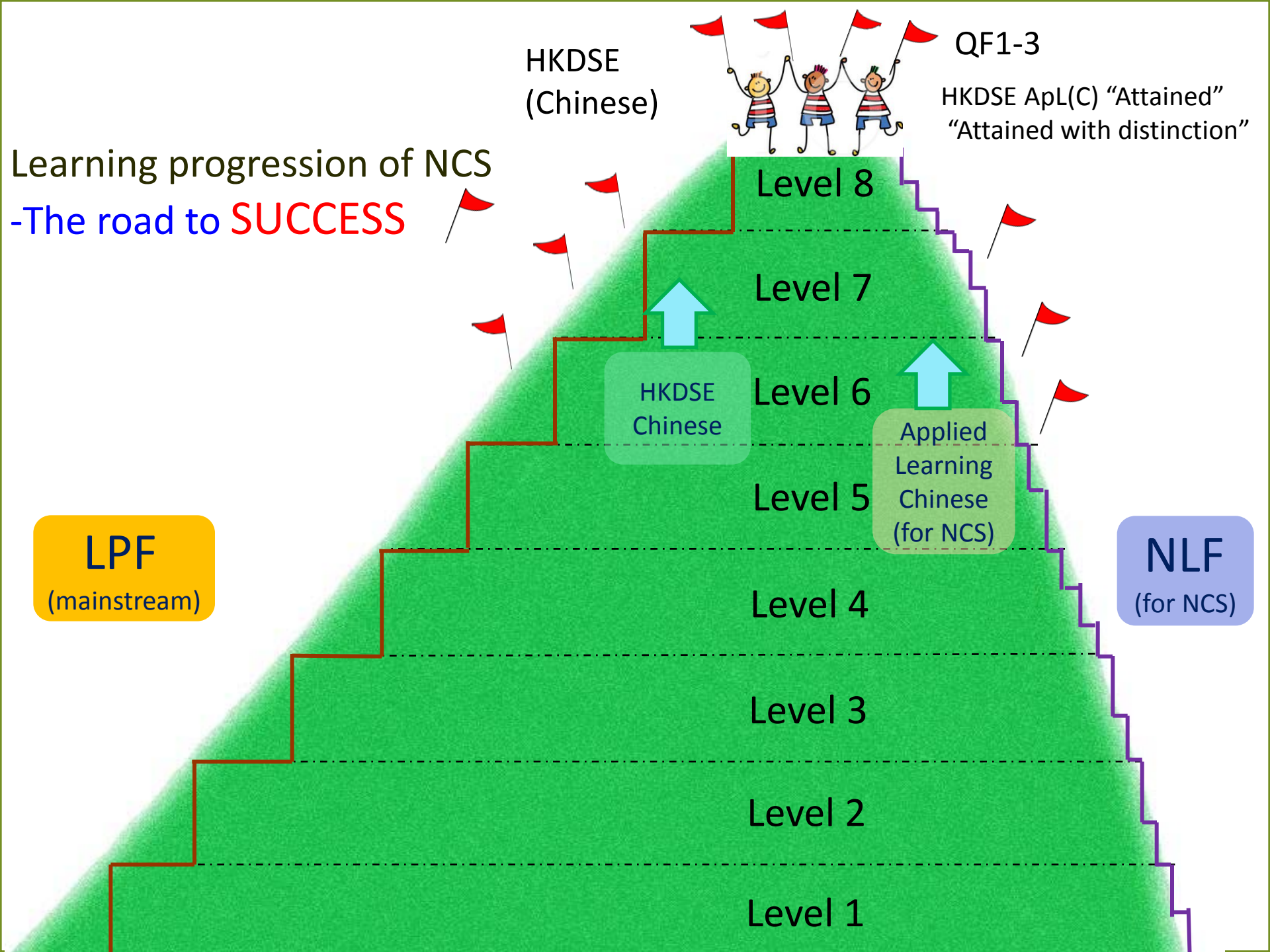
Level 4

NLF
(for NCS)

