

MODELING FIELD TRIP FOR CULTURAL STUDIES (DEPICTING DESIGN LEARNING AND TEACHING BEYOND A SCHOOL ENVIRONMENT)

Fung Ho Yin¹, Eva Yuen¹ and Sherman Chan¹

¹School of Design, The Hong Kong Polytechnic University, Hung Hom, Hong Kong, sdhyfung@polyu.edu.hk, sdeva@polyu.edu.hk, sherman008@gmail.com

ABSTRACT:

Traditional culture is a rich source of inspiration for design innovation. Besides books and the internet, the best way to learn about culture is to step out of the classroom and get into it. This paper reviews the possible models of conducting non-classroom teaching for cultural subjects in design curriculum. The subject "SD2020 Culture Revisited – The Use of Media in 'Making'" will be analyzed and presented as an exemplar of conducting field trip study in tertiary design education. Theoretical aspects of "Experiential Learning", "Collaborative Learning" and "Hand Sketching" will be looked into.

The different modes of conducting SD2020 are then unfolded for understanding the learning process of the students. They explore methods of study through a series of custom-designed pre-trip lectures and workshops. During and after the trip, they are introduced to multiple ways of reflection on how things are made as informed by social, historical, material and aesthetic concerns.

Keywords: Traditional culture, experiential learning, field trip study

INTRODUCTION

SD2020 is the code of a subject titled: "Culture Revisited – The use of Media in 'Making'". It is one of the elective subjects developed for the curriculum of the Higher Diploma in Multimedia Design and Technology in 2002.

Following the phasing out of the diploma programme in design, the School of Design of the Hong Kong Polytechnic University developed and launched the Higher Diploma in Multimedia Design and Technology in 1999 as a response to the digital technology advancement in the design industry. After running the programme for a couple of years, it was quickly aware that due to the emphasis on computing technology and the digital media, there was a deficiency in contextual and cultural studies in the curriculum. Also lacked of was the training of hand skills with tactile media as a source of creative exploration.

Upon careful review, the elective subject of "Culture Revisited – The use of Media in 'Making'" was developed and proposed as a supplement for the Higher Diploma Programme. Its aim was to expand the students' vision of multimedia design by a comparative study of the lifestyles of a foreign city and Hong Kong. One major, indispensable core component of the subject "Culture Revisited – The use of Media in 'Making'" is a study field trip to a foreign city. Over the nine years since the subject was implemented, students of different cohorts have visited Singapore, Penang and Kuala Lumpur of Malaysia, different cities in Taiwan and in Mainland China. The trip usually took about a week, and activities included outdoor sketching and photography, visiting historical and natural sites, attending seminars and academic exchanges, practicing handicraft workshops and enjoying close encounter with the local culture.

The following are the objectives that the subject was intended to achieve:

- To address the importance of cultural aspect in multimedia design;
- To facilitate the learning of culture and media through a curriculum focusing on experiential learning;
- To encourage the application of hand visualization and/or photography as effective tools for observation and self-reflection

Since its first implementation in the winter of 2002, the elective subject has been running and developing continuously and it will be celebrating its 10th anniversary in the coming December. The authors believe it's a good time to re-examine the subject through a systematic research and wish to share the results as an exemplar on running study field trips in tertiary design education.

THEORETICAL FRAMEWORK

EXPERIENTIAL LEARNING

Cultural subjects are not uncommon in a design curriculum. Nevertheless, they often take the form of powerpoint lectures and students are expected to acquire information through indirect sources such as books and the internet. While these sources are without doubt valuable and efficient resources in academic learning, the learning through concrete, first-hand experience with the subject concerned has been proven effective and provides profound results. According to David A. Kolb, knowledge is continuously gained through both personal and environmental experiences (Caffarella & Baumgartner, 2007). With Kolb's famous four-element model (concrete experience, observation and reflection, abstract conceptualization and active experimentation) in mind, this culture-related subject was designed to take the students out of the classroom and have them actively engaged in a cultural experience which they would reflect upon, conceptualize and develop into new ideas of a design.

