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Chinese Junior High School Students' Perceptions of Geographic Fieldwork: A Case Study

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ABSTRACT

After nearly ten years of implementation of the first junior high school geography standards, Chinese geography educators have been increasingly incorporating fieldwork into their geography teaching. This study examined student perceptions of fieldwork from an international perspective by reviewing student fieldwork reports and administering a questionnaire to 337 junior high school students aged approximately fifteen years. The results demonstrate that the students' perceptions of fieldwork were primarily positive and that they found field experience to be interesting. Fieldwork provided the students with deepened understanding of issues, cognitive and affective benefits, transferable skills and knowledge, social skills, demonstration, and memorable experience. In addition, some factors for improving geographic fieldwork were identified.

Key Words: junior high school, students, perceptions, geographic fieldwork

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INTRODUCTION

Geography has had a strong bond with fieldwork since the origin of the discipline (Jacobs 1904). Fieldwork not only added new knowledge to the field of geography as a powerful data source but also gradually became a distinctive and intrinsic approach in the teaching and learning of the subject at schools and a vehicle for students to better understand concepts and theories (Gold *et al.* 1991; National Research Council 1997; Han and Foskett 2007).

A rich array of literature highlighted the important roles of fieldwork in geographic education. Field studies could act as a medium for the integration of many theoretical and practical concepts, the acquisition of geographic knowledge through multisensory experience, the deepened understanding of a subject, and the development of an affective domain (Clark 1996; Kent, Gilbertson, and Hunt 1997; Walcott 1999; Gerber 2000). Fuller, Gaskin, and Scott's study (2003) further revealed that the experiences of geographic reality, developing subject knowledge, acquiring technical, transferable and holistic skills, and working with peers and lecturers were the most important benefits of fieldwork.

Although fieldwork is valued, its developments have been affected by constraining factors, such as limited budgets (Salter 2001). In China's centralized curriculum, fieldwork was underdeveloped in the past decades. The term *underdeveloped* has several meanings here, including scarce or no fieldwork activities, lack of diverse fieldwork types, weak teacher awareness, and scarce software and hardware for fieldwork (Zhang 1999; Zhang 2005). However, changing this situation was advocated because the first junior high school geography standards placed more emphasis on fieldwork values, such as enabling students to experience the process of generating geographic knowledge, deepening understandings of subject knowledge, and promoting social skills (Ministry of Education 2001). When the present study was performed, the standards had been implemented for nearly ten years. Schools varied in the level of their adoption of fieldwork activities. These practices lead to the following question: What are current students' perceptions of geographic fieldwork in China's junior high schools? This study attempts to answer this question by exploring student views and attitudes toward fieldwork.

METHODS

Participants

The investigated schools were located in the city of Hefei, Anhui Province, which is one of the least economically developed inland provinces. These schools, especially the rural schools, had inadequate facilities and lacked high-quality teachers. Hence, we chose two urban and two rural schools so that the sample could represent the general situation of the entire city. The participants were purposely selected to reflect average demographics, such as gender and class level, as closely as possible. A total of 337 junior high school students (179 males and 158 females, approximately fifteen years old) participated in this study. The students were solely from the ninth grade because they had just finished the two-year compulsory study of geography in the seventh and eighth grades.

Instrument

A questionnaire based on the studies by Kempa and Orion (1996) and Chew (2008) was used. The questionnaire contained three sections. The first

Table 1. Students' responses regarding their appreciation for and the usefulness of geographic fieldwork.

Items	Percentages (%)
Do you like geographic fieldwork?	
Like very much	28.2
Like	42.1
Average	24.0
Dislike	5.6
Do you think geographic fieldwork is useful for you?	
Very useful	24.3
Useful	34.7
Slightly useful	31.2
Not useful	9.8
Do you think your school should conduct more geographic fieldwork?	
Yes	88.4
No	11.6

section asked for demographic information. The second section contained a total of twenty-five items asking students to indicate a choice or a level of their attitude (see Tables 1–6). We adapted the often-used five-point Likert scale (i.e., *strongly agree*, *agree*, *neither*, *disagree* or *strongly disagree*) into a four-point scale with the *neither* level deleted to obtain clear student stances on the items. The third section asked participants to provide additional comments about any of the items in the previous section as well as additional thoughts and suggestions.

