

Building Place-based Research in a Study Abroad Program: Interdisciplinary Pedagogical Approaches to Learning about Cultural Sites

Zhan Zhang, M.A., University of Pittsburgh
Xiaolin Duan, Ph.D., North Carolina State University (xduan4@ncsu.edu)
Noboru Matsuda, Ph.D., North Carolina State University

Overview

This paper outlines the design, implementation, and outcomes of a pedagogical project that investigates possible approaches to effectively enable students' deeper understanding of cultural sites. This project involves collaborations between scholars in history and computer science, as well as engagement with the College of Engineering's summer program at Zhejiang University in Hangzhou, China.

This paper examines if and how creative place-based research that asks students to examine the significance of cultural sites, can be more effective in helping students learn about cultural sites, especially in the study abroad experience. We argue that incorporating place studies in student-oriented research projects enhances learning about cultural sites — both by providing students a theoretical framework to rethink their engagement with the new environment and by motivating students to adopt a researcher's perspective about specific sites.

The following discussion starts with introducing our findings about three difficulties (or “pain points”) in learning cultural sites and our approaches addressing them. It is followed with a literature review that discusses how our project fits into the intersection of scholarship on place studies, study abroad programs, and digital humanities. It then charts the unfolding of our research project: the interview that identified difficulties of learning about culture sites; the design of the place-oriented project; and the pedagogical experiment in the study abroad program. As this project is still ongoing and open to productive new inclusions, we then discuss the possibility of using digital technology, specifically a proactive map, to enhance learning and teaching about cultural sites.

Difficulties of Learning Cultural Sites and Our Approaches

We started this project by identifying current pain points in learning about cultural sites. In this article, cultural sites are defined as areas of landscape and/or landmarks that demonstrate the interplay between humans and nature, or which are associated with specific social and political meanings, both historically and currently. Based on the interviews we did in fall 2018 (further details are provided below), we hypothesize that the effective pedagogy for learning cultural sites should involve “timeline,” “story,” and “experience.” Timeline provides historical context and is crucial for students to grasp chronological development. Remembering timeline, however, could be abstract and confusing for many students in conventional teaching. Experience refers to the geographical setting of the site. In conventional courses, it is usually difficult to conceptualize being in the physical place, but it is essential for students to recognize the context in which a specific place situates.

Story, which happens in a specific time, conveys the cultural significance and symbolic meaning carried by sites. Constituting the framework and significance of a cultural site, these three elements are the most essential and difficult parts for students to understand and to research.

We, therefore, focus on exploring ways to present the timeline straightforwardly, enhance the experience in teaching cultural sites, and further students' learning of and research about the story. Among the three, understanding the story is the foremost challenge and the focus of a majority of interviewees. In order to focus on cultivating students' learning of the story, we chose to try a novel pedagogical approach in a study abroad program during summer 2019. While the built-in cultural site visitation in the study abroad program could solve the problem of experience, we hypothesized that building a creative place-based research project into the study abroad program would be more effective in helping students learn the story of one site.

During the interview and the design of the pedagogical experiment, our goal focuses on teaching students learn to learn (also called accelerated future learning in the literature of learning science, Schwartz & Martin, 2004), which is different from lecture-based teaching and paper-based assessment that focuses on students' final products. The focus on teaching students learn to learn allows them to get the story by themselves rather than passively learn any cultural history of the site.

The design of this place-oriented research project is also in accordance with the Ideas, Connections, and Extensions (ICE) model, in which Sue Fostaty Young and Robert Wilson define three main stages of learning growth from novice to expertise (Young & Wilson, 2000). In our project, the *Ideas* represent the learning process in which students were given various information through the lecture, the assignment, and the observation questions. At the *Connections* stage, students are asked to connect what they learned about one site to their actual experience and further research that they did during the study abroad program. Then, *Extensions* allow students to present their knowledge and experience as concrete outcomes, including their digital products and the final presentation.

The outcomes and comments from the study abroad project provided us with inspiration and empirical justification for developing a new learning tool that we call a *proactive map*, which features real-time guide along with a database that includes overlays of historical images and students' study abroad research. We are currently developing it. This map allows users to explore and also contribute their own findings about one cultural site from three perspectives: timeline, experience and story. We suppose that such a proactive map functions as a destination of students' research outcomes and also enhances future students' exploration of the site. More details will be discussed in the reflection section.

