

Geography Fieldwork is Not Mission Impossible

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Geography teachers face numerous difficulties in conducting fieldwork for their students. While the national curriculum is shifting towards a field inquiry approach, some pre-existing problems remain, such as the issues of large class sizes, the lack of suitable sites due to our highly urbanised landscape, and teachers who do not have an understanding of the role fieldwork plays in constructing meaning in Geography. Having an understanding of how geographical knowledge has evolved will allow teachers to adopt meaningful strategies in the field in order to maximise the construction of geographical concepts and learning of geographical skills. In this paper, I propose a simple matrix that identifies purpose and strategies as two key goals that can help teachers work towards the implementation of a meaningful fieldwork programme for students.

Introduction

Geography is possibly the most exciting discipline in the Humanities and Social Sciences group of subjects. Physical landscapes lend an authentic lens to contextualise the discipline. The need to measure and observe in order to infer and generalise are geographical skills that students find intriguing. When students venture out of their classrooms, the world becomes more apparent and real. The demand for quantification also necessitates collaboration amongst classmates. Suddenly, the Shy Shirley begins to talk, and Reticent Richard starts to come to life. Friendships, attitudes and values are forged and strengthened. Those who have gone through a cycle (or two) in fieldwork can easily testify to these positive outcomes.

While many geography teachers are

excited at the prospect of geographical fieldwork re-emerging as a key driver for geographical education in Singapore, real challenges exist. A small handful of teachers still bemoan the lack of physical landscapes to conduct “real” fieldwork in Singapore (though this has been partially overcome by the somewhat generous government subsidy for overseas fieldtrips). There are also sceptics who think that fieldwork is just another round of “wave-counting” exercises and nothing else; and others who believe that the huge class size deters any form of fieldwork.

The aim of this paper is, therefore, to correct the misconceptions that fieldwork

- requires an expensive trip out of Singapore
- cannot be conducted in big groups
- is a boring data collection exercise

First, I provide a brief background to the evolution of fieldwork that developed with progress of geographic thought in the twentieth century. Knowledge of this development is important because it allows the teacher to understand the purpose of fieldwork. I then propose a simple framework that challenges educators to think about geographical fieldwork strategies based on the aims of the discipline. In this way, teachers can design focused and meaningful tasks for their learners.

Review

Many countries have locations that lend themselves excellently to conducting fieldwork – wide open spaces, exciting natural landscape, places with long historical development, and small class sizes. In contrast,

the Singapore teachers' operational context of the polar opposite – highly urbanised compact spaces, immaculately planned urban landscapes, and most importantly, large class sizes. Hence, many of the ideas or strategies proposed by scholars from other countries need to be customised and adapted before implementation.

Instead of approaching the conceptualisation of fieldwork from a site-specific perspective, I propose that geography teachers should start by understanding the purpose of fieldwork. The purpose of fieldwork in geography stems from how geography was constructed as a discipline, and how geography was used to understand and make sense of the world. Therefore, a brief understanding of the development of geographic thought is imperative.

Development of geographic thought and fieldwork

The word “geography” is formed from two words: “geo” and “graphy,” which means to write about the earth. For a long time till the early 20th century, geography was the domain of explorers. For example, the great Venetian explorer and trader Marco Polo provided detailed comments of the strange places he visited in the Far East. Recording of observations and experiences formed an essential part of exploration and adventure. This descriptive strand took a slightly different turn in the late 19th and early 20th centuries with the advent of environmental determinism. Among them, determinists like Semple, Ritter and Huntington attributed human traits as direct outcomes of the environments in which humankind lived. Hettner and Vidal de la Blanche and later Hartshorne, focused on the differences between places which influenced mankind giving rise to regionalism (Unwin, 1992). By the late 1930s, what emerged as criticism to an increasingly unscientific approach of regionalism gave rise to the quantitative revolution that was to follow.

Geography took a sharp turn towards the scientific method, in particular, the hypothesis testing, models and theories approaches as

adopted by the sciences. With the advancement of science and the race to space, empiricism and quantitative reasoning took over as the dominant mode of inquiry. The paradigm shift in geography meant that the methodology of fieldwork and data collection became *de rigeur*. Understandably, geography fieldwork began to take a slant towards positivistic scientific methods.

