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Using Fieldwork to Teach Concepts of Hierarchy and Sphere of Influence in a New Town

CHRISTINE LOH

Introduction

New towns in Singapore like Toa Payoh, Yishun and Tampines provide ample opportunities for Secondary 2 Geography students to test their understanding of rather abstract concepts like hierarchy and sphere of influence. A hierarchy exists within new towns with its sub-centres, neighbourhood centres and a town centre. As one goes up the hierarchy, the number and range of functions available in a centre increases. The town centre thus exerts a wider sphere of influence than its neighbourhood centres or sub-centres. In this fieldwork experience, pupils will collect data about the availability of functions within the centres as well as the origin of shopping trips to these centres. Upon their return to the classroom, they will analyse the data in order to find out about the pattern of relationships with a hierarchy of shopping centres in a new town. This article attempts to illustrate an example of urban fieldwork, highlighting the need to integrate fieldwork with classroom teaching. Fieldwork should not be considered in our schools as an end-of-term outing for students once examinations are over.

Planning for Fieldwork

Laws (1984) has provided a three phase approach to integrate field and classroom activities (Fig. 1). The teacher must carefully plan the kinds of activities for students. When planning fieldwork, it is necessary to match the activities selected with the objectives and purposes. Teachers must decide whether to use fieldwork at the beginning of a unit of work as a means of gathering information and

increasing the motivation of students or at the end of the unit as a means of drawing a number of ideas together. Fieldwork may also be integrated throughout a unit of work to develop students' understanding of concepts, generalisations and principles. The activities identified in this example involving pre-fieldwork, fieldwork and post-fieldwork activities suggest that they are best implemented throughout a unit of work on the topic "Hierarchy".

Prefieldwork Phase

Discussion questions based on a map of Toa Payoh Town (Appendix 1) will facilitate pupils' ability to formulate some hypotheses about relationships in a hierarchy. It is important to encourage pupils not to take relationships provided in the text materials as given but to discover for themselves whether or not these relationships are true in reality.

Figure 1: A three phase approach to integrate field and classroom activities

Phase 1 Pre-fieldwork

Purposes of fieldwork

Library research

Identification of unknowns

Formulation of hypotheses

Development of data collecting techniques

Phase 2 Fieldwork

Direct observations – identifying, naming, describing, ordering, constructing, measuring

Individual perceptions

Data collecting

Data recording

Data analysis and interpretation

Specific field techniques – sketching, mapping, transects

Figure 1 (Cont'd)**Phase 3** Post-fieldwork

Evaluation of data collected

Evaluation of techniques used

Testing hypotheses

Further library research

Summarising and presentation of findings
and conclusions

Examples of classroom questions may include:

- (a) There is only one town centre but how many neighbourhood centres are there? Is this the pattern you would expect and why?
- (b) The map shows only town centres and neighbourhood centres. Is there another level of centres in the hierarchy? If yes, what is it called?
- (c) What basic functions serve as the focus of commercial activities within the neighbourhood centres?
- (d) Which of the centres will have the greatest number of shops?
- (e) In which of the centres are 'comparison shops' the most important and why?
- (f) What are the ways one could use to determine the spheres of influence of the centres?
- (g) Which centres would exert a larger sphere of influence and why?

The discussion may lead to the formulation of the following hypotheses:

- (a) that the town centre will provide a wider range of goods and services than the neighbourhood centres.
- (b) that the town centres will have a larger proportion of 'comparison goods' shops than the neighbourhood centres.
- (c) that the customers at the town centre travel further to shop at the stores. In other words, the town centre will have a wider sphere of influence than the neighbourhood centres.

Fieldwork Phase

The fieldwork phase involves the collection of data that will help test the hypotheses developed during class discussion. A survey of ground floor use of HDB shophouses will be needed. Using graph paper as field sheets (Appendix 2) and the classification code (Appendix 3), traverse the blocks and record the ground floor use on the field sheets. The squares of the graph paper will help in recording the length of frontage of the shops.

The retailing questionnaire (Appendix 4) involves interviewing shoppers at the various centres. Information about origin of shopping trip, purpose and frequency of visit and mode of transport of shoppers will be asked during the interviews.

Post-Fieldwork Phase

Once the data has been collected, it is important that the data be ordered and presented in such a way that it can be used to test the various hypotheses most efficiently. Three ways of presenting the data are as follows:

- (a) Transfer the raw field notes on ground-floor use to a base map of Toa Payoh and map the pattern of commercial use of the shop units. Use a colour code to identify each category.

Analysis of the map will reveal the range of goods and services at the town centres and neighbourhood centres. An interesting question is to find out what functions are not available at the neighbourhood centres and why. Discussion of the question will enhance understanding of concepts like 'threshold' population and range of goods.