Literature Review

Our emphasis on teaching about cultural sites is according to the new research on "place studies" and informed by our experiences while leading study abroad programs. Many cultural sites that are important to history education are often included among the immersive cultural activities of study abroad courses. Therefore, the teaching of culture sites and the study abroad program are usually intertwined and mutually enhanced.

In recent years, the emerging field of place studies (Robson, 2009) calls to regard a particular site as an essential and unique locus for the production of materiality and the construction of discursive conversations. Place studies involve interplays between multiple disciplines such as geography, urban studies, environmental studies, anthropology, and history. This approach explores how humans record, utilize, and conceptualize the physical place. Meanwhile, scholars also explore the application of place studies in pedagogical practice (Brooke, 2003; Johnson, 2012), especially in the teaching of writing (Case, 2017). While most of the existing scholarships focus on the consideration

of local cultural productions in the context of spatial politics (Ball & Lai, 2006), our project applies this scholarly perspective into undergraduate student research projects. This draws on the assumption that undergraduate research is a high-impact educational initiative as it builds students' academic competency and hones critical thinking skills (Hunter et al., 2007; McNary-Zak & Peters, 2011).

Scholars have recognized the critical educational role played by study abroad programs (Crisp et al., 2017). Scholars in general regard intercultural development (Vande Berg et al., 2009) and experiential learning (Hatcher & Watkins, 2016) as the primary areas from which students benefit during study abroad. Short-term study abroad programs focusing on cultural site learning contribute not only to the formation of students' intercultural awareness on globalization (Lumkes Jr. et al., 2012), but also to students' cultural adaptability and sensitivity when they encounter heterogeneous culture (Mapp, 2012). More specifically than the above works, our current project pays attention to the role of how place-based research enhances study abroad experience via site visits, student-oriented research, and the creative presentations of research.

In the realm of place studies, scholars have only recently begun to explore possible approaches for incorporating aspects of the digital humanities and Geographic Information System (GIS) technology into museums and classrooms. They seek to augment students' hands-on learning experiences by utilizing tools such as ArcGIS (www.arcgis.com) and Tableau (www.tableau.com). This new pedagogy emphasizes the visibility of mapping, movements of people, and crossing points of time and places (Benmayor, 2008; Hirsch, 2012). For example, the ongoing project "Hidden Florence: Geo-located historical walks in a context-aware environment," initiated by the University of Exeter, used Geo-technology to present the historical experience in space (<https://hiddenflorence.org/news/>). In addition, some museums and cultural sites also engaged in scholarship of digital humanities, such as the Smithsonian's National Museum of African American History, Culture, and Digital Humanities (AADHum) Initiative (<https://aadhum.umd.edu/about/>). Sharing similar interests with these pedagogical and research projects, we seek to include digital humanities and mapping techniques in undergraduate research.

Fall Semester 2018: The Interview about Learning Cultural Sites

To identify which impediments undergraduate students and educators confront when learning or teaching about cultural sites, we conducted an ad-hoc in-person interview to collect our first-hand data. The additional goal of this interview study is to obtain a sense of the range of student interest in this subject. The target groups were college undergraduates, instructors, and professionals in public history, such as those who work in museums or national parks. We designed three sets of questions, one for each group, respectively, based on the participants' educational backgrounds and personal experiences with site studies. There were two interview questions for each participant. The first question assures that the interviewee has practical experience. Respondents who had not engaged in place studies were not asked the second question. The second question focuses on concerns about specific difficulties relating to learning and teaching about cultural sites (Table 1).

From September to November 2018, two interviewers (i.e., one graduate student in the History M.A. program and one undergraduate student major in computer science) used these questions in a three-month session of interviews toward 81 persons, including 76 students, two faculty members in the Department of History, and three public history professionals. The interview was conducted at a public land-grant research university in an urban city. The two faculty members and three public history professionals were sampled in the Department of History, whereas student participants were randomly sampled on a campus, whose majors included, but were not limited to, history, engineering, anthropology, communications, education, biology, political science, psychology, sociology, and computer science. Two interviewers independently walked through the campus and

asked students at various places if they were interested in participating in the interview. This random selection was out of two considerations: 1) to eliminate any possible selection bias and 2) to be as inclusive as possible.