In Kolb's model, self-reflection on the experience is an indispensable part of the learning cycle. Students of SD2020 are introduced with the reflection tool of the logbook. They are taught to use hand sketches, texts, collage of photos and other creative means to reflect in their logbooks on information gathered in pre-trip lectures, workshops, tutorials, and day-to-day encounters during the trip. Upon their return they conceptualize their thoughts and inspirations and transform them into new ideas that would subsequently developed into their final project outcomes. In many cases these logbooks and the subsequent processes have proven to be their valuable assets in their future design career.



Figure 1: The logbook is an important tool for self-reflection

COLLABORATIVE LEARNING

There's been research showing that learning is inherently social (Smith and Macgregor, 1992). Unlike individual learning, people engaged in collaborative learning capitalize on one another's resources and skills (asking one another for information, evaluating one another's ideas, monitoring one another's work, etc.)(Chiu, 2008). More specifically, collaborative learning is based on the model that knowledge can be created within a population where members actively interact by sharing experiences and take on asymmetry roles (Mitnik, 2009). Since its very beginning SD2020 has always been operating on a group project basis. Students are divided into groups of four to five right from the start. One from each group is elected as a group leader, and the rest would take on different roles to share the workload. Throughout the project, they must learn how to function as a team. "In collaborative endeavors, students inevitably encounter difference, and must grapple with recognizing and working with it. Building the capacities for tolerating or resolving differences, for building agreement that honors all the voices in a group, for caring how others are doing – these abilities are crucial aspects of living in a community" (Smith and Macgregor, 1992).

Owing to the fact that SD2020 is open to students from two higher diploma programmes, namely the Higher Diploma in Multimedia Design and Technology, and the Higher Diploma in Product Innovation and Technology, the benefit of collaborative learning and peer learning is further enhanced by deliberately mixing students of the two programmes, and of different levels within a group. Due to their varied backgrounds, it's easy for them to take up different roles and contribute their individual talent and capability to the group.



Figure 2: Teamwork may require much patience and lots of give and take, but the result could be very rewarding

HAND SKETCHING

The advancement of digital technology in the design profession has drastically changed the curricula of design programmes. Subjects that were considered important in the traditional curriculum have given way to new, computer-based subjects. Life drawing, or hand sketching training, for instance, has become scarce in many design curricula today. Nonetheless, as fresh graduates from design programmes have improved in computer literacy and been able to manipulate major design software, more and more are blamed for not able to explore design possibilities with hand-drawn sketches. Although there hasn't been much research done on how hand sketching can facilitate the generation of creative ideas, many prominent designers and practitioners of the creative profession have demonstrated how sketching can be an effective tool for idea exploration and development. The great architectural master Le Corbusier spent four years between 1907 and 1911 touring around Europe. Known as the Grand Tour, he brought home sketchbooks filled with notes and drawings. Many of which were "direct imitation of historic forms" that "had become compromised as a design strategy, copying was still considered indispensable for the training of both the eye and the hand. Choosing an object of inquiry, then drawing it carefully, was not only a way of avoiding the mere distraction caused by the overabundance of things, but also, as William Morris had explained, a way to avoid being cheated by those who produce fakery by mere imitation" (Von Moos and Ruegg ed, 2002).

To be able to sketch freely and spontaneously of what's in one's mind, life sketch training is the first step to start with. SD2020 was designed with the revival of this important craft in mind. The field work nature of the study is perfect for encouraging the students to work with pens/brushes and paper.





Figure 3: Life sketching/drawing has become a standard pre-trip workshop activity in recent years. It helps to prepare the students to get use to drawing freely with confidence.

METHODOLOGY OF CONDUCTING FIELD TRIPS

COURSE PLANNING

In order to achieve the positive results of the education theories stated in the previous paragraphs, careful planning of pre-trip, in-trip and post-trip contents is vital. Although the trip itself takes only about a week, the planning and implementation of the course last almost all year round. A table summarizing the activities involved in the preparation and execution of the course is outlined below for easy reference.

