

Seminar on Review of NSS Curriculum: Diversified Learning and Stretching Potentials

Geography



Catering for Diversity: where to start?

- From Mindset
- From Curriculum
- From Pedagogy
- From Assessment



Catering for Diversity: when to start

- What can be done from now to early September 2010?
 - *Reflect and reconsider the role of teacher in student learning (mindset)*
 - *Restructure the teaching schedule to enable student to start easy (curriculum)*
 - *Add one or two pedagogical strategies to a few units to make an easy start (pedagogy)*



Catering for Diversity: What next? (1)

- 8 October 2010 and following weeks:
Induction course for PSHE coordinators, subject panel heads and teachers
 - Curriculum planning
 - Knowledge and understanding: progression and sequencing for secondary school Geography
 - Special workshops for schools adopting integrated curriculum mode



Catering for Diversity: What next? (2)

- December 2010 onwards: *Course on Assessment for Learning*
 - Assessment for learning framework
 - Catering for diversity strategies for classroom activities, homework assignments, tests and quizzes, examinations
 - Graded standards / learning outcomes



Catering for Diversity: What next? (3)

- January 2011 onwards
 - *Workshops on learning and teaching of Geography*
 - Writing skills
 - Map skills
 - Fieldwork skills
 - *Courses on Higher-order Thinking in Geography*
 - Analytical skills



Mindset

- Diversity is NORM
 - Narrowing gap not necessary
 - ‘Touch Base’ guarantee
- Taught = Learnt ?
- Complete teaching schedule on time vs Ensure effective learning
- Simple is Beauty
- No ‘BIG’ deal! – bit by bit



Catering for diversity ...

- is NOT a set of strategies ...
- is a way of thinking about teaching & learning



Teacher Mindset

Fixed

- Success comes from being smart
- Genetics, environment determine what we can do
- Some kids are smart-some aren't
- Teachers can't override students' profiles

Growth

- Success comes from effort
- With hard work, most students can do most things
- Teachers can override students' profiles
- A key role of teacher is to set high goals, provide high support, ensure student focus



Mindset



Connections

Teachers must connect with all students in an effort to teach them well...

Arthur G. Powell

Connecting with your students...

- Talk at the door
- Early interest assessment
- Small group instruction
- Dialogue journals
- Ask for student input
- Student-led discussions
- Share your won stories
- Listen
- Seek varied perspectives
- Go to student events
- Watch before & after school, at lunch
- Keep student data cards
- Take notes during class
- ...

Source: Dr. Carol Tomlinson (2010)





Working like colleagues

Fair as each student getting what he/she needs to succeed

Establish a responsive classroom...

Source: Dr. Carol Tomlinson (2010)

Each student's need for a "next" step

Responsibility for own growth

Competition against self (vs. others)

Belief: We win or lose together

Enables students to work as a team



Curriculum

- Ensuring every student to attain the 'baseline' by better planning
- Planning for progression, sequencing and cohesion
- Six years, one curriculum (六年一貫): start planning in S1



Dimension of progression

- Sequence
 - *Some topics depend on prior knowledge, so should follow the topics that teach that knowledge*
 - Global climatic pattern \Rightarrow climate change
- Distance from experience
 - *Topics on which students have no direct or indirect experience should be taught later*
 - HK urban problems \Rightarrow urban problems in Chinese cities \Rightarrow urban problems in World cities



Dimension of progression

- Complexity
 - *More complex topics should be taught later*
 - Farming characteristics ⇒ Agricultural problems ⇒ Global food supply problems
- Abstraction
 - *A progression from concepts like association to generalisation, cause and effect, model and theory*
 - Global pattern of natural hazards ⇒ Plate tectonics



Dimension of progression

- Broadening
 - *Progressively adding new ways of understanding and explaining*
 - Sustainable urban development:
pollution control ⇒ landuse conflict
⇒ conservation ⇒ economic
consideration ⇒ political consensus



