

How to organize NSS Geography students to conduct Enquiry-based Fieldwork – Practical experience & examples?

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可觀自然教育中心暨天文館



香港地理學會
HK Geog Assoc

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Presentation Outline

- | | |
|--|--|
| (A) What is fieldwork? | •Clement Cheng |
| (B) Conceptual framework of geographical enquiry fieldwork | •Clement Cheng |
| (C) How to actualize enquiry fieldwork? | •Cliff Lo |
| (D) Wrapping up and Q-&-A | •Clement Cheng
•Cliff Lo
•Micah Kwok
•Anthony Yeung |



What is fieldwork?

“Geography without fieldwork is like science without experiments; the ‘field’ is the geographer’s laboratory where learners experience first hand information related to landscapes, places, people and issues, and where they can learn and practice geographical skills in a REAL environment (真實環境).”

(After Bland, Chambers, Donert & Thomas, 1996:165)



What is “real environment”?

A spectrum of Fieldwork Locations for Geography

- School grounds
- School environments
- Local region
- Wider region
- Distant locality
- Overseas



Foskett (1997) p. 192



Is fieldwork the monopoly of Geography?

長洲岩岸考察

西貢國家地質公園考察

中環土地利用研究

西九龍屏風樓之影響

重慶大廈看香港少數族裔

鳳姐生活剖析

???



Is fieldwork the monopoly of Geography?

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重慶大橋看香港少數族裔

鳳姐現象分析

???



Geography Fieldwork

- 長洲岩岸考察
- 西貢國家地質公園考察
- 中環土地利用研究
- 西九龍屏風樓之影響



Why??