Timeline	Activities
April to September	Brainstorming of theme, T & L activities, schedule and destinations of up-coming field trip.
Late September to early October	Info session for subject registration, and actual subject registration (selection of students, if over-subscribed)
Mid October to early December	Detail Itinerary Planning Project Briefing to students Pre-trip lectures, workshops, local field trips and tutorials Interim Presentation
Mid to late December	Overseas Field trip study
Early to mid January of subsequent semester	Post-trip tutorials Final presentation/Critique and submission of project

Table 1: Working schedule of planning and implementing a study field trip

FOUR MODES OF FIELD TRIP PLANNING

Over the nine years of planning for the field trips of SD2020, the tutors have tried various approaches in order to achieve the optimum effects. Not only the destinations were different year after year, the composition of the students, guest tutors, personnel of the travelling agency and their network of facilities were all varying factors and demand a customized approach of planning. In this paper, we present four different modes of field trip planning that we had applied in the last nine years. They are:

- 1) Student-driven Mode,
- 2) Network-driven Mode,
- 3) Tutor-driven Mode,
- and
- 4) Agent-driven Mode.

1. STUDENT-DRIVEN MODE (EXAMPLE: 2002-03 SHANGHAI)

In normal practices, a field trip study is solely planned by tutors. Students follow their guidelines to participate. In the Student-driven mode, students are invited to participate early from the planning stage. A working committee is formed to work out the details and coordinate with agencies for flights and hotels booking. Under guidance of their tutors, they would work out an itinerary that can help accomplish their objectives and projects.

PEDAGOGIC FOCUS

The project brief required the students to “envisage the new life span of a chosen artifact or design from a foreign city (Shanghai) when it is made and used in the environment of Hong Kong”. In terms of pedagogy, the teaching and learning objectives were as follows:

- 1) **To foster organization skills, social skills, team spirit and leadership of the students**

25 students were divided into 5 groups. A working committee was formed which included a chairman, secretary, treasurer and the 5 group leaders. The class first did desk research and decided on what artifacts / designs they were going to investigate during the trip; then, they worked out the detailed itinerary and coordinated with service vendors for budget estimation.

- 2) **To strengthen the students’ research and analytical ability and to stress the importance of which as a strategic aspect in design**

In the pre-trip stage, students were introduced the concept and techniques of conducting qualitative research. During the trip, each group had their individual target “client” and they had to plan a sub-itinerary to visit and interview this local client. After this close encounter with the local culture in Shanghai, they were able to compare with that of Hong Kong and adopt the design to their home environment.



Figure 4: Field research on a client – a dessert shop in Shanghai

3) Through visiting sites of historical and cultural significance, to facilitate the learning of culture and to help recognize the importance of contextual studies in design

Day	Date	Time	Activities
1	10 Jan 2002 (Fri)		Arrive at Putong International Airport Coach Trip to Captain Hotel Lunch 外灘> 南京路> 上海書城> 河南中路 Dinner 夜遊黃浦江
2	11 Jan 2002 (Sat)		Breakfast 上海歷史博物館> 宋慶齡故居> 上海美術館 Lunch 上海博物館> 大劇院> 自然博物館> 一大會址 Dinner 新天地 (和平飯店)
3	12 Jan 2002 (Sun)	AM PM	朱家角 周莊
4	13 Jan 2002 (Mon)		University Visit / Design Firms Visit 豫園 / 老城隍廟
5,6	14-15 Jan 2002 (Tue)		Group Research
7	16 Jan 2002 (Thu)		會議中心> 觀光隧道> 東方明珠塔

Table 2: Original itinerary of the 2002-03 Shanghai study field trip

2. NETWORK-DRIVEN MODE (EXAMPLE: 2004-05 YUNNAN)

"Network" here refers to the personal connection of tutors with overseas institutions or inter-institutional connections. Having such a network is always an advantage and is a good starting point in the planning of field trip activities. It may lead you to uncommon /private locations or events; meet special scholars and attend lectures which may never be possible at home schools, thus making the study trip more unique and valuable.