Table 1. Interview Questions for the Three Groups of Participants

Participant Group	Survey Question	
	Question one	Question two
Instructors	Have you taught about cultural landmarks or important landscapes in your history class?	What was the major difficulty when you taught this?
Students (graduate and undergraduate)	Think about your history, literature, anthropology or art history courses, or any other humanities/social science courses in either high school or college, have you ever been taught about a cultural landmark or an important landscape site?	What was the primary difficulty that you encountered while learning about the development and significance of the place?
Historical Professionals	Have you worked at a cultural landmark or important landscape site? / Have you curated exhibitions about a cultural landmark or an important landscape site?	What difficulties did you encounter when you introduced them to visitors?

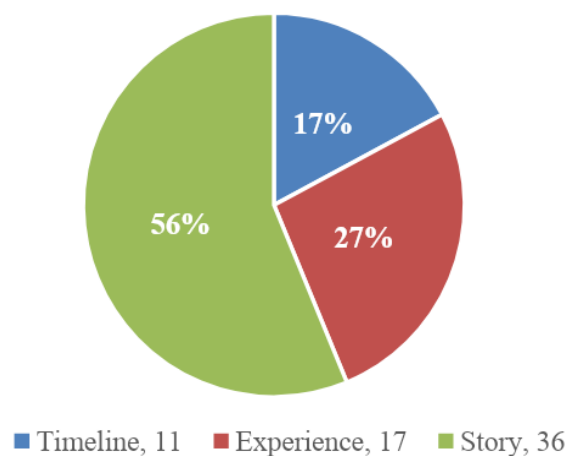
Each interview was face-to-face and lasted around ten to fifteen minutes. After providing information about educational level and major, and confirming their experience in learning cultural sites, the voluntary student respondents with such experience were asked to share what difficulties they encountered and what they thought about these challenges. Instructors and historical educators were invited to talk about what they considered as difficulties through their teaching experience. During the conversation process, two interviewers recorded the answers using sound recordings and by writing bullet-point notes.

Lessons Learned from the Interview

After the interview section, in the response analysis and evaluation phase, we mainly focused on analyzing the student answers. The project's primary aim was to comprehend students' learning difficulties about site studies, but it is worth noting that the answers of instructors and public historians are not different from the concerns expressed by students. Hence, based on the major aspects of challenges that most students mentioned, we identified 64 effective responses from 76 student answers. The ineffective answers were either unrelated or too specific about the course that the interviewees took. We then categorized them into three groups (Chart 1), each revealing a factor that could resolve the traditional pain of memorization. In the traditional classroom, as indicated in the interviews, memorizing historical and geographical facts about one cultural site is the central problem for many students. One interviewee said that the main issue of learning cultural sites is "not understanding the material but only focused on memorization." The complication of memorizing dry facts also hinders the passion and interest among learners. In other words, these three aspects shown in the pie chart would be the center of an innovative pedagogical approach regarding cultural sites.

The first and the most-reported difficulty was understanding the multi-layered cultural significance of a place through, using the words of a student interviewee, “retelling and knowing the whole story behind a cultural landmark.” We have termed this difficulty story. The symbolic meaning that a cultural landmark carries can vary for particular social groups. The historical records about a site could tell different stories based upon who wrote the source, the context of the account, and when the records were produced. Stories about a site are typically multifaceted and sometimes change as they are circulated. It is difficult for students to fully grasp how a cultural site was constructed and contextualized by different people with differing perspectives. On the other hand, because cultural sites are usually human-made, they exemplify a wide range of social customs and cultural identities that are not easily recognized by outsiders. It is difficult but imperative to understand a place within the context of its specific culture, especially when the learner comes from a different cultural background.

Figure 1. *Three pains of interest in learning cultural sites from the interview*



Second, the lack of physical and/or virtual experience could hinder students’ interpretation of a cultural site. Many students found it challenging to understand a cultural landmark without actual experience. One commented that “learning from photos or pictures cannot give us special and visualized points of view, so a physical experience will contribute to better understanding while learning a landmark.” Another student recalled his virtual reality experience of a gothic cathedral, commenting on how such a digital tool helps visualize the evolution of the map and how a place fits into the general geographical context. Techniques, such as virtual reality, provide students with an immersive experience in knowing the place. Without a physical observation or virtual experience, students might lose overall senses, such as the surrounding environment, of a cultural site.