Countering the overtly positivist methods which critics claimed diminished human influence, a shift in geographic thought occurred yet again in the 1960s. The behavioural paradigm focused on decision-making by the rational, economic man. Fieldwork, therefore, reflected this change. Perception of places, and decisions for travelling based on cost-saving assumptions, for example, are examples of fieldwork popularly carried out in those times. Relph (1976) in his seminal work on “Place and Placelessness”, and subsequently Tuan (1974) highlighted the importance of a humanistic approach to geography, where the inner worlds of individuals are seen as real, and worthy of investigation.

By the late 1970s and early 1980s, critical geography began to emerge. This emphasised the constraints of structures on human agency. Many studies included critical analysis of capitalism and its effect on labour, politics, and flows of labour and capital. Geography also took on a more applied nuance with the environmental problems and global issues in the last decade of the 20th century that resulted in an emphasis on providing solutions to the environmental crises affecting food production, access to fresh water, health and poverty.

Whither fieldwork in school-based geography?

In contrast to the major shifts in geographical knowledge in the last century, school-based geography and fieldwork has remained in a 1950s and 1960s time warp. For physical geography topics, satellite technology has evolved to allow accurate capturing of physical data (e.g. surveys of beach length, width etc.) without going to the field. The need for fieldwork seems obsolete. On the other

hand, doing fieldwork for retail geography, for example, is still limited to land use surveys and plotting pedestrian footfall.

Yet the child of the 21st century has to grapple with a host of contemporary issues about globalisation and the relocation of industries, re-branding of shopping districts, re-imagining of places, gentrification, and immigration, just to name a few.

How can the fieldwork in school geography, which has become somewhat misaligned with the development of geographical understanding, attempt to re-represent geographical knowledge more accurately? At the same time, how can geography teachers plan fieldwork that engages the geographical imagination of our students?

Framework

First, the *purpose* of the fieldwork is important. For example, we may ask ourselves why is collecting data about the land use of a neighbourhood important? What purpose does it serve? Does it prove or disprove a hypothesis? Does it help us understand how the upcoming mega mall that has been approved by local authorities will impact neighbourhood shops? The geography teacher will also need to have an awareness of the full range of strategies that can be employed to collect data.

To fulfill both criteria satisfactorily, the framework in Annex A was adapted from Job, Day and Smyth (2002). The broad educational purpose of fieldwork on the top row is rather self-explanatory. Teachers may select any one of the five columns as their purpose of fieldwork. To achieve the purposes however, there are five different strategies. In what follows, I shall briefly discuss the advantages and disadvantages of the five strategies.

Hypothesis Testing

Hypothesis Testing is a dominant model in fieldwork in most British schools at A Levels. It is a very straight forward, easily understood framework where field data can be compared

against models or expected trends. There is also a clear end-point to such fieldwork. Harvey (1991) warns against a teacher-centric slant (which is often adopted for this strategy) where teachers pre-determine the focus of studies and, as a result, ameliorate the students' field experiences and perceptions. In the new Inquiry-based Learning approach adopted as the key pedagogy for humanities teaching and learning by the Ministry of Education (MOE), the crucial step of using data to "spark curiosity" may also be dampened with this method. Hypothesis testing depends largely on conceptual understanding of processed data or models rather than direct field experiences. Harvey argues that such a strategy should be retained in order to broaden the students' repertoire of fieldwork skills. It also allows for interdisciplinary transfer of procedural skills to other subjects.

Geographical Inquiry

The Geographical Inquiry method has been advocated as a way around the strictly hypothesis testing fieldwork. It is also a strategy embraced by the curriculum planners of the new humanities curriculum at the MOE. Students tap on their prior knowledge and experience of a locality in order to formulate geographical questions, issues or problems as basis for fieldwork. They then apply their findings to issues and problems that have local immediacy so that application and transfer of knowledge is authentic. Collaborative learning can be enhanced when groups of students contribute information to form a "bigger picture" to their inquiry so that more angles of an issue or problem can be covered.