Exemplar on curriculum planning

- S1-3 Geography
 - Teach less; Learn more
 - Focused
 - Knowledge and understanding
 - Map skills
 - Distance from experience
 - HK ⇔ China ⇔ World
 - Progression
 - S1-3 TRF: location, causes and effects of deforestation, strategies for saving TRF
 - S4-6 TRF: ecosystem, case studies, economic development vs conservation



Exemplar on curriculum planning

- S4-6 Geography
 - Prior knowledge and skills developed in JS, thus faster schedule in S.4 (**early start**)
 - Progressive approach: from urban to physical, from nearby issues to regional or global issues (**easy start**)
 - Facilitate the implementation of SBA: easier to get field work ideas from human geog topics
 - Skill training: focus on DBQ & MCQ in F.4 1st term , essay writing & MCQ in F.4 2nd term



Pedagogy

- Differentiated instructions
 - RAFT
 - Learning contract
- Collaborative group/paired learning
- Scaffolding
- Assessment for Learning



RAFT

<u>Role</u>	<u>Audience</u>	<u>Format</u>	<u>Topic</u>

You may suggest your own RAFT assignment.

Learning contracts & Menus

- Format
- Precise directions
- Due date

Electives /
Choose to Do

- Main Dish
- Side Dish
- Dessert

Compulsory /
Must Do

Optional



Linear Style Contract Sample

Geography – Reading Contract

Due date: _____

Essential questions: _____

Contract Procedure:

1. (Whole class) Review essential questions and complete ...
2. (Group) Read your article together as a group...
3. (Individual) In your notebook, complete ...
4. (Group or Whole class) Be prepared to lead a class discussion on the information you learned, using the essential questions as your guide.

I understand the assignment & my individual responsibilities. I will complete the contract to the best of my ability.

Student signature & date:



Collaborative Learning

「同儕的協作學習，往往能幫助他們消除挫敗感，促進求知欲，激發他們的學習動機」

(課程發展議會，2001，頁71)



原則：

- 分組—須刻意安排，四人組
(高中中低)

- 角色/責任— 組長
風紀
文書
物流



- 全組達標方能晉級



The background features a grid pattern over a map of a region, with a compass in the bottom-left corner. The compass shows cardinal directions (N, NE, E, SE, S, SW, W, NW) and degree markings.