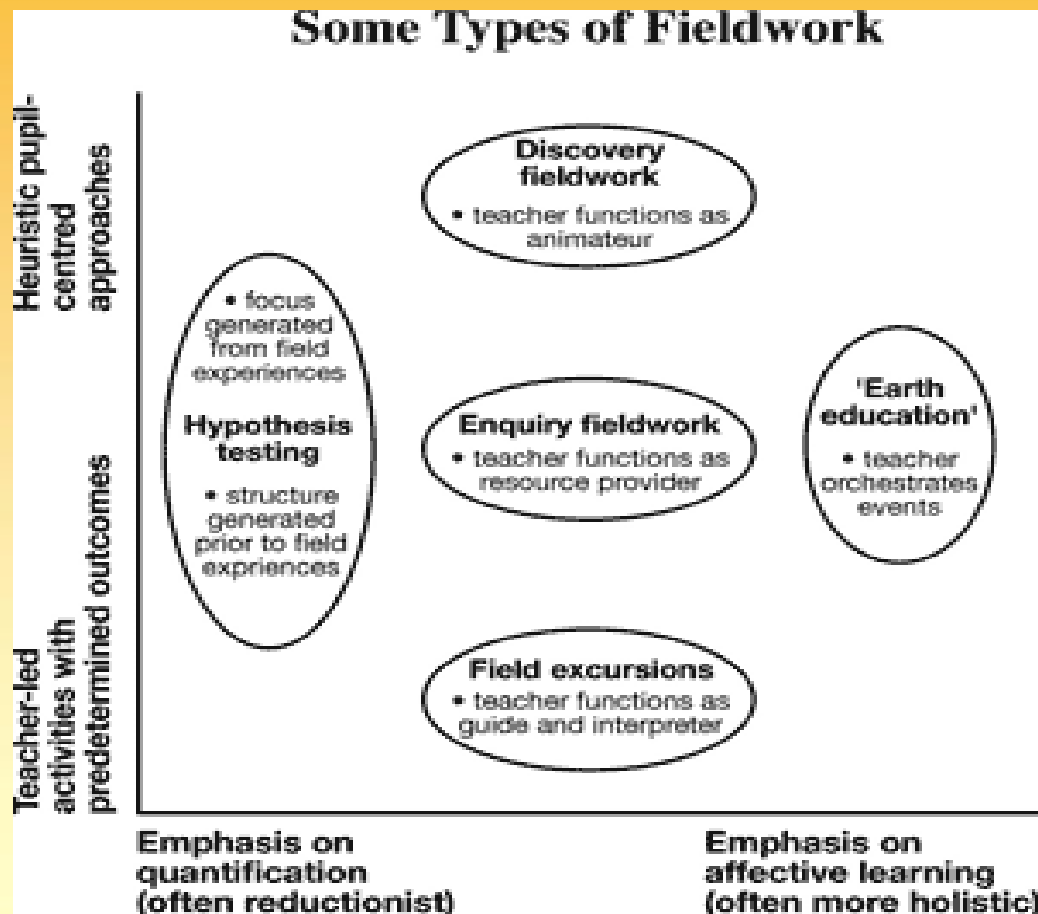
Features of Geography Fieldwork

- Spatial context (空間概念)
 - Spatial diffusion (空間散播)
 - Spatial interaction (空間互動)
 - Spatial distribution (空間分佈)
- Man-land relationship (人地關係)
- Specific geographical concepts
- Geographic skills (e.g. map skills)



Geography Fieldwork 地理考察

- 長洲岩岸考察
- 西貢國家地質公園考察
- 中環土地利用研究
- 西九龍屏風樓之影響



(Lambert. & Balderstone, 2000:27)



Geography Fieldwork 地理考察

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導賞式
(guided tour)

探究式
(enquiry)

Any difference?



Paradigm Shift of Fieldwork

- From guided tour to enquiry
- From observation to participation
- From dependent to autonomous
- From passive to active
- From knowledge-based to skill-based
- From knowledge transmissioner to facilitator

(After Kent et al., 1997)



Final Remarks

How do a meteorologist and
a geographer understand
weather and climate?



Primitive equations - Wikipedia, the free encyclopedia - Windows Internet Explorer

W http://en.wikipedia.org/wiki/Primitive_equations

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Google weather forecast model Search More >>

bing

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W Primitive equations - Wikipedia, the free encyc...

- ρ is the **mean** now per unit time per unit mass
- W is the precipitable water
- Π is the Exner function
- θ is the potential temperature

Forces that cause atmospheric motion [edit]

Forces that cause atmospheric motion include the **pressure gradient** force, **gravity**, and **viscous friction**. Together, they create the forces that accelerate our atmosphere.

The pressure gradient force causes an acceleration forcing air from regions of high pressure to regions of low pressure. Mathematically, this can be written as:

$$\frac{f}{m} = \frac{1}{\rho} \frac{dp}{dx}.$$

The gravitational force accelerates objects at approximately 9.81 m/s^2 directly towards the center of the Earth.

The force due to viscous friction can be approximated as:

$$f_r = \frac{f}{a} \frac{1}{\rho} (\nabla \cdot (\mu \nabla v) + \nabla (\lambda \nabla \cdot v)).$$

Using Newton's second law, these forces (referenced in the equations above as the accelerations due to these forces) may be summed to produce an equation of motion that describes this system. This equation can be written in the form:

$$\frac{dv}{dt} = -(1/\rho) \nabla p - g(r/r) + f_r$$

$$g = g_e.$$

Therefore, to complete the system of equations and obtain 6 equations and 6 variables:

- $\frac{dv}{dt} = -(1/\rho) \nabla p - g(r/r) + (1/\rho) [\nabla \cdot (\mu \nabla v) + \nabla (\lambda \nabla \cdot v)]$
- $c_v \frac{dT}{dt} + p \frac{d\alpha}{dt} = q + f$
- $\frac{d\rho}{dt} + \rho \nabla \cdot v = 0$
- $p = \rho R T.$

完成 網路網路 | 受保護模式: 啟動 100% 22:08 29/11/2011

http://en.wikipedia.org/wiki/Primitive_equations



香港中文大學地理及資源管理系

課程：氣候、能源與生命

1. 氣候 - 生命的氣息
2. 生命 - 能量的流動
3. 流動 - 自然的循環
4. 冰河 - 人性的塑造
5. 氣候 - 生物的分布
6. 溫暖 - 農牧的出現
7. 豐裕 - 文明的福禍
8. 波動 - 歷史的軌跡
9. 季風 - 帝國的助力
10. 煤油 - 燃燒的時代
11. 巨變 - 人為的氣候
12. 危機 - 自然的失衡
13. 中國 - 艱難的巨人
14. 未來 - 應對的選擇



講師林超英榮譽教授



Other Sharing



3



3 letters





3 3 4



D S E



IES



S B A



Enquiry Fieldwork = SBA



Enquiry Fieldwork = ?BA



Enquiry Fieldwork ~~=~~ SBA



How to actualize enquiry fieldwork? (Experience Sharing)



- What
- Where
- When
- How
- Why
- and so...