Third, many students mentioned understanding the historical timeline. One student said, “My shortcoming is to keep a different timeline of the events in mind thereby to build a chronological connection on them.” If the learners were unable to conceptualize a clear timeline, they felt that it was difficult to form an overall impression of a specific cultural or historical site. Thus, sufficiently grasping and remembering the sometimes-complicated timeline of developments while also considering changes in the geographical location, human-made additions to the site during different periods, and various historical records of the site, were another of the students’ primary concerns.

After analyzing and classifying all the data, we concluded that three pain points shown in Figure 1 must be emphasized in teaching about cultural sites. These include the provision of a clear timeline and historical background, facilitating exposure in the form of a physical or a virtual experience, and conveyance of the complex cultural significance and symbolic meanings of the place.

Spring Semester 2019: Design of the Place-Oriented Research Project

To tackle these three pain points, we decided to work with a study abroad program. While built-in cultural activities in this program could tap into experience, we provided two history lectures to present timeline. More importantly, we developed a plan to focus on the most articulated pain point, story, for interpreting cultural significance. In designing a place-based research project for the study abroad program, we were primarily concerned with cultivating the students' transferable capabilities to cognitively identify, grasp, and utilize acquired knowledge more effectively. Considering the specific field of place studies, we expected students to devise arguments about cultural significance by evaluating and analyzing various historical documents, visual evidence, and geographical information. In other words, we wanted students to learn to do research about cultural sites, rather than to simply learn facts about cultural sites.

Figure 2. *Product-oriented model vs. expert-oriented model in cultural sites research*

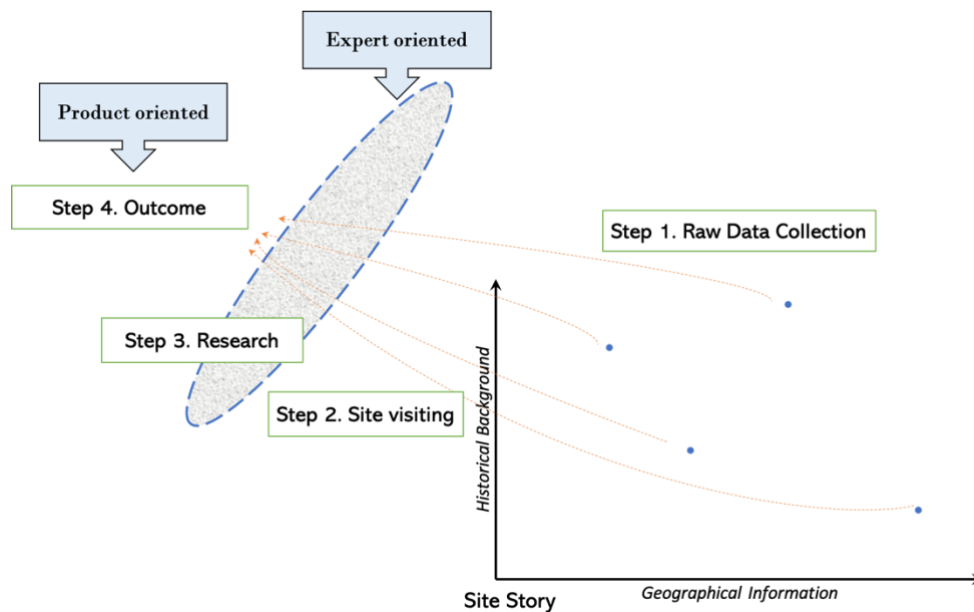


Figure 2 models the process of research on cultural sites. The first step is to collect historical documents about the site. As shown in the figure, historical background and geographical information constitute the framework for cultural and social engagements (shown as dots under Step 1 in Figure 2). This raw data collection can and preferably should be supplemented by the field research at the actual site (Step 2). Such field research could be done during the study abroad program or could also possibly be achieved with digital technologies. After data collection and site visitation, we then focus on teaching students how to evaluate and analyze these concrete data to extract the more abstract cultural significance of sites (Step 3). The last step is usually the students' final product. This process includes writing research papers and other creative methods to present their research. While most conventional teaching is *product-oriented* and thus focuses on assessing students' work with final paper or other writing assignments, our emphasis is on teaching students to learn how to do research, which is what we call an *expert-oriented* model. By emphasizing the expert-oriented model, we want to evaluate whether students can perform like an expert in doing research, rather than merely how their final works look like. Research has shown that students usually tend to pay attention to surface features when they solve problems whereas the experts (i.e., teachers/researchers) pay attention to deep features and structures (Chi et al., 1994). The goal is to