- 課題—地圖閱讀（河流距離、河盆面積、河網密度）

- 前測
- 指導全組
- think/
pair/share
- 小測
- 全組達標
- 晉階

河流距離

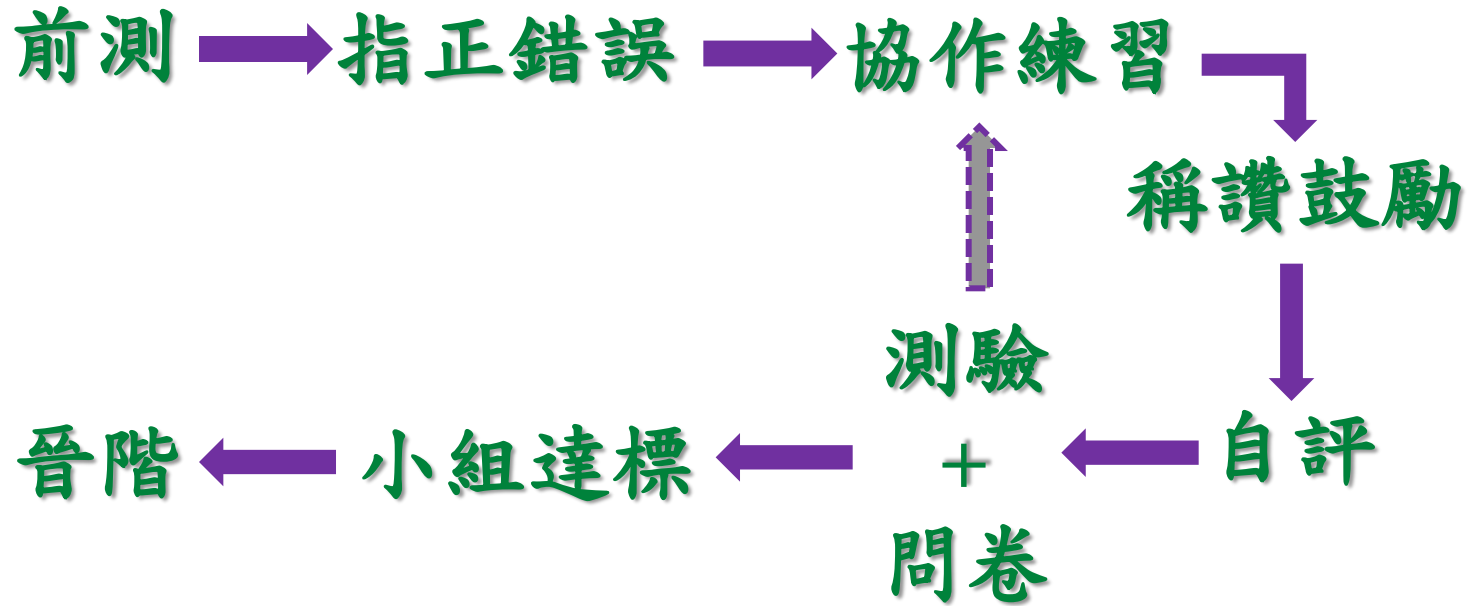
河盆面積

- 前測
- 指導
小導師
- 小導師
教導組員
- 小測
- 全組達標
- 晉階


- think/
pair/share
- 小測
- 全組達標
- 完成任務

河網密度

施行步驟



Experience Sharing : Catering for learning diversity – A ‘puzzle’ approach



因時制宜

因地制宜

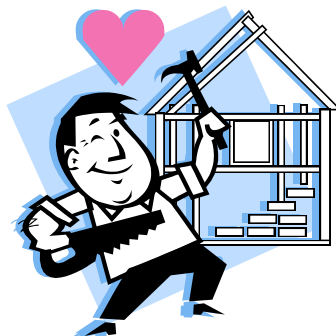
因人而異

各取所需

成就

心

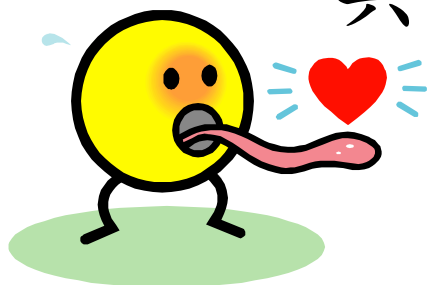
Willing to learn



力

Able to learn

學習差異



有心有力

無心有力

有心無力

無心無力

自動波，唔駛理？

M.I. - Mission Impossible?

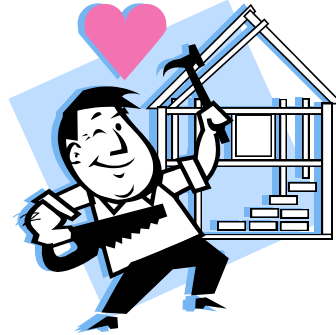
從「無」到「有」
從「有」到「超有」

無咗波，無得理？

成就

心

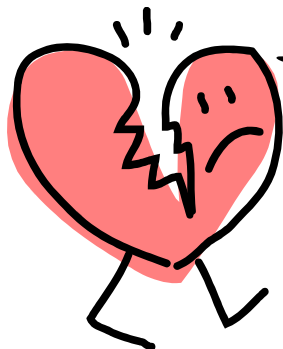
Willing to learn



力

Able to learn

學習差異



勞心勞力

無氣無力

盡心盡力

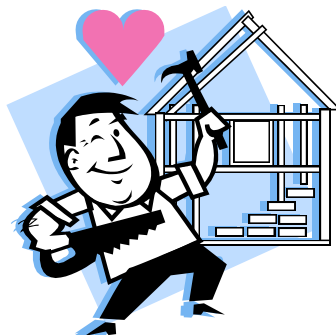
M.I. - Mission Impossible?