- What
- Where
- When
- How
- Why
- and so...

- Title Setting
- Field Site Selection
- Data Collection
- Data Collection
- Analysis & Interpretation
- Conclusion & Evaluation



- What
- Where
- When
- How
- Why
- and so...

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- Title Setting
- Field Site Selection
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Title Setting

Subject Relevant



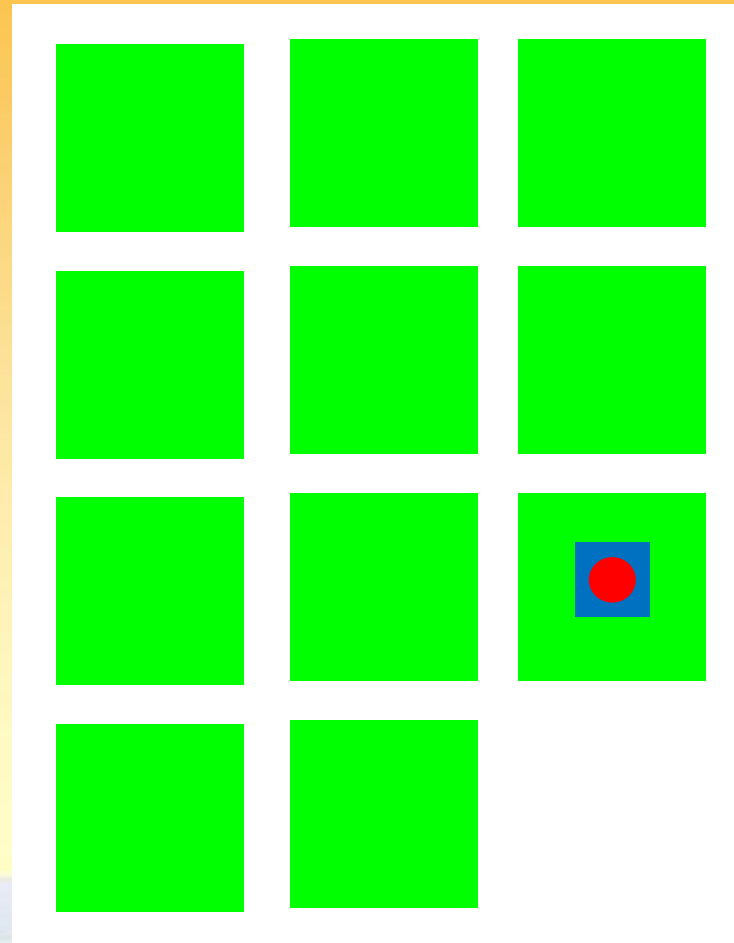
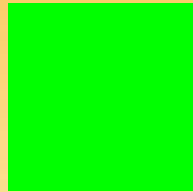
Title Setting