PEDAGOGIC FOCUS

The rich academic nature of the 2004-05 Yunnan trip was the result of strong networking between a PolyU professor and several institutions in Yunnan. Through it the following pedagogic objectives were highlighted:

1) **To expose the students to a design learning environment of another culture**

The itinerary of the 2004-05 field trip to Yunnan has included the visiting of the School of Arts and the Ethnic Culture Research Institute of the Dali University. The students had the chance to visit and interact with local design students working in their studio.

2) **To introduce to the students with the learning and research of minority ethnic culture**

Special lectures on design and on historical and cultural research of the Bai Ethnic Minority were offered by local professors. Also visited was the Dongba Research Institute, located at Lijiang, the birth place of the more than 1000 years old Dongba Culture. Students had a first-hand learning experience of the Dongba ancient script that had become extinct.

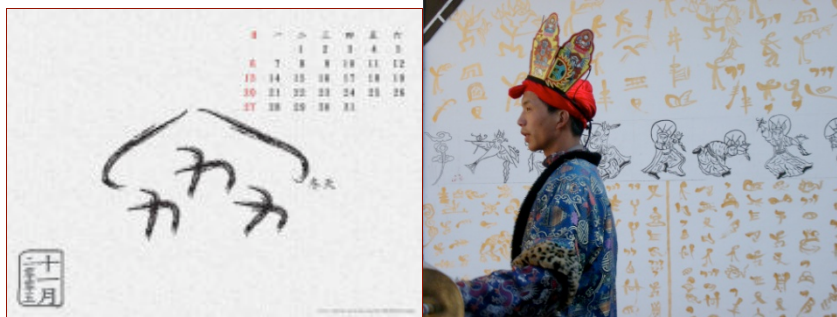


Figure 5: Student's calendar design developed from Dongba pictograph scripts.

3) **To provide a first-hand learning experience of the culture of an ethnic minority**

With the guidance of local scholars and tour guides, the students visited the Bai Minority region in Dali, the Naxi ancient culture and the Lugu Lake, with the only remaining matriarchic society still in function in the world.



Figure 6: Close encounter with matriarchic culture at Lugu Lake

4) To introduce ways of transforming traditional culture into elements of modern design

With the help of tutors, students were able to reflect on the rich cultural experience, as captured and organized by sketches and photography, and transformed everything under a design context and applied them to meet the design brief.

3. TUTOR-DRIVEN MODE (EXAMPLE: 2006-07 TAIWAN)

This is the most typical approach in which the tutor(s) are responsible for all of the planning tasks. However, in our discussion here there is an additional meaning that the tutor(s) plan the field trip and the learning activities according to their area(s) of expertise and academic research interests.

The 2006-07 Taiwan study trip was a good illustration of this mode. A specific theme – “The Colour Eye for Personal Expression” (A systematic way of understanding a region: seen from the perspective of colour) – was developed for the project brief of that year, since Colour is a consistent area of research interest of one of the tutor-in-charge, Eva Yuen. In a typical design curriculum, colour theory is usually taught from a scientific or psychological perspective. This field trip study had provided a unique platform for teaching and learning colour through a cultural perspective.

PEDAGOGIC FOCUS

1) To foster personal understanding and point-of-views on a wide range of design-related cultural aspects.

The main objective of the field trip:

Through the observation/investigation of the role that colour plays in the areas of culture, history, nature, design/arts and craft, to formulate views on:

- How a region develops;
- The unpredictable nature of civilization;
- The roles and capabilities of the designer.

2) To explore the role colour plays in a specific culture through actual participation and direct observation.

The students were expected to “engage critically in the process of investigating the psychological, cultural, and environmental aspects of colour in use”. Hence the itinerary was designed to maximize the opportunity for the students to explore those different aspects along the route of the trip. The table below helps to illustrate this point.