從「無」到「有」
從「有」到「超有」

成就

心

Willing to learn



力

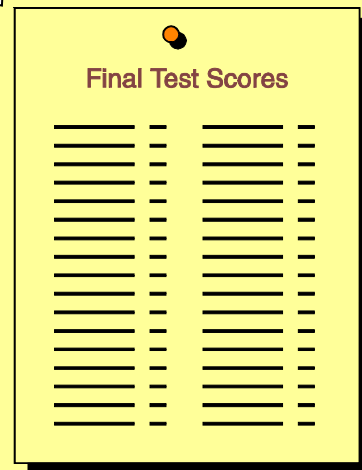
Able to learn

設計



教學

規劃

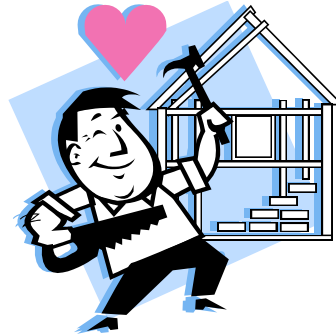


宏觀

成就

心

Willing to learn



力

Able to learn

學習興趣

-我想/要做

成就感

-我可/能做

學習能力

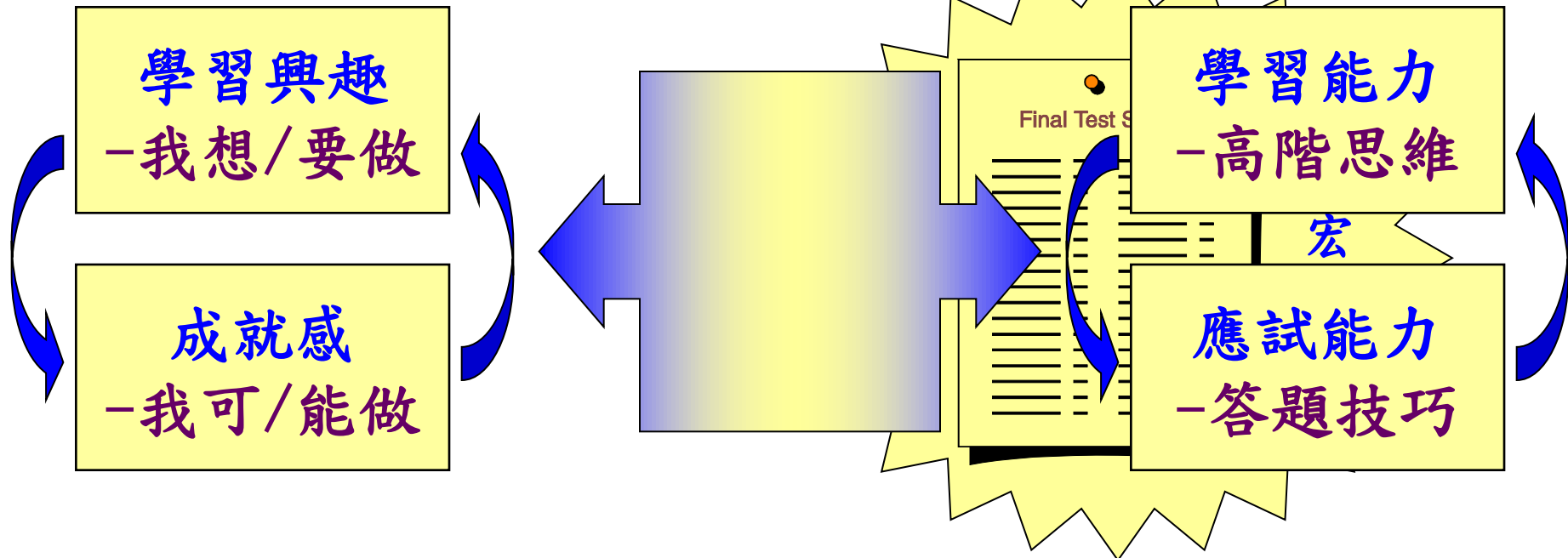
-高階思維

宏

應試能力

-答題技巧

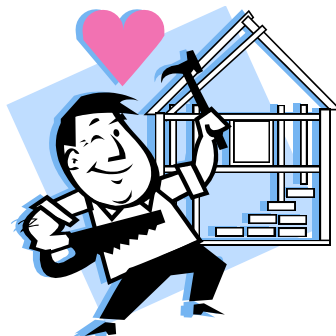
Final Test S



成就

心

Willing to learn



力

Able to learn

學習興趣

-我想/要做

成就感

-我可/能做

微觀

課堂安排

工作紙/
作業設計

學習能力

-高階思維