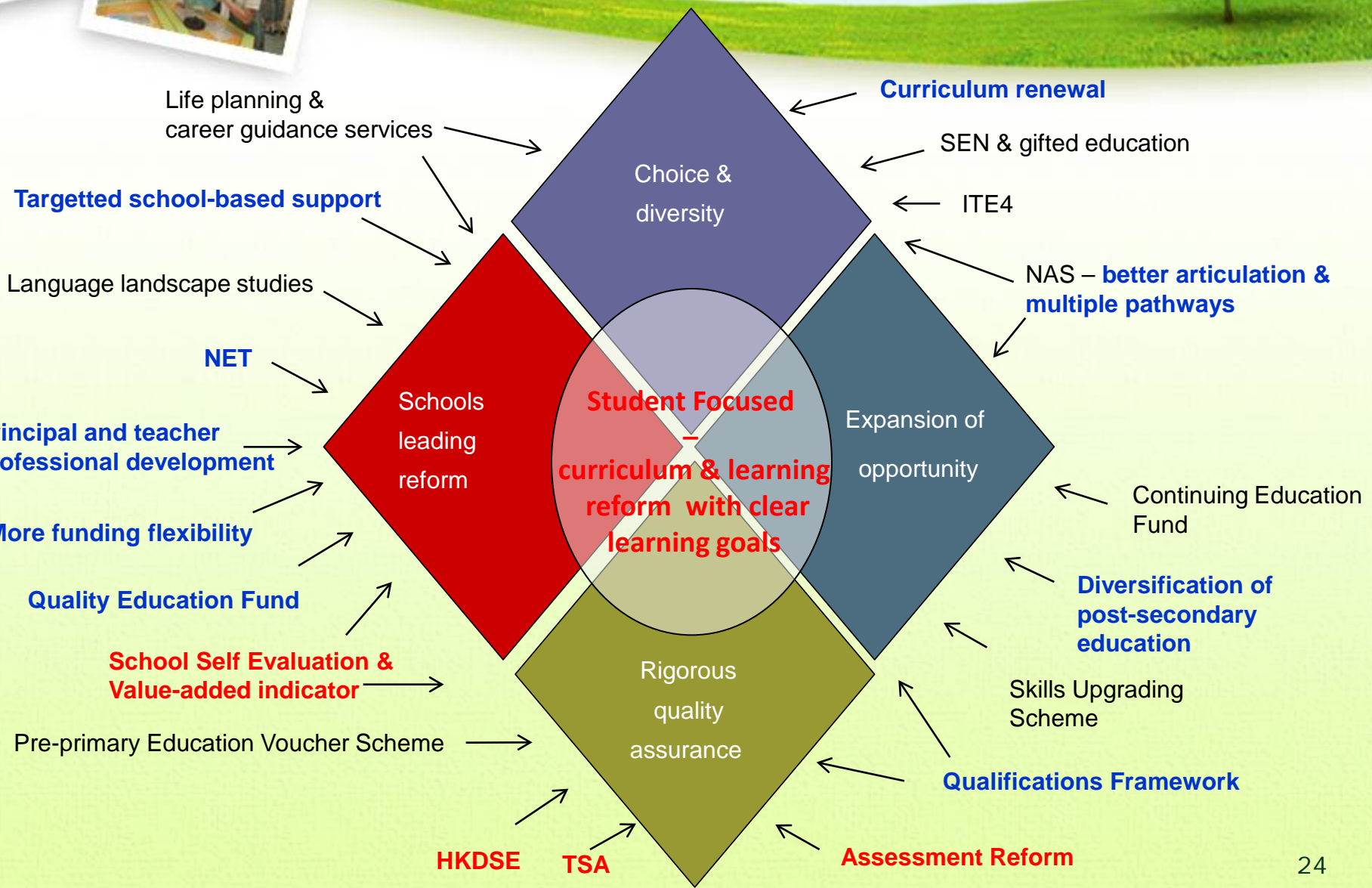
Level 3

Level 2

Level 1



Purpose and Data-Driven Practice for Improvement since 2000 – for whole-person development and life-long learning





Part Three

Challenges and Way Forward





Where are we now?

Collecting and using data to inform the implementation & review of *Learning to Learn 2.0*

Where do we wish to go?