City	Days of Stay	Place of interest	Studying Topics	Areas of focus
Gaoxiong (高雄)		Direct bus to Kending		
Kending (墾丁)	(1)	Museum of Marine Biology Nature(Coast line)	Colours of the ocean	tone & value (value of blue)
Rail / Tour bus				
Meinong (美濃)	(1)	Meinong Hakka Cultural Hall Paper umbrella workshop Folk Village	Colours of handicraft Colours of folk art	hue (primary, secondary & tertiary colour)
Tour bus				
Gaoxiong (高雄)	(2 - 4)	National Science and Technology Museum(工藝博物 館) Night scene, night market(夜色、夜市) Lianchiwan District(蓮池潭區)	Colours of the harbor, Colours of the sky	Tone and space (value of blue)
Tour bus				
Tainan City	(2.5)	Mizong Mountain(密宗山) Lu-ermen Tianhou Temple(鹿耳門天后 宮) saltern(鹽場) 古城/北平老街 Baihe District白河 區 Zhumen Lian Garden(竹門蓮花園)	Religion(密宗)colours Green series— bamboo, lotus, flowers, etc. Old colours	(hue) : (primary, secondary & tertiary colour) Chroma (tint/shade/ton) : e.g. the use of brown colour family
Rail / Tour bus				
Taipei	(4)	Palace Museum(故 宮博物院) 墨色國際(幾米) 橘園國際 琉璃工房 鶯歌陶瓷博物館 + 工 作坊	Industrial design, creative industry, economy	Colour applications
Hong Kong		Afternoon flight		

Table 3: Preliminary itinerary of 2006-07 Taiwan trip

3) **To deepen the learning experience through the introduction of hands-on workshops**

To supplement the various visits to explore different aspects of color usage, a number of hands-on workshops, namely paper umbrella, kite and hot air paper lantern (孔明燈) making were arranged to provide students a first-hand experience of colouring with traditional materials and culture. Also carefully designed were a number of pre-trip lectures and workshops on colour. A mini exhibition of the students' works was also planned for after their final submission.



Figure 7: Experiencing the "Local Colour" in hand-paint paper umbrella and hot air paper lantern workshop

4. AGENT-DRIVEN MODE (EXAMPLE: 2008-09 HUNAN)

Cultural tourism is getting popular and more tourist agents are specialized in planning trips for cultural studies. With the right agent chosen and their resources being correctly utilized, their expertise and knowledge can contribute a lot in delivering the desired learning outcomes. The study trip to Hunan Province was a good example of this mode.

PEDAGOGIC FOCUS

1) To explore the impact of nature and man-made environment on the development of design commodity

As stated in the project brief, "This subject firstly brings the students out of the school environment to look into the cultural identity of Hong Kong. They are asked to 'illustrate' and 'represent' the specific characteristics of a chosen area in Hong Kong. It then brings the students to Hunan to view and compare the characteristics of 'man-made' and 'nature-made' objects and phenomena." To serve this latter purpose, the agent proposed a two-nights-stay at the "Ancient Town of Phoenix"(鳳凰古城), and a two-day trail at the scenic Zhangjiajie (張家界) as two major attractions of the trip, which turned out to be perfect.



Figure 8: The natural wonders of Zhangjiajie had kept the students occupied with life sketching and photography for hours

2) To allow free time and space for field work, project development and reflection

The rich cultural atmosphere and interesting architecture of the ancient town and the natural wonders of Zhangjiajie had kept the students occupied with life sketching and photography for hours. There were small art and craft merchants and workshops with friendly shopkeepers who are willing to chat with the students and do interviews. On one occasion, a group of students spent their supper time and own money to join a tie-dye workshop in addition to the other pre-arranged workshops, to get a hands-on feel of the folk craft. Most importantly, the stay is

relatively long to allow sufficient free time for the students to explore the place and the people on their own.

3) To involve the travel agent/tour guide as a collaborator in teaching and learning

The agent was also attentive to assign a manager who is a photography enthusiast himself. Throughout the trip he took pictures with the students and shared photographic knowledge with them. He was well-aware of the extra time the students needed for taking pictures and sketching, and never rush them for the next stop. This helped to provide a good learning experience for the students overall.