Procedure

The questionnaire was administered during visits to each of the schools. The students were informed of the purpose of the questionnaire and were asked to answer the items according to their own experiences. The questions were explained when the students could not comprehend the items. The students were told to complete the questionnaire anonymously to elicit candid responses. The students were informed that there was no right answer for the items and that they should not be influenced by other students' choices. For a better understanding of the students' perspectives, we also read some of the students' fieldwork reports from the investigated schools.

The study has the following limitations. First, the questionnaire was conducted only in one city. Hence, the results might not be representative. Second, because the participants knew that they were being studied, some of them might have changed their behaviors and selected the choices that they thought would be desired by the researchers. Third, the students might still have been susceptible to the other students' choices. Due to these reasons, some of the percentages of choices might be exaggerated.

RESULTS

Appreciation and Usefulness

As shown in Table 1, a majority of the students liked and wanted more fieldwork activities. The students' typical comments were that fieldwork enabled them to connect what was taught with reality. This finding resonates with Kern and Carpenter's studies (1984) that students who experienced fieldwork showed high interest and enjoyment associated with the learning experience. Most of the students (59%) thought that fieldwork was useful and very useful, and their explanations of its usefulness were largely that fieldwork deepened their understanding of certain issues. For instance, one of the

studied schools conducted a fieldwork activity about the use of plastic bags that enriched the students' understanding of *white pollution*. The fieldwork was designed to incorporate a real social issue. In 2008 the Chinese central government stipulated a regulation to ban the production, sale, and use of plastic bags. Markets were forbidden to provide free plastic bags to customers. With this context, the students planned to investigate the use of plastic bags and local residents' attitudes toward the ban. To acquire relevant data, the students designed two questionnaires, developed interviewing questions, and accessed the Internet, library, and print media. One questionnaire exploring the present use of plastic bags contained four multiple-choice questions to identify the number of plastic bags used per day by the respondent's family, the respondent's ways of disposing plastic bags, frequency of requesting plastic bags when shopping, and efforts to reduce the use of plastic bags. The other questionnaire exploring local residents' attitudes toward the ban had five multiple-choice questions addressing the respondent's knowledge about the ban, general attitude toward the ban, views on the ban's effectiveness, attitude toward charging fees for plastic bags, and probability of using plastic bags after the ban. The field interviewers asked owners or servers in markets to state the average amount of plastic bags that the markets used per day. The students used the Internet and other media to identify the deleterious effects of white pollution. The questionnaires were administered to three populous communities, and the field interviews were performed in three markets, including a local store, a local supermarket, and a UK-based retailer. After the field survey, the junior high school students revealed some noteworthy findings. Although most of the residents knew of and favored the ban and believed that the ban could somewhat reduce white pollution, nearly half of the surveyed residents would still ask for plastic bags

Table 2. Students' responses regarding the practical conduct of geographic fieldwork.

Items	Percentages (%)
In what mode do you prefer geographic fieldwork to be conducted?	
Completely conducted and explained by teachers	6.9
Mainly conducted and explained by teachers	37.7
Commonly conducted and explained by teachers and students	38.3
Mainly conducted by students	15.1
Completely conducted by students	2.1
How would you prefer the topic or theme of geographic fieldwork to be decided?	
Decided only by teachers	21.4
Decided commonly by teachers and students	65.9
Decided only by students	12.8
How do you settle difficult problems in geographic fieldwork?	
Ask teachers	12.2
Ask teacher after discussing with classmates	64.7
Solve through my own study	16.0
Give up	7.1
What resource do you depend on to aid you in performing geographic fieldwork?	
Textbooks	25.5
Newspapers and magazines	8.0
Library	9.5
The Internet	45.4
Parents	3.0
Teachers	1.8
Others	6.8
How would you prefer that geographic fieldwork be assessed?	
Completely assessed by teachers	20.5
Commonly assessed by teachers and students	45.1
Completely assessed by members of a team	30.0
Completely assessed by myself	4.5