Discovery Learning

Discovery Learning is a wholly open-ended approach which allows students to find their own points of interest in the environment. An advantage is that discovery learning normally has a high level of engagement based on student interest. Students can develop and extend their investigative work which they deem important and interesting. However, the scope of fieldwork has to be properly determined beforehand. This is to ensure that students have the requisite skills to observe

and formulate investigative questions. Otherwise, anxiety or boredom may set in.

Sensory Fieldwork

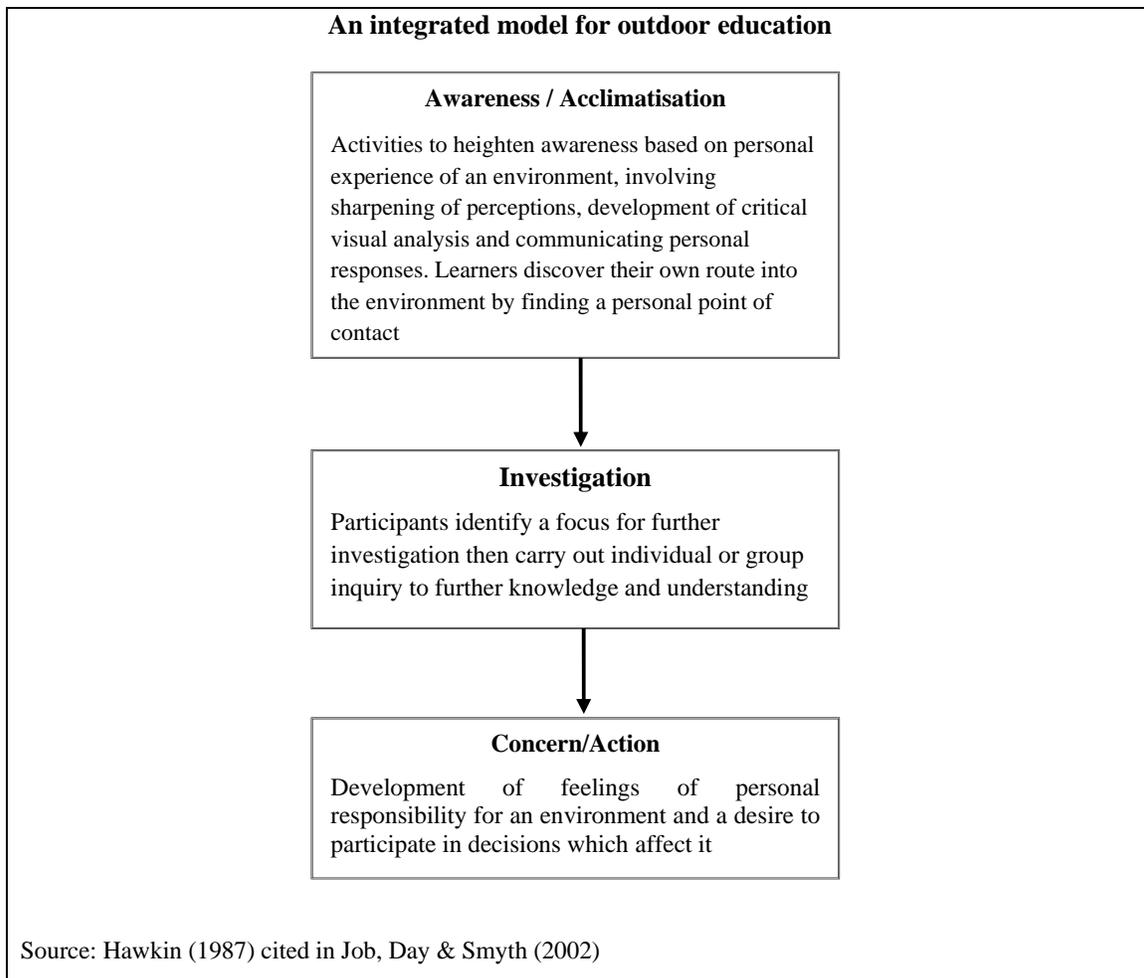
Sensory Fieldwork is often seen as most applicable in more remote environments. Van Matre's (1979) work summaries the intent of sensory fieldwork as a strategy:

We feared entrapment by the idea that things are real only if they can be measured. Many of life's most rewarding, enriching and heartfelt experiences can barely be put into words, let alone placed on a scale. If we relied too much on the usual processes of collecting and testing, what would

happen to our goals of instilling a sense of wonder, a sense of place and reverence for life? If we failed to develop appreciations in our haste to convey understandings, if we over emphasised analytical skills at the expense of deep natural experiences, what would we gain – people who could take life apart, but cared nothing for keeping it together? (Van Matre, quoted in Job, Day and Smyth, 2002:17)

A scheme put forward by Hawkins (1987) provides an idea of how different aspects of sensory fieldwork may be integrated with inquiry-based investigation. Please refer to Figure 1.

Figure 1 Fieldwork Model



Excursion

In this strategy, a teacher is seen as a dispenser of knowledge in guiding students on how to “read” and “interpret” the landscape. Although Inquiry-based Learning seems to be at the fore of Socratic, self-directed learning, an excursion is not necessarily a bad model. While the student may have to adopt a relatively passive role in an excursion, many of us would have at one point or another experienced the pleasure and satisfaction of

learning from our teachers the skills to “read” and “interpret” the landscape. The excursion strategy would be most ideal when the teacher needs to conduct a guided preliminary for students, especially in unfamiliar grounds to demonstrate “how” and “where” geographically interesting phenomena may be found. Other times, there may be a need to overcome the difficulties of communicating to a large group of students effectively in an urban environment – this is when the excursion strategy is superior.

Recommendations

In this section, I provide five recommended locations for fieldwork in Singapore.



Figure 2

Figure 2 shows the Punggol grasslands. There are some grassy and open areas in Singapore where discovery or sensory fieldwork can be carried out. Students should take the precaution of wearing long pants tucked into long socks to prevent insect bites and use a stick to beat the grass to ward off snakes.



Figure 3

Figure 3 shows the railway corridor. With the return of the KTM railway land to Singapore, teachers now have access to many wondrous sights that were once accessible only via a train ride. The railway corridor has places that are suitable for the five fieldwork strategies. The railway corridor, however, lacks proper shelter and bathroom facilities.



Figure 4

Figure 4 shows Sembawang Park, a typical suburban park. This is unique because of its beautiful coastal frontage at the Straits of Johor. Students can conduct numerous investigations focused on human-environment interactions. For example, students can study the impact of the jetty on marine life.



Figure 5

Figure 5 shows a fruit stall selling durians along a busy thoroughfare in Singapore. A discovery fieldwork can pique our students' curiosity and lead to inquiry questions like: (1) Why are there so many fruit stalls selling durians here? (2) Where do we get the cheapest durians along this stretch of road? Why?

These inquiry questions introduce the broader concepts of economies of agglomeration and inertia. These concepts can then be extended to the study of industries.



Figure 6

Figure 6 shows coral bits and shells washed up a shore. This can be found anywhere along coastal areas. The loose collection of coral bits and shells can be used to spark a conversation either by the teacher as the leader of an excursion, or as a facilitator in the inquiry fieldwork or even as a possible hypothesis. For example, we can ask, "Where do the shells and coral bits come from?", "How far would they have to travel?", or form a hypothesis like "There will be more shells and coral bits during the monsoon months."

Figures 7 and 8 are photographs of shop houses in the Central Business District in Singapore. Such resources are extremely classroom friendly and can be used to spark a conversation and generate curiosity without a time-consuming visit to the city.



Figure 7

Figure 7 shows the back alley of a row of refurbished shop houses in Chinatown that have been adaptively reused as offices. Teachers can pose questions such as: “Why are there holes located near the ground? What are they used for?” (Answer: They were for the night soil workers to access the bucket which holds the human waste. Shop houses in the colonial period do not have an advanced sanitation system, unlike today.) Further investigation by the students may lead to an exploration of themes related to public health and sanitation in colonial Singapore, or a comparative study of the living conditions in colonial and contemporary Singapore.