Figure 9: The unique field trip experience was transformed into an illustrated pop-up game.

CONCLUSION

When asked why he/she is interested in enrolling SD2020 for a design study field trip, many of the students attending the info session replied because they love to travel. Although some of them added they like the idea of travelling with tutors and will learn “new things”, many are treating the subject as a “sight-seeing tour” and not aware of the potential influence of it with respect to their future design career. Hence, it’s crucial to lift the students’ expectation of the course, and of themselves, right from the beginning. Let them know what they may be able to accomplish and what you would expect them to achieve.

So far, we have listed out the characteristics and pedagogic focuses of each of the four field trip planning modes that we have developed over the years. The various outcomes of each of them in terms of teaching and learning are concluded below as recommendations for field trip planners.

1. THE STUDENT-DRIVEN MODE

Having the students involved early in the planning and organization of the field trip, the Student-driven approach is successful in enhancing their concentration of the subject. Being responsible for how the trip would turn out, this sense of “ownership” had motivated the students to engage in the learning process whole-heartedly. Further, not only did they learn how to organize a field trip for a group to meet the research objectives, they had also improved their social skills through teamwork and negotiation with third parties. In cooperative learning, the development of interpersonal skills is as important as the learning itself. The strategies involved in assigning roles within each small group had ensured the positive interdependence of group participants and had enabled students to practice different teamwork skills (Johnson, Johnson and Holubec, 1990). The process also helped foster the leadership of some of the students, which was essential for the successful completion of pre-trip and in-trip learning activities.

However, it should be noted that the Student-driven Mode may only work with relatively mature and independent students. As they have to deal with real clients and third party service providers, learning from mistakes can be costly. Lots of self-discipline and initiatives are required to solve numerous problems and to meet deadlines throughout the planning and implementation stages.

2. THE NETWORK-DRIVEN MODE

A study trip with the collaboration of networking overseas academic institutions can be a rich and unique experience. In the education arena, this experience usually includes academic lectures and other academic exchange activities. Students have the rare opportunity of learning from foreign scholars and professionals, and are able to interact with fellow local students/academia and learn about their culture and lifestyle. Also

valuable is the chance to visit special facilities as referred by the local institutions other than the usual tourist attractions.

However, it is advisable not to overload the itinerary with too many academic activities as the students may not expect too many formal lectures in a lecture hall setting in a field trip and may not respond and involve as proactively. When planned, it's better to give them more information about those activities and arouse their curiosity on the topics in advance, so that both the students and the receiving parties could benefit as intended.

3. TUTOR-DRIVEN MODE

A good learning outcome can be expected if the teacher can tailor-make a field trip according to his or her areas of academic interests. And it's not just for the students' sake. The teacher can also benefit by taking his or her knowledge out of the classroom and re-examine it in a new setting. In many cases new discovery and insights can be found. When teachers are breaking new grounds in the quest for new knowledge, their excitement can motivate the students to excel as well.

4. AGENT-DRIVEN MODE

In the Agent-driven mode, it is important that the tutors know what they want to achieve in terms of teaching and learning. A travel agent is certainly more knowledgeable in suggesting routes, arranging accommodations and transportations, and meeting budgets. But it's important to make them understand the specific needs for meeting the objectives of the field trip, especially for students of a design background whom they may not be familiar with. For instance, allowing sufficient time for sketching and taking pictures during a specific excursion, or for doing field research or trying out of traditional craft techniques.

In addition to the above mode-specific recommendations, there are also some general guidelines to help better-plan a design study field trip.

Project-based assignment – do not just ask for a report as the only assignment for the field trip. It's advisable to set a theme, design a project with a proper project brief and requirements clearly written. Problem-based learning has more profound effects.

Collaborative learning – have the students work in small groups. Create a situation in which they can develop interpersonal and social skills, as well as their leadership.