when shopping and had never attempted to reduce their use of plastic bags. Moreover, half of the surveyed residents opposed the levy of fees for plastic bags. Students used a formula from the Internet to project how much carbon dioxide from plastic bag production could be reduced if the amount of used plastic bags was cut by 50 percent. Moreover, negative impacts of white pollution were found. Plastic bags do not readily decompose, and they not only pollute soils but also pose a threat to human health when they are burned in a garbage disposal plant. Through this experiential study, the students gradually saw the pollution quite differently. This phenomenon was demonstrated by a student who wrote in his team report:

I used to think that plastic bags were merely a matter of "visual pollution." However, I now know that their impact is not just local, but also global. The carbon dioxide that is exhausted during the production of plastic bags may cause global warming.

Another student acknowledged the complexity of the issue:

I thought that the pollution problem simply arose from a lack of awareness. This problem could be solved by educating people. However, when multiple interests are involved, the problem will be complicated. Residents favor the ban. However, when asked to pay for plastic bags, most oppose it. Frankly, it is very hard to persuade these residents, who are accustomed to the free use of plastic bags, to abandon the practice.

Practical Conduct

As presented in Table 2, most of the students would like teachers to play a primary or collaborative role in conducting fieldwork, and approximately 66 percent wanted the fieldwork topic or theme to be commonly decided. The students' typical responses in the questionnaire were that teachers were more experienced and could anticipate whether the

topic that students were interested in could be smoothly conducted. Many of the students relied on teachers to solve difficult problems when these problems could not be solved through discussion with their classmates. However, the students looked less to their teachers for help (acquiring relevant data or information) because most of them (45.4%) relied on the Internet (to obtain useful information). As for assessing their work, 65.6 percent of the students would like teachers to assume a dominant or common role in assessing their performances in fieldwork. However, a considerable number of the students (30%) would rather have the assessment be conducted by their team members. The students gave diverse reasons, such as inaccuracy of a teacher's assessment, better scores, or desires for positive comments. Among these reasons, the typical reason was that team members know one another better after fieldwork.

Cognitive and Affective Benefits

Table 3 indicates that one fieldwork benefit that most of the students agreed upon is that fieldwork bridges geography with their own lives. Some students often feel

Table 3. Students' responses regarding the cognitive and affective benefits of geographic fieldwork.

Items	Percentages (%)			
	Strongly agree	Agree	Disagree	Strongly disagree
Do you agree that geographic fieldwork helps you bridge geography with your life?	22.6	61.4	16.0	0
Do you agree that geographic fieldwork helps you better understand human and physical world?	20.5	61.1	18.4	0
Do you agree that geographic fieldwork helps you better understand how human and physical elements influence each other?	17.8	64.7	17.5	0
Do you agree that geographic fieldwork helps you better appreciate and value the beauty, delicacy of nature?	25.2	64.1	10.7	0
Do you agree geographic fieldwork helps you better understand geographic phenomena than simply class instruction?	24.9	65.0	10.1	0
Do you agree that geographic fieldwork helps you find more knowledge than textbooks or some inconsistencies with content in textbooks?	22.3	55.5	18.7	0
Do you agree that geographic fieldwork promotes your independence, self-reliance and self-management?	17.2	57.3	19.9	5.6

that some phenomena occur around their lives, but seldom think of the implications of the phenomena. Fieldwork causes students to be more concerned about the possible impacts of those phenomena on their lives. This benefit was demonstrated by a fieldwork activity about land use. The fieldwork was performed as follows. Prior to the fieldwork, the teacher discussed with the students what information and data should be obtained. After the class discussion, the students were divided into three teams. Each team was assigned specific tasks.