cultivate students' transformable skills so they can apply what they learn from the research project to other courses and future works (Gentner et al., 2003).

Applying this model of research on cultural sites to our design of a pedagogical experiment, we hope to better support students' research about the cultural significance of a cultural site that arguably facilitates learning a story of the historical events at the site along with timeline and experience. We planned to scaffold this project with several steps: 1) Students devise questions using readings on place information, and also research questions on the "sense of place"; 2) Students conduct their visits and observations, and simultaneously learn additional knowledge via guest lectures about the cultural context; 3) Students do research in groups on one cultural site; 4) Students present their research as groups with the aid of slide shows and digital presentations. The goal is to encourage students to grasp and interpret the story of the cultural site via their own research and creative presentation.

To tackle the difficulty of the lack of story as identified during the interview, we expected to achieve three goals via this project including: (1) inspiring motivation among the students to explore cultural sites from multiple angles, (2) reminding students of the differences between outsider and insider perspectives, and (3) helping students rethink their roles as sightseers and encouraging them to pursue experiences as researchers.

In this study abroad program, students lived on the campus of the Zhejiang University for six weeks. They took classes, conducted research projects with local students, and explored the local scenery through weekly cultural events. They were different from both the locals (insiders) and the short-term tourists. Instead, we wanted to encourage them to take advantage of this study abroad time to consider and evaluate different viewpoints of the local people, the tour guide, the foreign sightseers, and the researchers. Among all these viewpoints, the sightseer's perspective is the easiest to acquire and also the one that they were asked to be cautious about. The tour guides' viewpoints were noted and recorded during their cultural event. The local people's perspective was taken into consideration via interviews and observations based on a list of questions (see the following section). The researcher's viewpoint was mainly cultivated and motivated by this place-based project.

Allowing students to be aware of and integrate different roles in seeing cultural landmarks, we hope this project could enable students to experience the story in multiple perspectives and further interpret the cultural significance and context that have enriched the site. This type of active learning helps students realize the multiplicity of cultural meaning embodied at one site. Many interviewees said that it was difficult for them to truly understand the complexity of one site as it has varying facets among different groups of people. Asking students to do hands-on observation and research, as well as encouraging them to present what they found to others, could help them realize and tackle such complexity.

During this process, the student would rethink and be aware of their role as sightseers and also become conscious observers to acquire the researcher's perspective. The latter one is a crucial factor in the expert-oriented model of researching on cultural sites. Scholars have long debated about the academic's relationship with the tourist, detailing different roles that "researcher" and "tourists" played in interpreting one place. Nevertheless, tourists and academics are both outsiders, and their evaluations of one place are all about "gazing" and "conceiving" (Enevoldsen, 2003). In this sense, students who are involved in study abroad programs could base their research not only in different forms of historical sources but also based on their own observations. Their reflection on their role as tourists is essentially a process of academic gaze.

Summer Maymester 2019: The Implementation of a Place-based Research Project in the Study Abroad Program

Ideas: The Assignment of the Research Project

This experimental project was initiated as part of the Engineering College's summer study abroad program in the city of Hangzhou, Zhejiang Province in China. The program includes three courses and each student needs to register at least two of them. We mainly collaborated with the instructor leaders of two courses about Nuclear Engineering and Political Science, respectively. One of the courses was taught by the leader of the study abroad program. The two courses included thirteen students, all sophomores and juniors, with majors ranging from mechanical engineering to history. We designed a place project for the students: they worked in small groups to research a cultural site that they visited and developed a creative presentation for this place (Table 2). This project was designed to encourage the students to take full advantage of being abroad and of visiting cultural sites during their group-research days.