Curriculum

Topic

Title

Objectives



Title Setting

Opportunities and Risks

Managing River and Coastal
Environments

Changing Industrial Location

Building a Sustainable City

Combating Famine

Disappearing Green Canopy

Global Warming

Weather and Climate

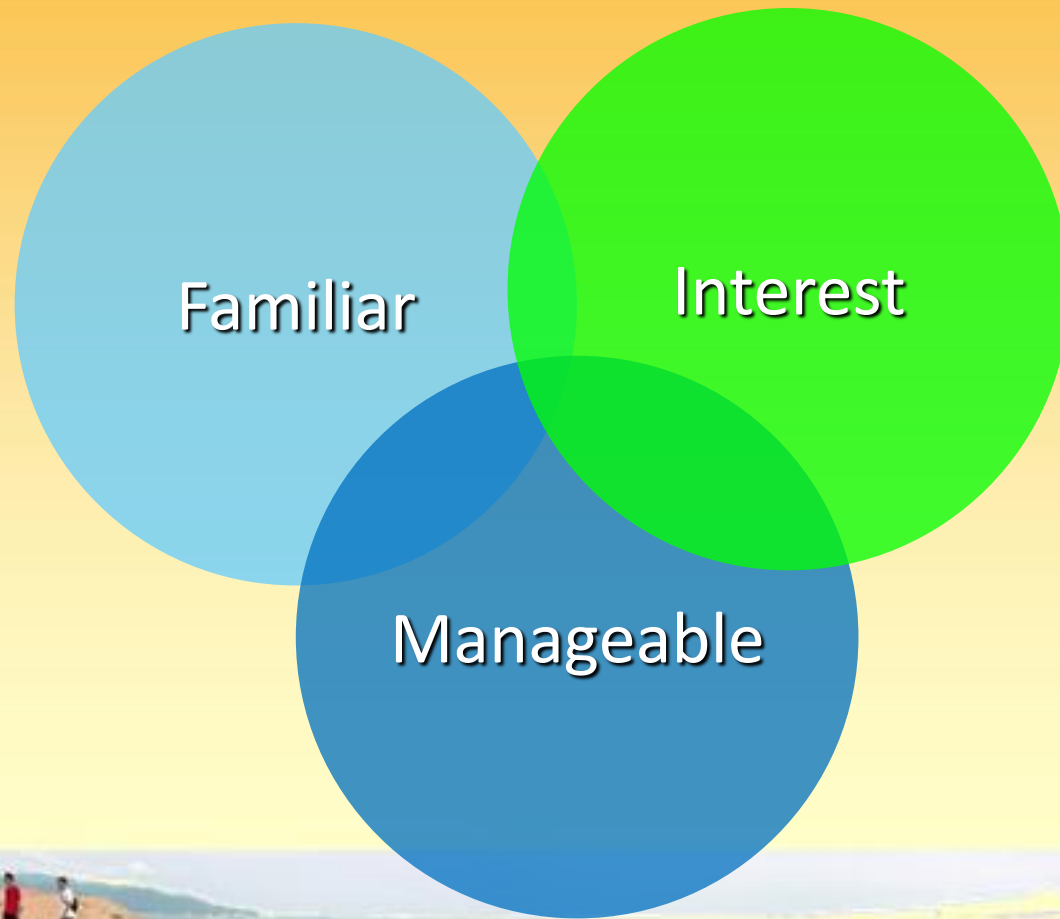
Dynamic Earth

Transport

Regional Study of Zhujiang Delta



Title Setting



Title Setting

- Concepts
- Mind Map
- References
- Objectives



Title Setting

- Concepts
 - Mind Map
 - References
 - Objectives
- e.g. land use conflicts, urbanization, etc.
 - interrelationship
 - e.g. bid rent mechanism, models, etc.
 - guidelines for data collection



Field Site Selection

Possibility & Familiarity



Field Site Selection

Possibility & Familiarity

Pre-trip



Data Collection

- Boundary
- Target variable(s)
- Qualitative vs Quantitative
- Sampling
- Accuracy & Precision
- Primary & Secondary Data



Analysis & Interpretation

- Graphs
- Diagrams
- Maps
- Statistics, etc.



Conclusion

Conclusion **vs** Summary



Evaluation

Limitations **vs** Difficulties



TITLE SETTING



CONCLUSION

**FIELD SITE
SELECTION**



DATA COLLECTION



TITLE SETTING

CONCLUSION

**FIELD SITE
SELECTION**

DATA COLLECTION



Wrapping Up

- Fieldwork in Geography → **ESSENTIAL**
- Geography Fieldwork → **GEOGRAPHY / SPATIAL CONCEPTS**
- NSS Geography Fieldwork → NSS Geography Curriculum related



Wrapping Up

- NSS Geography Fieldwork → NSS Geography Curriculum related
- NSS Geography Fieldwork → Enquiry-based
- SBA Fieldwork → Enquiry-based
- NSS Geography Fieldwork → = ≠ SBA Fieldwork
- There are various types of enquiry!



Wrapping Up

- Fieldwork in NSS Geog → ESSENTIAL
- NSS Geog Fieldwork → ≠ SBA Fieldwork
- NSS Geog Fieldwork → HELPFUL in pen-and-paper public examination
- NSS Geog Fieldwork → Support for teachers needed
- **There are various supports for teachers!**



Wrapping Up

- **There are various supports for teachers!**
- Resources from CDI (Geography Section), EDB
- Field Studies Centres in Hong Kong → Various types of NSS Geog Fieldworks of different durations for students of different abilities (≠ SBA Fieldwork)



Fieldwork is ENJOYABLE



Holistic experience!

**Students should never forget the
challenging & enjoyable
fieldwork.**



A scenic photograph of a sunset over a body of water. The sun is low on the horizon, partially obscured by dark, silhouetted mountains. The sky is filled with soft, golden clouds, and the sun's rays create a bright reflection on the water's surface. The overall mood is peaceful and contemplative.

Thank You