The first team collected relevant data from the village government, including the village population and annual grain output now and ten years ago. This team also plotted the land use patterns of ten years ago on the copies of the village map according to the governmental archives. The second team conducted a field investigation of the current land use of the village (including the lands used for peasants' houses, buildings, roads, factories, farming, rivers, and polluted lands) and plotted these land uses on the copies of the village map. To identify the reasons for the changes of land use, this team interviewed local peasants under the coordination of a village head and obtained information about the number of young peasants doing farm work as well as peasants' incomes from the agricultural and industrial sectors. The third team was responsible for collecting data from books or Web sites, including figures on China's population growth and the

national grain output in past decades. Moreover, these team members also checked whether similar changes in land use had occurred nationwide.

After the data were obtained, the students compared the plotted copies produced by the first and second teams and discovered that many farm lands were encroached upon due to the construction of peasants' houses, buildings, roads, and factories. In addition, some rivers and ponds were polluted by exhaust waste from factories. Moreover, the young peasants were no longer willing to do farm work because the income from farming was too low in comparison to the income from industry; thus, many lands were abandoned. The students found that such situations were common nationwide. The growth of China's grain output had slowed down in the past years. Because China's population is increasing, it was evident that the supply of grain would gradually become problematic. This field study raised students' concerns

about these occurrences in their lives, as a student reflected in his report:

This fieldwork enables me to think more closely about the issue. As we found in our interviews, the farmers are elderly, and if the young generation continues quitting farm work, then who would grow grains for us?

Another student sought possible action:

It is a pity that many arable lands are polluted. The pursuit of economic growth by introducing more industries at the expense of agriculture environment is short sighted. As junior high school students, we cannot change much, but we can tell people around us to increase their awareness about this issue.

Other benefits that most of the students either strongly agreed or agreed about were the importance of promoting the students' better understanding of the human and physical world, the interaction of human and physical elements, and environmental awareness as well as appreciating nature's beauty and delicacy. These benefits were illustrated by a student's written account in his report of

the fieldwork on leisure tourism regarding the Lenong eco-agricultural farm village:

That day, I came to the eco-agricultural village with curiosity and excitement. This was my first time participating in this type of social practice. This fieldwork not only enriches my knowledge about agriculture, but also brings me a closer and intimate exposure to nature. I drink in this beautiful pastoral scenery, which enables me to truly feel the exquisiteness of the natural scenery. The feelings are so comfortable. This activity not only improves our analyzing, problem solving and hands-on abilities, but also makes us aware of the seriousness of air pollution when compared with the fresh air in this village.

Pullen and Gatrell (2011) asserted that the information in any textbook might have little meaning to students without the ability to personally observe and/or experience such information. It is heartening that the vast majority of students admitted that fieldwork could provide more meaning or knowledge than class instruction and textbooks. For instance, a fieldwork project investigating the differences between the south and north Chinese cultures in terms of dialect of the language, character, food, and house style enabled students to find more knowledge such as the

northerners' partiality for eating raw garlic. The project further prompted some students' interests in exploring the relationships between climate and food. Similarly, a high percentage of students noted the benefits of promoting their independence, self-reliance, and self-management through fieldwork, as a student reflected her self-reliance in her report of a fieldwork project about the current status of the use of cell phones:

I am a girl who dislikes going outside. I generally rely on others to do things for me. However, the teacher required us to interview at least fifty people, so I had to go to the streets by myself to ask some strangers for information concerning the interval of and reasons for the replacement of cell phones, the number of chargers and the ways to dispose chargers. Moreover, I did not want to lag behind. Nevertheless, I have obtained the necessary information.

Cooperation and Exchange

Concerning the students' attitudes regarding others, most of the students would like to assist other students who need help (Table 4). A high percentage of the students stated that disagreements about certain issues in fieldwork did not seriously affect the conduct of fieldwork and that they could learn from exchanges with their peers. More than 78 percent

of the students agreed that fieldwork facilitated their communication skills. In a fieldwork activity to identify the status and problems of service sectors, one student expressed his growth in this regard:

As this is the first time we have conducted such fieldwork, our study on the problems may not be very deep, but this fieldwork has nevertheless helped us to increase our communication skills through our first-hand experiences.