- (b) The same data can be presented in other ways than a map. A table or a pie-graph could be used to relate the size of the centre as measured by total number of shops to the proportion of 'comparison' goods shops and 'convenience' goods shops.

Table 1: The proportion of convenience and shopping goods in the town centre and in three neighbourhood centres

| Level of Centres | Total No of Shops | Convenience Goods Shops | Comparison Goods Shops |
|------------------------|-------------------|-------------------------|------------------------|
| Town Centre | | | |
| Neighbourhood Centre 2 | | | |
| Neighbourhood Centre 3 | | | |
| Neighbourhood Centre 4 | | | |

- (c) Plot the origin of shopping trips for the town centre and the neighbourhood centres on a base map of Toa Payoh. Drawing a line around the origin of shopping trips will reveal the extent of the sphere of influence of the centres and reveal which centre has largest sphere of influence. It will be interesting to discuss the reasons for the varying sizes of the spheres of influence of the centres as well as the overlap of the spheres.

Conclusion

13 and 14 year olds can be entrusted to carry out the fieldwork activities of mapping groundfloor use of HDB shophouses and interviewing shoppers on their own with minimum teacher supervision outside school hours. There is a need for thorough briefing and careful division of labour. It may be useful to simulate the interviewing session in the classroom so that students can be taught how to approach potential respondents courteously in carrying out the interviews. Fieldwork activities when meaningfully integrated with classroom teaching develop in our students various skills associated with data collection and analysis. In spite of the problems and constraints in fieldwork, as teachers we cannot deny our students opportunities for developing these important skills through fieldwork.

References

Laws, Kevin (1984). Learning geography through fieldwork in Fien (ed.) *The Geography Teacher's Guide to the Classroom*. Melbourne, Macmillan.

FIELD SHEETS

Name _____

APPENDIX 2

| | | |
|--------------------|--|--------------------|
| <i>Brief Notes</i> | | <i>Brief Notes</i> |
| Indicate Block No | | Indicate Block No |
| | | |

Name of Street

Appendix 3

CLASSIFICATION GUIDE FOR GROUND FLOOR USE SURVEY**TYPE OF FUNCTIONS****A FOOD SHOPS**

- A1 Supermarket (chain)
- A2 Provision Store/Mini-Market
- A3 'Mama' Store
- A4 Coffeeshop
- A5 Hawker Food Centre
- A6 Fast-Food Joint
- A7 Restaurant
- A8 Wet Market
- A9 Confectionary/Bakery

B CLOTHING SHOPS

- B1 Shoes
- B2 Women's Wear
- B3 Men's Wear
- B4 Materials/Cloth
- B5 Children's, Baby Clothes
- B6 Tailor Ladies/Gents
- B7 Jewelry
- B8 Education Centres

C HOUSEHOLD GOODS SHOPS

- C1 Furniture
- C2 Electrical Appliances
- C3 Stationery/Bookshop
- C4 Crockery/Kitchen Utensils

D LARGE STORES

- D1 Department Store/
Emporium

E SERVICE SHOPS

- E2 Laundry
- E3 Pharmacies/Chinese
Medicinal Shops
- E4 Pawnshops
- E6 Optician
- E7 Photo Studio

F OTHER SERVICES

- F1 Banks
- F2 Post-Offices
- F3 Library
- F4 Clinics
- F5 Community Centre
- F6 Neighbourhood Police
Post
- F7 Places of Worship

Appendix 4

RETAILING QUESTIONNAIRE

Location:

Date:

Time:

| No. Sex. Age. | Origin of Visit: Within town – state Blk No. outside town, state name of HDB town or street | Purpose of Visit: Convenience Comparison Speciality (also state the type of goods) | Frequency: No. of visits in the last 2 weeks | Mode of Transport: Car Bus Walk |
|---------------------|--|---|---|---|
| 1. M/F | | | | |
| Age | | | | |
| 2. M/F | | | | |
| Age | | | | |
| 3. M/F | | | | |
| Age | | | | |
| 4. M/F | | | | |
| Age | | | | |
| 5. M/F | | | | |
| Age | | | | |
| 6. M/F | | | | |
| Age | | | | |

| No. Sex. Age. | Origin of Visit: Within town— state Blk No. outside town, state name of HDB town or street | Purpose of Visit: Convenience Comparison Speciality (also state the type of goods) | Frequency: No. of visits in the last 2 | Mode of Transport: Car Bus Walk |
|---------------------|---|---|--|---|
| 7. M/F | | | | |
| Age | | | | |
| 8 M/F | | | | |
| Age | | | | |
| 9. M/F | | | | |
| Age | | | | |
| 10. M/F | | | | |
| Age | | | | |

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