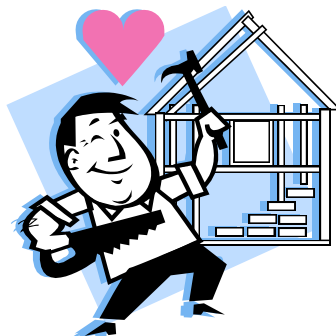
應試能力

-答題技巧

成就

心

Willing to learn



力

Able to learn

學習興趣

-我想/要做

成就感

-我可/能做

宏觀

課程規劃

評估促進學習

小組導修 -
因材施教

學習能力

-高階思維

應試能力

-答題技巧

宏觀規劃 – A ‘puzzle’ approach



宏觀規劃 – A ‘puzzle’ approach

課程規劃

評估促進學習

小組導修因材施教

- 初中為基礎，循序漸進
- 反映學習能力，不斷改進
- 拔尖保底，應試培訓，提升成績



宏觀規劃 – A ‘puzzle’ approach

課程規劃

評估促進學習

小組導修因材施教

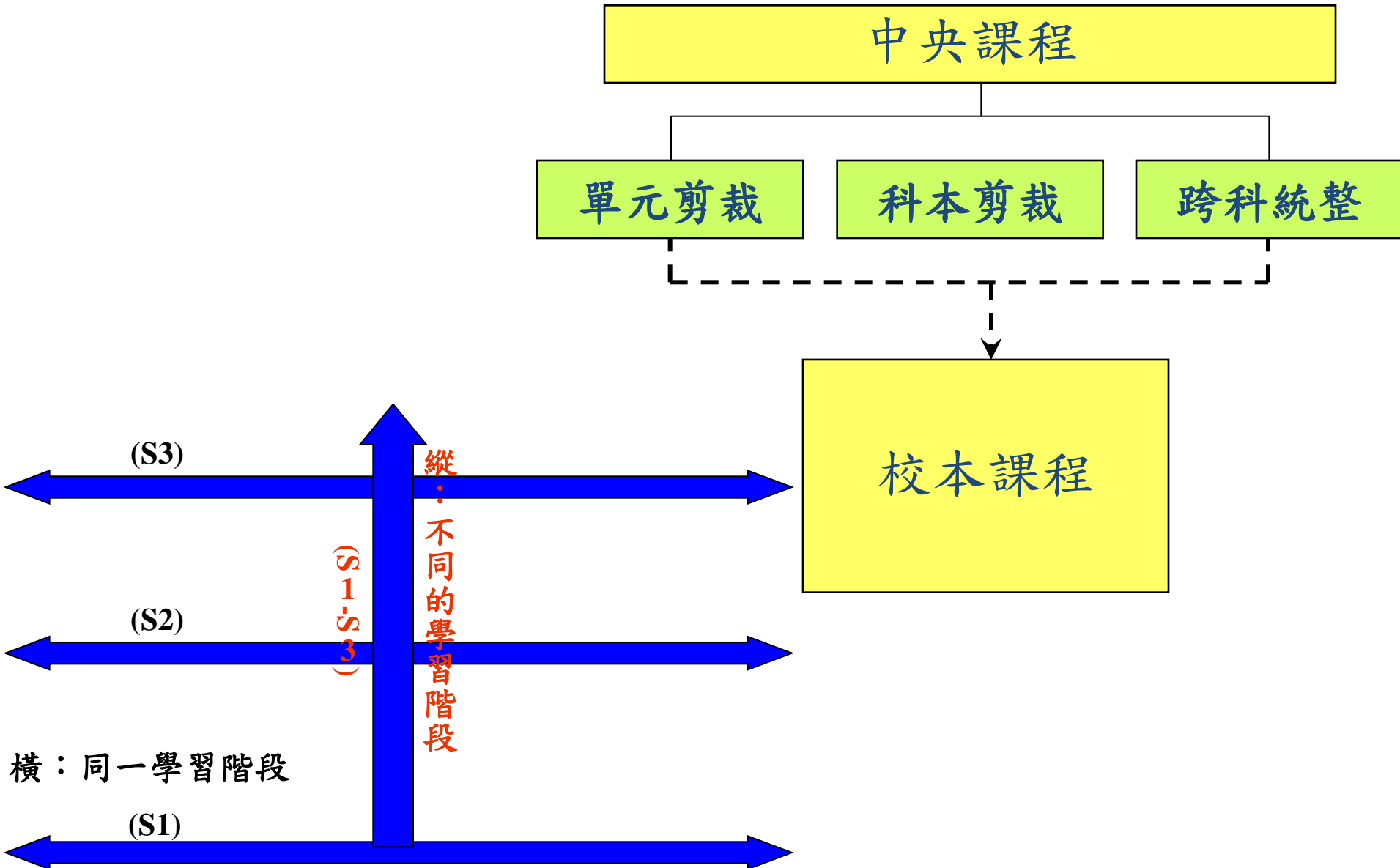
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課程規劃概念