Some other students had to overcome shyness and timidity to talk with people to access particular information, as a team leader wrote:

It is really fun to walk along these business streets. What struck me most was my extreme nervousness

Table 4. Students' responses regarding cooperation and exchange in geographic fieldwork.

Items	Percentages (%)
Are you willing to help other students in need in geographic fieldwork?	
Quite willing	58.6
Willing	30.0
Slightly willing	9.8
Not willing	1.4
Will some disagreement and disputes with your classmates seriously affect your engagement in geographic fieldwork?	
Very serious	2.1
Serious	10.1
Slightly serious	28.2
Not serious	59.6
Do you agree you could learn some from the discussion and exchanges with your classmates in geographic fieldwork?	
Strongly agree	15.1
Agree	63.8
Disagree	17.5
Strongly disagree	3.6
Do you agree that geographic fieldwork builds your communicating skills with different people?	
Strongly agree	15.7
Agree	62.6
Disagree	16.6
Strongly disagree	5.0

Table 5. Students' responses regarding transferability, demonstration, and cherished experience in geographic fieldwork.

Items	Percentages (%)
Do you think sometimes you can transfer the knowledge and skills acquired from geographic fieldwork to solving other problems?	
Yes	69.7
No	30.2
Do you agree geographic fieldwork gives you a better chance to demonstrate yourself than class instruction?	
Strongly agree	13.9
Agree	57.6
Disagree	20.5
Strongly disagree	8.0
What experience from geographic fieldwork is the most memorable?	
Scientific spirit and attitude	9.8
Methods to solve problems	19.9
Joys from conquering difficulties	30.2
Happiness from team cooperation	17.5
Acquisition of knowledge	16.9
Others	8.3

when interviewing those shoppers. I am really grateful to those shoppers and owners who cooperated with my interviews. I also learned how to communicate with people in a polite manner.

Transferability, Demonstration, and Cherished Experience

According to the students' choices (Table 5), most of the students thought that the knowledge and skills acquired during geographic fieldwork could be transferred. A student projected that to analyze customers' attitudes and local food problems as well as to experience the procedures of food making could be useful and applicable if she wanted to conduct a similar food business as an adult. Many of the students perceived transferability as being able to apply the analyses, problem solving, and hands-on skills to new challenges. However, a considerable number of students (30%) felt it was difficult to transfer these skillsets. This challenge can be implicitly evidenced in these students' fieldwork reports. For instance, a student used the adversative word *although* to express his reservation about the applicability of the knowledge and skills of a local opera. He wrote,

Although the knowledge about Huangmei opera is no longer useful in the modern world, to me the big harvest is to be baptized by this traditional culture and to feel the subtle and sentimental love of the characters. I hope that the local opera can be passed down.

In Chinese educational culture, students are usually required to answer questions using unified and standard

answers or solutions from textbooks, a teacher's instruction, or class notes. The students are given few opportunities to express their views or work with their own opinions. Here, the term *demonstration* is used to describe whether fieldwork could allow students more room or freedom to express their own methods, solutions, explanations, ideas, or views freely or to do and show their own work according to their own volition instead of toward implied so-called right answers or actions. Optimistically, a high proportion of the students agreed that geographic fieldwork gave them a better chance to demonstrate.

It is rather unexpected that most of the students (30.2%) thought that the enjoyable experience of overcoming difficulties was the most memorable aspect of fieldwork.

Some of the students enjoyed the process of conquering difficulties, as exemplified by a student's admission in her fieldwork report that making delicious local traditional foods was a difficult process requiring patience, careful studies, and fine-tuned operations. She thought that the resulting experience of inquiring about and making local foods was invaluable and unforgettable.

Possible Influential Factors

It can be observed from Table 6 that difficulty may be a factor that affects the conduct of fieldwork, as more than 71 percent of students regarded fieldwork as somewhat difficult to perform. In their team report, some of the students recalled their challenging experience of acquiring information:

The fact that we initially decided to investigate the local traditional food is because we have thought that the information about it would be very abundant. However, when we searched for this information on the internet, it was not what we expected. The result was that our team members only obtained several copies of documents with almost the same content with the exception of the differences in the size of words' fonts. We felt a bit regretful for choosing a topic with such scarce information. Nevertheless, we persevered.

