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

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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?
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
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(Lambert. & Balderstone, 2000:27)
Geography Fieldwork 地理考察

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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)
How do a meteorologist and a geographer understand weather and climate?
Forces that cause atmospheric motion

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/s² directly towards the center of the Earth.

The force due to viscous friction can be approximated as:

\[
f_v = -\frac{1}{\rho} \left( \nabla \cdot (\mu \nabla v) + \nabla (\lambda \nabla \cdot v) \right).
\]

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:

\[
\frac{du}{dt} = -(1/\rho) \nabla p - g(r/r) + f_v
\]

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

- \[
\frac{du}{dt} = -(1/\rho) \nabla p - g(r/r) + (1/\rho) \left[ \nabla \cdot (\mu \nabla v) + \nabla (\lambda \nabla \cdot v) \right]
\]
- \[
\frac{dT}{dt} + \frac{dv}{dt} = q + f_v
\]
- \[
\frac{dp}{dt} + \rho \nabla \cdot v = 0
\]
- \[
\rho = \rho T
\]

http://en.wikipedia.org/wiki/Primitive_equations
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 letters
Enquiry Fieldwork = SBA
Enquiry Fieldwork = SBA
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...

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

Subject Relevant
Title Setting

- Familiar
- Interest
- Manageable
Title Setting

- Concepts
- Mind Map
- References
- Objectives
Title Setting

- Concepts
  - e.g. land use conflicts, urbanization, etc.
- Mind Map
  - interrelationship
  - e.g. bid rent mechanism, models, etc.
- References
- Objectives
  - 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
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.
Thank You