Table 2. *The Group Project Assignment*

Group Project: Place Studies	
Prompt	As a group, please choose a place you will be visiting in Hangzhou to do research . What gives this place its particular feel or character? How do our values and worldview influence the way we experience this place? What does this place—and the way it is represented in maps and other media—tell us about the city and the people? These place studies illustrate how we invest in and extrapolate big ideas from small places.
Format	<p>In order to present your research, you will design a creative presentation of this place. This could be a blog, digital map, Flipboard magazine, video, exhibit, or other type. Your final product should be focused on one theme and have visual and/or digital components.</p> <p>At the end of the project, your group will deliver a 15-minute argument-based presentation of your project to the class.</p>

We aimed to help students observe and analyze the sites as researchers rather than sightseers with foreign perspectives. We therefore designed ten questions (Table 3) and distributed these to the students on the orientation day, a month before their departure. These questions were research questions scholars usually ask in conducting place studies, so providing these questions would encourage students to think like an expert from the very beginning. This research preparation was the key of the expert-oriented model, as shown in Figure 2. In this meeting, we also encouraged them to start thinking about which site of interest (included in students' itinerary) they might be interested in exploring, so that they could do some research beforehand.

Connections: The Facilitation of this Project

This group project was both one part of the course assignments and a component of students' overall study abroad experiences. The two instructors designed relevant readings on place studies such as Yi-Fu Tuan's work on space and place (Tuan, 1977) and allocated class time for students' group meetings.

Each week during their study abroad program, students visited several cultural sites as a group with a tour guide. These sites included the Great Wall and the Palace Museum in Beijing, West Lake and historical district in Hangzhou, and Six Harmonies Pagoda and the light show on the Qiantang River.

During these cultural visits, students used the question lists to observe and experience the sites and absorbed as much information as they could, including the information from the tour guide, from fellow sightseers, and from tourist brochures and plaques. The students were also asked to create a shared cloud-data folder for everyone to upload pictures, short videos, and observation clips for all the sites they would visit. This online folder later served as a shared resource for the whole class.

Table 3. *Observation Questions about the Culture Site*

Culture Site Observation Questions	
1.	What is the history of the site you are visiting? How has its function changed over time?
2.	From your observation, who are/were the majority of visitors to this site? Why do/did people visit this place?
3.	What (historical, social, environmental, economic, political, etc.) factors make this site significant locally? What factors make it important nationally or internationally? Are they the same?
4.	How does cultural construction interact with the natural environment at this site?
5.	What information about this site do the available posters, plaques, and brochures offer? Who made these introductions? Who were the targeted audiences?
6.	How much does the government support tourism at this site?
7.	Would you say that the construction of this cultural site influences/hinders the development of the region? If so, in what ways? If not, then why?
8.	How does visiting this site inform, influence, reinforce, or reshape your impression of the city and China?
9.	How does globalization shape the way you interact with, interpret, and represent this specific place?
10.	What does this site reveal about human notions of nature, space, identity, and society?

After concluding most of their cultural visits, we offered two guest lectures during their course time: one on Chinese civilization in general and one on the environmental/political history of Hangzhou and its West Lake. Around the same time of our visits, students were then given a week (about two course meetings) to research in groups and work on their presentations. They collected and analyzed primary and secondary sources about the sites of their choice, the visual images, their interviews and other sources collected during the site visits. Following the guest lectures, we also offered one day as office hour and consultation time to answer any questions from the students.

Extensions: The Outcome of the Research Project

The students' final products and presentations exceeded the expectation of both instructors in the study abroad program. Several factors, including the research questions we provided, the real immersive observations, and their excitement about using digital tools, encouraged them to produce innovative story-centered narratives based on insightful research. In Table 4, we list the sites that they worked on and the arguments they proposed. Many of these groups researched the cultural significance of the site via perspectives of place and space, political and symbolic meanings, or negotiations between history and the modern place.