中一地理課程 (MCDH)

議題一：何處覓安居？

- 地理學甚麼？ - 區位
- 如何學地理？

- 課程核心
- 學習方法
- 地理決策

議題二：土地之爭

- 市區有哪些主要的土地用途？
- 為甚麼中環有那麼多商業區？
- 住宅區應否鄰近工業區？

- 基礎知識
- 現象解釋
- + 地理決策

議題三：解決城市問題

- 香港有哪些城市問題？
- 怎樣解決香港的城市問題？

- 基礎知識
- 解難能力

議題四：我們的工廠遷往哪裏？

- 甚麼是製造業？
- 香港的主要工業區在哪裏？
- 為甚麼這麼多工廠遷到南中國？
- 工廠遷移對香港和南中國有何影響？

- 基礎知識
- 基礎知識
- 現象解釋
- + 地理決策
- 分析推理

議題五：城市-遷出？遷入？

- 甚麼是城市？
- 為甚麼這麼多人遷入城市？
- 香港的城市發展是怎樣？

- 基礎知識
- 現象解釋
- + 地理決策

議題六：我們在哪裏？

- 如何閱讀地圖？
- 如何在地圖中找出某地的位置？
- 香港在哪裏？

- 技能訓練

中二地理課程 (MCDH)

議題一：氾濫成災

- 水從哪裏來？
- 這都是自然界的問題嗎
- 如何控制氾濫？

- 基礎知識
- 現象解釋
- 解難能力

議題二：斜坡倒塌

- 甚麼是斜坡災害？
- 為甚斜坡會倒塌？
- 如何防止斜坡倒塌？

- 基礎知識
- 現象解釋
- 解難能力

議題三：天氣與氣候

- 為甚麼氾濫和斜坡災害經常在夏季出現？
- 世界的氣候是否在轉變
- 怎麼辦？

- 現象解釋
- 解難能力

議題四：不穩定的地球

- 我們的地球穩定嗎？
- 地震會造成甚麼後果？
- 為甚麼會發生地震？
- 如何減低地震造成的破壞

- 基礎知識
- 現象解釋
- 解難能力

議題五：「耕」不得其法？

- 我們怎樣耕作？
- 科學化耕作方法可以怎樣題？
- 如何解決科學化耕作方法造成的問題？

- 基礎知識
- 解難能力

議題六：太多與太少？

- 為甚麼中國大多數人都擁擠
- 如何紓緩中國東部的人口

- 現象解釋
- 解難能力

中三地理課程 (MCDH)