Other influential factors include parental support and examination. Lau, Li, and Rao (2011) reveal that Chinese parents place a high premium on education and academic success and thus are actively involved in children's

Table 6. Students' responses regarding the potential influential factors of geographic fieldwork.

Items	Percentages (%)
Do you think that geographic fieldwork is easy to complete?	
Very easy	8.3
Easy	20.7
Difficult	61.7
Very difficult	10.0
Do you agree geographic fieldwork has seriously lowered your examination score?	
Very seriously lowered	0.8
Seriously lowered	4.7
Slightly lowered	25.5
Not lowered	68.8
Do your parents support your participation in geographic fieldwork?	
Very supportive	10.4
Supportive	21.7
Slightly supportive	31.5
Not supportive	36.5

learning. Unfortunately, only a small percentage of the students admitted that their parents supported their engagement with fieldwork. This pattern emerged because most of the parents were afraid that fieldwork would distract their children from concentrating on learning the knowledge useful for the senior secondary place allocation examination, although most of the students did not agree that their exam scores were seriously affected.

DISCUSSION AND CONCLUSIONS

This study surveyed student perceptions of geographic fieldwork. The results reveal that positive student perceptions far exceed negative ones. This finding might elicit some reflections about the previous view that the marginalized status of geography in schools was due to its uselessness and inability to engage students (Yuan and Lou 1999). This perceived "uselessness and inability" assessment might arise from many factors. However, according to Wei (2011), too much geography education in a pure classroom environment and the overlooking of field studies are the major factors that impede student engagement in geography studies. Students listen, take notes, memorize, and prepare for examinations, but this learning stereotype often bores students and may overshadow some of the merits of geography. This study's finding that exposure to fieldwork will engage students echoes those of Kern and Carpenter (1984), Ngcamu (2000), and Kaya, Demirkaya, and Aydn (2010) that fieldwork experience could help improve attitudes toward geography. A positive attitude could increase students' interests in geography and raise geography's importance in the national curriculum over time.

Ryrie, Furst, and Lauder (1979) argued that the perception of "usefulness" was important for students to opt to

study the subject further. Unfortunately, the percentages of students who deemed fieldwork *very useful* and *useful* were lower than those of students who chose *very like* and *like*. Hence, some students may not find fieldwork useful despite their appreciation. This pattern could be due to various reasons. First, Chinese school culture places a significant emphasis on students' exam scores. Because fieldwork is not included in examinations, some students may think that fieldwork is useless for improving their exam scores. The students may simply enjoy the new experiences that are different from in-class teaching. Second, some skills or knowledge resulting from conducting fieldwork are less applicable or transferable in the modern world.

For instance, students might enjoy the performance or skills of a traditional local opera but do not think that these skills or knowledge are helpful to solve current practical problems. Third, when China switched from a planned to a market economy, university graduates were no longer assigned a job by the state. This change has prompted parents to prepare earlier for their children's future career. Unfortunately, geography is quite underestimated by many parents. Influenced by their parents' perceptions, students at this age may think that geographic fieldwork is less useful for their future.

With regard to the practical conduct of fieldwork, most of the students would like teachers to play a role in conducting fieldwork or in choosing the fieldwork topic or theme to a lesser or greater extent. However, despite their dependence on teachers, students still wanted a certain level of autonomy, as only a minority of the students wanted fieldwork to be solely conducted and explained by teachers. The students thought that the common roles of teachers and students could well balance interests and feasibility. Regarding assessment, most of the students deemed that assessment should be conducted by both teachers and students because teachers were more experienced, authoritative, and fairer, and students were more knowledgeable about themselves. However, in practice, most of the teachers assessed student performances in fieldwork simply based on reports or work. Teachers might ignore the field process, which could give a better picture of student performances. Another practice may also affect teachers' assessments. Often, all of the members of a team collaboratively write and present a single report for their teacher that integrates each member's work; thus, it may be difficult for teachers to distinguish each member's performance accurately based solely on these reports. It is suggested that teachers' assessment tools should be

diversified so that teachers can assess student achievements more fully.