Figure 8

Figure 8 shows a photograph at Teck Lim Street, near Chinatown. Teachers can ask questions such as: “What are three things in the picture that do not belong in a typical picture of old Chinatown?” (Answer: The aluminum vent found in the middle of the picture; the rubbish cart found in the foreground; the parking signage; air-conditioning units). “What do you expect to see if this is a picture was taken in the 1930s?”

Conclusion

In conclusion, having an appreciation of the shifting paradigms in the construction of geographical knowledge will help teachers address the apparent disjuncture in the theory and practice of fieldwork. The latter has lagged behind the rapidly changing developments in geographic thought from 1970s onwards. Changing pedagogical models (such as Inquiry-based Learning) has also rendered much of the practice of quantitative fieldwork to be outmoded.

By matching purpose to strategies or vice versa in the matrix, it is not difficult to imagine new possibilities in geographical fieldwork in the apparently “barren” Singapore physical landscape. If a teacher is able to vary his approach and is able to identify potential environments and resources for fieldwork, even large class sizes will not pose too many problems. Finally, the golden rules to “do less, perceive more” and “design work that will engage, not confuse” will also go a long way in dispelling the myth that geography fieldwork is mission impossible.

References

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- Photographs are the author's own.

<p>Broad Educational Purpose of fieldwork</p> <p>Range of fieldwork strategies</p>	<p>Conceptual knowledge</p> <p>identifying and defining geographical questions, issues and problems</p> <p>understanding relationships between sets of geographical factors</p> <p>understanding processes underlying geographical patterns in space and time</p>	<p>Skills</p> <p>planning a geographical investigation / inquiry</p> <p>practising and applying technical skills and ICT skills in a real world context</p> <p>developing skills in locating, retrieving, analysing and interpreting information</p>	<p>Values</p> <p>respecting the values of others</p> <p>clarifying and justifying personal values</p> <p>seeing the wider social and ecological effects in the environment</p>	<p>Aesthetic</p> <p>developing a sense of place</p> <p>encouraging emotional responses to environments</p> <p>recording and interpreting the experience of landscape through creative activity</p>	<p>Social & Personal</p> <p>developing co-operating and communication skills through participation in group work</p> <p>encouraging a sense of adventure</p> <p>building confidence and resilience through offering challenges</p> <p>promoting camaraderie and social fusion through participation in a common endeavour</p>
<p>Excursion</p> <p>Students are guided through a landscape by a teacher with local knowledge, often following a route on a large scale map. Sites are grid-referenced and described with aid of landscape sketches and sketch maps. Students listen, record and answer questions concerning possible geographical concepts and factors.</p>	✓	✓	✓	✓	✓
<p>Hypothesis Testing</p> <p>A conventional deductive approach that involves initial consideration of geographical theory, leading to the formulation of hypotheses which are then tested against field situations through the collection of quantitative data, or against expected patterns and relationships.</p>	✓	✓			
<p>Inquiry</p> <p>A geographical question, issue or problem is identified, ideally from students' own experiences in the field. Students are then supported in the gathering of appropriate data (quantitative or qualitative) to answer their key question. Findings are evaluated and applied (where possible) to the wider world.</p>	✓	✓	✓	✓	✓
<p>Discovery</p> <p>Teacher assumes the role of amateur, allowing the group to follow its own route through the landscape. When students ask questions these are countered with further questions to encourage deeper thinking. A discussion and recording session then identified themes for further investigation in small groups.</p>			✓		✓
<p>Sensory</p> <p>Structured activities designed to stimulate the senses in order to promote awareness of environments. Sensory walks, use of blindfolds, sound maps, poetry and artwork are characteristic activities. Can be used as an introductory activity prior to more investigative work or to develop a sense of place, aesthetic appreciation or critical appraisal or environmental change.</p>			✓	✓	✓

Adapted from: Job, D., Day, C. and Smyth, T. (2002) *Beyond the Blakesheds*. Sheffield: Geographical Association

✓ Most natural fit.