議題一：富與貧

- 誰富誰貧？
- 富國應否援助窮國？

- 基礎知識
- 批判思考

議題二：救救熱帶雨林

- 熱帶雨林在哪裏？
- 熱帶雨林出現甚麼問題
- 怎樣善用熱帶雨林？

- 基礎知識
- 現象解釋
- 解難能力
+ 批判思考

議題三：天地有「淨」氣？

- 我們的空氣清新嗎？
- 誰要對空氣污染負責？
- 解決空氣污染問題時會

- 基礎知識
- 現象解釋
- 解難能力
+ 批判思考

議題四：爭取能源

- 中國的能源在哪裏？
- 我們面對甚麼能源問題？
- 我們可以做些甚麼？
- 核能是可行的解決方法嗎？

- 基礎知識
- 現象解釋
- 解難能力
+ 批判思考

議題五：香港和珠三角 - 合作與競爭

- 珠三角在哪裏？
- 珠三角近年的經濟發展有甚麼特點？
- 珠三角的發展對香港是利是弊？

- 基礎知識
- 批判思考

課程規劃概念

• 學科精髓 核心概念

- 知識為基
- 能力訓練

- 初中能力
- 高中基礎

• 適切活動 建構知識

- 因材施教
- 適當剪裁

- 循序漸進
- 由淺入深
- 定時重溫

• 鞏固練習 總結評估

- 組織思維 建構鷹架
- 文無定格 靈活發揮

- 論點清晰
- 論述邏輯
- 論據例證
- 結論回應

宏觀規劃 – A ‘puzzle’ approach

課程規劃

評估促進學習

小組導修因材施教

- 初中為基礎，循序漸進

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- 拔尖保底，應試培訓，提升成績



評估理念



- 如實反映學生的能力
- 查找不足，對症下藥
- 調適教學，促進學習
- 循序漸進，逐步提升要求
- 提高成就感，培養學習興趣，主動爭取

「求學不是求分數」；考試必要求分數

- 按學習能力範疇進行評估 (初中)
- 成績預期，激勵士氣 (高中)



如何更有效利用評估促進學習？

-如何為考試成績進行質性分析，以提升學習效能？

- 步驟

1. 分析課程，找出學習重點 (知識/學習能力)