The results regarding the cognitive and affective benefits of fieldwork resonate with the finding that the fieldwork process is beneficial to cognitive and affective development (MacKenzie, Utgard, and Lisowski 1986; Smith 1987; Foskett 1999; Nundy 1999). This cognitive and affective development is largely due to two reasons. First, in China's geography education culture, students take the knowledge from textbooks or teachers for granted. When exposed to fieldwork, what the students have learned is sometimes challenged. Some of their *granted* cognition acquired in classroom settings may need revision. Second, fieldwork gives students an opportunity to learn about and experience some new things or knowledge that are not available in the classroom. For example, alternate environmental attitudes are more likely to be gained by allowing students to engage experientially with the environment than by class instruction. In particular, the opportunity to touch and interact with nature is a sensory experience that is likely to have a significant impact on students.

Regarding cooperation and exchanges, fieldwork helps students to learn from one another and increase friendship and acceptance. Some disagreements about issues in fieldwork did not seriously affect the conduct of fieldwork. Many of the students admitted that they could learn some communication skills from exchanges with their classmates during fieldwork. This result lends support to Tan, Sharan, and Lee's study (2005) that fieldwork provided students an opportunity to relate with their peers and different people in society as well as to acquire the skills of constructive interaction.

Concerning the transferability of knowledge or skills acquired in geographic fieldwork, it is suggested that schools should conduct more fieldwork activities that are characterized by transferable knowledge or skills because the knowledge or skills in some fieldwork activities are less useful or applicable to students' lives or the modern world. As regards demonstration, nearly a quarter of the students still felt that the fieldwork did not allow for more demonstration than classroom instruction. One major reason for this response is that some observational fieldwork activities in which student involvement was low did not allow for greater demonstration. It is surprising that most of the students selected "joys from conquering difficulties" as the most memorable experience instead of the stereotypical choices of either "methods to solve problems" or "acquisition of knowledge" which are more valued in Chinese education culture. This finding suggests that some of the students may still enjoy the experience of solving problems, although they thought the fieldwork was not easy to complete.

Additional factors may affect the conduct of fieldwork. The challenging nature of fieldwork may make it difficult to complete. This challenge is largely due to the passive

learning that has prevailed in Chinese schools. During exposure to field study, the students felt that it was difficult to find sufficient methods for integrating various necessary geographic skills to solve problems in geographic fieldwork. In addition, many parents did not enthusiastically support fieldwork. This phenomenon resonates with Han and Foskett's finding (2007) that parents often disagree with students' participation in fieldwork. Parents fear that time-consuming fieldwork will affect their children's exam scores, which play a crucial role in determining their children's future academic trajectory and eventual career. Most parents think geographic studies contribute little to help their children's future career, despite the fast growth of employment relating to geography.

In summary, our study suggests that students' perceptions of fieldwork are primarily positive. Fieldwork provided students with a deepened understanding of issues, cognitive and affective benefits, transferable skills and knowledge, social skills, demonstration, and cherished experiences. However, it is necessary to propose several suggestions. First, there is still room for improvement. Schools should transform some students' appreciation into perceptions of usefulness. This perception is important to gain or convince some students in the future. Second, junior high schools should conduct more fieldwork activities that are useful in the modern world and for the students' future careers. This type of fieldwork would be very helpful with regard to gaining parental support. Third, fieldwork should be compulsory or included in examinations to guarantee its consistent delivery in schools. Fourth, geography teachers should be more actively involved in the fieldwork process so that the students' performance could be fully assessed rather than the teachers simply relying on the students' reports or work.

From an international perspective, this study demonstrates that fieldwork enhanced student learning in geography. Future research can be performed in more schools in wealthier regions or countries to see whether and how the differences in socioeconomic levels, parental attitudes, or educational philosophies between developed and less-developed regions or countries would affect the perceptions of fieldwork.

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