Table 4. Key Points Brought up in the Students' Projects

Place	Argument	Features of Their Presentations
Six Harmony Pagodas	The historical significance of the Six Harmonies Pagodas contrasts with and contributes to urban development	<ul style="list-style-type: none"> • Commented on the interactions between nature and urbanization • Used Minecraft to build this site
The Forbidden City	The Forbidden City remains as an important symbol in modern China due to its attractions and potency as a political symbol, and it helps to define a common Chinese identity	<ul style="list-style-type: none"> • Discussed both physical and cultural constructions of the Forbidden City • Commented on how tourism appeals to international visitors
Tiananmen Square	The political symbolism of this square changed through history, reflecting different political contexts	<ul style="list-style-type: none"> • Analyzed spatial relations among the newly added buildings on the square
Great Wall	The Great Wall represents China's ability to unify its nation by containing itself and separating it from others	<ul style="list-style-type: none"> • Provided the historical background of this site, focusing on the intention behind its construction, and its cost and materials. • Did a painting of the Great Wall
West Lake	The fascination with West Lake is not derived from a direct perception of the lake but rather from an impression created by a history of romanization and place branding	<ul style="list-style-type: none"> • Created a website for West Lake • Discussed the place's unified cultural meaning, borrowing the concept of topophilia • Brought up questions about interactions between nature and city
The Hangzhou Tea Museum	The value of this museum comes not from information that it provides but from its ability to unify Chinese people	<ul style="list-style-type: none"> • Demonstrated that the incorporation of tea culture helps define the local culture and local identity

Students' Reflection of the Research Project

At the end of the project presentation, before the grades came out, students were given six questions to provide feedback (Table 5). We told them that the feedback would allow us to consider new teaching approaches and possible pedagogical innovations. The survey is anonymous, and students were given adequate in-class time to answer. These survey questions include two types: one is similar with the interview questions we conducted with random selected interviewees in Fall 2018, and the other is asking students to evaluate the pros and cons of the group project.

In this survey, students firstly emphasized the importance of study abroad, especially the physical experience of visiting the sites, in learning about cultural places. When asked how the study abroad experience particularly inspired them to learn about the cultural sites, many of the students agreed that in-classroom teaching often is limited in its provision of a sense of scale and context. Visiting the

sites helped them “understand the place from a personal perspective and situate the site in the context of the surrounding area.” Some commented that communications with the local people helped them gain an understanding of how the local inhabitants perceive the site. Students in the study abroad program called this “active learning” rather than “passive note-taking,” as they were inspired to discover their own way of learning cultural sites. Despite the advantages of the study abroad program in improving geographical experience, the students also indicated that the difficulty of doing the research project was how to make connections between the present and the past, as well as grasping the cultural significance of specific sites. These are the other two pain points concluded from the previous interviews we have done. All the students agreed that the place-based group project made them think more deeply about the sites. One student said, “this project helped me think more critically about the connections between cultural, historical, and physical contexts of the sites.” Another student commented that the presentation project provided a complementary perspective for them; they learned about the site from local guides and local people, while their peers’ views allowed them to process the site with comparison to foreign perspectives.

Table 5. *End-of-Project Survey*

End-of-Project Survey Questions
<ol style="list-style-type: none"> 1. What makes your previous learning of cultural sites painful? How do visiting the actual sites and doing this group project help with the learning? 2. Do you find the questions useful in guiding you through the cultural sites? Why and why not? 3. What was your pain point to go through this project? 4. What was your pain point in preparing for the presentation? Any suggestions? 5. In learning a culture site (take Hangzhou’s West Lake as an example), what information/knowledge do you hope to have before and during this project? If we want to design a website to facilitate your learning of this site, what information do you think we should include? 6. Any other feedback you would like to provide to help us improve future projects like this?

The students found the research questions that we designed especially useful for guiding them through the site visits and preparing them for the project. One commented, “The questions are helpful for having a guideline for looking at a site in a more cultural context. It’s easy to just pass through somewhere and not think about how we are engaging with it and how other people are engaging with the site.” Another said, “It helped me dig deeper into the concept of place and the cultural significance of the site, rather than focusing only on superficial information.” Moreover, these questions were effective in guiding students through the sites because they set up expectations for themselves as educated visitors rather than ordinary tourists. For instance, one student suggested that “the questions were useful for creating the argument and presentation because they served as a guide to help organize thoughts.”