Pre-trip T & L activities – as long as resources allow, provide custom-designed pre-trip lectures, seminars or workshops to complement the trip. Drawing lessons and outdoor sketching activities serve as warm up exercise for the actual trip. Pre-trip activities usually make the students anticipate the actual trip more.

guest tutors/artists/designers - Invite guest tutors/artists/designers to join –ask artist/designer friends to join and many are willing to pay for their own trip. Guests with diversified professional backgrounds can enrich the composition of the team. Students may treat them not so much as teachers but as role models. Their individual expertise and persona can be inspiring to the students' trip learning experience.

Hand sketching and logbook - The logbook is a valuable tool for artistic records and personal reflections. Encourage and provide lessons on hand sketching and snapshot photography. Also promote experiments with different media. Ask the students to start using the logbook at the pre-trip stage, and make sure they know they have to submit it as part of the project outcome.

On itinerary planning – do not try to plan too many destinations within a trip. Try to allow two nights or more of stay in a single location. Allow some free time for the students to let their experience settle.

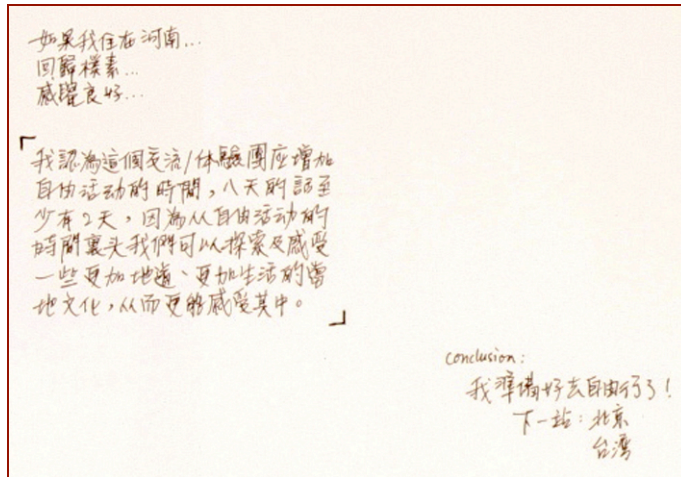


Figure 10: Allow sufficient free time in the itinerary for students' own reflection

In addition to this paper, the research team is also working on a book on design field trips intended for publication. A web site is also being prepared. It will be an archive of SD2020 and is intended to be a reference for field trip planners and interested students.

REFERENCES

- Angelo, Thomas A et al. Collaborative learning techniques: a practical guide to promoting learning in groups. San Francisco, Calif.: Jossey-Bass Pfeiffer; Chichester: Wiley, 2001.
- Chiu, M. M. (2008). Flowing toward correct contributions during groups' mathematics problem solving: A statistical discourse analysis. Journal of the Learning Sciences, 17 (3), 415 - 463.
- Davis, Barbara. Tools for Teaching Jossey-Bass, 2009
- Ebert-May, Diane et al. Pathways to Scientific Teaching. Sunderland, Mass.: Sinauer Associates, 2008.
- Johnson, D.W., R. Johnson, and E. Holubec. Circles of Learning: Cooperation in the Classroom. Edina, MN: Interaction Book Company, 1990.
- Mitnik, R., Recabarren, M., Nussbaum, M., & Soto, A. (2009). Collaborative Robotic Instruction: A Graph Teaching Experience. Computers & Education, 53(2), 330-342.
- Savin-Baden, Maggi and Major, Claire Howell. Foundations of problem-based learning. Maidenhead: Society for Research into Higher Education & Open University Press, 2004.
- Sheffield: CVCP Universities' Staff Development and Training Unit, 1992.

Smith, B. L., & MacGregor, J. T. What Is Collaborative Learning? National Center on Postsecondary Teaching, Learning, and Assessment at Pennsylvania State University, 1992.

Williams, Mike and Horobin, Richard. Active learning in field work and project work. Sheffield: CVCP Universities' Staff Development and Training Unit, 1992.

Von Moos, Stanislaus and Rugg, Arthur, editor. Le Corbusier before Le Corbusier. Yale University Press, 2002.