Self-directed learning & life-long learning

Development of holistic thinking skills and other generic skills

Whole-person development

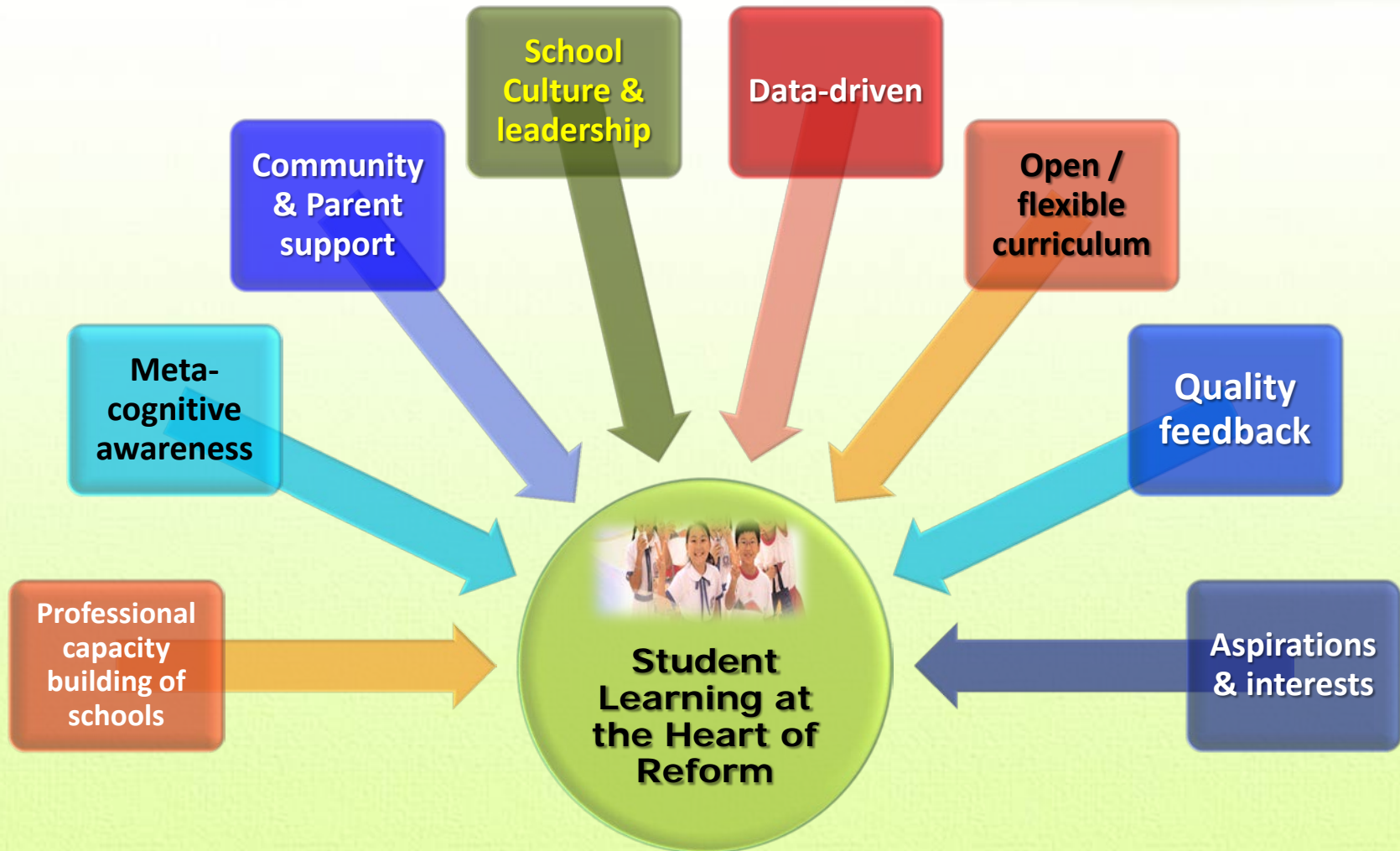
Impact of technology on pedagogy

Humanistic literacy, entrepreneurship, ...

How do we know we are there?

How do we get there?

BUILDING ON STRENGTHS MOVING FORWARD TO EXCEL





Thank You