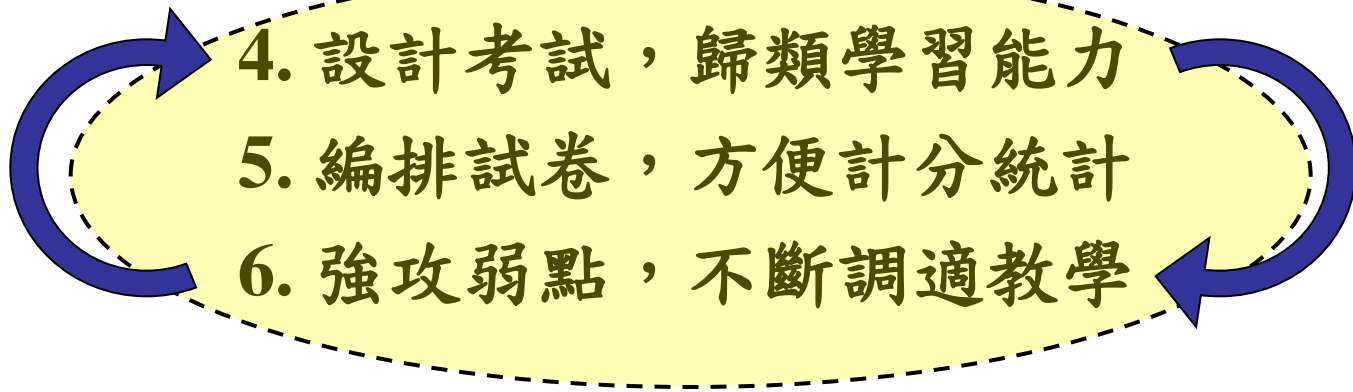
2. 針對目標，設計學習活動

3. 日常教學，~~互動靈活變通~~

4. 設計考試，歸類學習能力

5. 編排試卷，方便計分統計

6. 強攻弱點，不斷調適教學



如何更有效利用評估促進學習？

-如何為考試成績進行質性分析，以提升學習效能？

- 設計考試，歸類學習能力
- 編排試卷，方便計分統計

例一：中三地理 09-10 年終試

a 知識記誦	b 資料理解	c 資料應用	d 資料分析	e 資料評鑑
/44	/9	/15	/20	/12

擬卷大綱

試卷

答題紙

成績統計表(09-10)

成績統計表(08-09)

中三級 年終試成績統計 - 百分比 (08-09)

	能力範疇					總分 (%)
	a	b	c	d	e	
總分 (%)	2%	30%	13%	28%	21%	100%
3A	87.5%	57.3%	35.8%	32.5%	27.1%	43.0%
3B	79.8%	55.9%	39.4%	28.1%	28.0%	41.5%
3C	83.3%	54.3%	34.6%	29.6%	29.0%	40.4%
3D	97.4%	72.3%	49.2%	44.6%	32.8%	54.1%
3E	97.8%	67.8%	48.5%	46.6%	45.5%	51.2%
S3	89.2%	61.5%	41.5%	36.3%	32.5%	46.0%

中三級 年終試成績統計 - 百分比 (09-10)

	能力範疇					總分 (%)
	a	b	c	d	e	
總分 (%)	44%	9%	15%	20%	12%	100%
3A	60.9%	57.8%	31.4%	45.1%	23.0%	48.5%
3B	64.6%	65.6%	40.8%	43.8%	33.5%	53.2%
3C	65.6%	69.8%	44.4%	46.3%	29.7%	54.6%
3D	71.5%	71.7%	53.8%	49.3%	34.8%	60.0%
3E	75.3%	78.1%	53.9%	59.6%	44.7%	65.5%
S3	67.6%	68.6%	44.9%	48.8%	33.1%	56.4%

評估：成績預期，激勵學習

- 步驟

1. 統計中四全年成績、中五畢業試成績
2. 配對會考成績
3. 根據會考等級，計算校內成績的平均得分
4. 在不同階段作會考成績預期，提供目標
5. 訂定提升成績策略(例如小組導修等)



宏觀規劃 – A ‘puzzle’ approach

課程規劃

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- 反映學習能力，不斷改進

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提升成績

小組導修因材施教

- 步驟

1. 中四下學期：

全班分組 (每組5-6人) – 一視同仁

明確目標，清晰要求 – 下年分組準則

2. 中五全年：

拔尖組 / 及格組 – 提升自信

3. 畢業試後：

試卷操練 – 重點重溫，提升成績

小組導修因材施教

	合格人數	參與導修課		沒有參與導修課	
		總合格人數	提升至合格 成績人數	總合格人數	提升至合格 成績人數
預期成績	11 (26.2%)	8		3	
會考成績	24 (61.5%)	20	12	4*	2

*1位同學由預期合格變成不合格。

References -

Differentiated Instruction (DI)

Differentiation Central

**(Institutes on Academic Diversity,
Curry School of Education,
University of Virginia)**

<http://www.diffcentral.com>



Making change happen ...

- Shared vision among staff
 - It is our responsibility as teachers to make sure that every student in our school is learning & growing.
- Working for change first among those who are willing to take a risk
 - extra time, difficulty ...
- Starting “small”
- Resources (e.g. for differentiating reading sources)
 - library, sample books, books from students & their families



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