Another aspect that many students commented on was their struggle to produce an argument. Although this was challenging for the students, most of the groups did very well devising different arguments and expressing them coherently (Table 4). The challenging process, in our opinion, helped them realize how much they learned from the project. Writing conventional research papers without a specific audience in mind might have easily led them to ignore the importance of their arguments and the need to join the scholarly discussion. Also, forming a thesis based on their observations

motivated the students to do research and tie together loose ends on their own. They benefited more from this type of active learning and multiple-aspect training (i.e., observing, processing, researching, presenting, etc.).

Students also found two things especially helpful in this course. One was the scholarship by the humanistic geographer Yi-Fu Tuan, which is about place and space in the Chinese cultural context (Tuan, 1977). This scholarship and the related in-class discussion offered an academic framework to examine cultural sites, along with research questions that students could ask about one site. It enhanced the model of research on cultural sites we hoped to achieve (Figure 2). Another one was the two guest lectures provided by Xiaolin Duan. These lectures, as we expected, offered information on the timeline and historical background. In the future, we plan to offer more similar readings and provide the guest lectures earlier during the next program, or even before departure.

Discussion: Challenges and Proposals for Future Research

Unavoidably, given the collaborative nature of this project and the multi-staged preparation for study abroad, there were significant challenges. The following discussion addresses these challenges and identifies places for improvement from several perspectives.

Reflections on the Interdisciplinary Collaboration

The challenge in interdisciplinary collaborations always lies in how to understand each other by becoming more familiar with the academic questions and methodologies of both disciplines, as well as in determining a research plan that best fits both disciplines' research goals. History and computer science are very different subjects, one explores primary sources while the other works with computational systems. As field experts in the social sciences and humanities, historians examine how the past created meanings that shape the present. The conventional methodology works with texts and visual evidence and produces thesis-driven research papers and books. On the other side, as science and engineering program practitioners, computer science researchers examine innovations in technology and how such technology can reshape the acquisition of experience. Their primary concern is to understand the theoretical aspects of computation in solving real-world problems with a data-driven research methodology.

We do not want to limit the collaboration to the level of providing content versus providing technology, which has been the most commonly seen collaborative model and usually produces some digital narratives of the historical stories. Instead, we share an interest in creative education and thus hope to devise new research directions with possibilities for innovation. We therefore adopted the design-thinking model in our development plan (Mill, 2015), rather than the conventional product-driven model.

It took us almost a full semester to understand each other's academic concerns. Some critical questions in history, such as the cultural significance of a place, are not frequently asked in the field of computer science. Moreover, the terminologies used in these two fields are very different. Therefore, our discussion sometimes was delayed by the obstacle of misunderstanding each other's vocabulary. This was improved by active communicating, rephrasing, and reexplanation. Despite of these difficulties, fortunately, our shared interest in enhancing pedagogical approaches to help students conduct research as experts drove us to continue and advance the conversation.

Reflections on the Study Abroad Program

Regarding the summer study abroad program, the students brought up two difficulties in doing this project and offered their suggestions on improving them in the future. One problem was how to construct connections between modern sites and their past — this is pertinent to one of the three pain points we concluded, the “timeline.” Another aspect they struggled with was how to link the

specific site to the larger context, which is associated with another pain point, the “story” or the cultural significance. They knew that the site and the context behind it were linked together. But understanding why — as they indicated in the survey — was a crucial issue that they wrestled with during this project. This often also required a clearer understanding of the larger historical development surrounding the site and providing social backgrounds. The difficulties students mentioned in the survey answers were consistent with our central research focus. Based on the students’ feedback, we plan to place more emphasis on providing a clearer timeline and more information on the cultural significance in designing future programs and pedagogical approaches.

Another aspect we want to enhance in the future programs is to better cultivate students’ role as researchers. Some specific pedagogical approaches include: 1) assigning readings about tourist gaze and cultural tourism so that students could better evaluate their role as both sightseers and researchers and 2) providing more course contents and class time for students to explore background information and analyze different historical sources. Limited by the short time they were given, not all the groups were able to collect and discuss primary documents about the site they studied. We hope to provide a database of relevant sources for students to explore and encourage them to use specific sources to back up their arguments. This concept of database inspired us to consider a proactive map as discussed below.

Future Research

The harmony of the place-based research project and the study abroad program not only reinforces our central hypothesis mentioned above, but also provides us with inspiration and empirical justification for developing a new learning tool that we call a proactive map. To begin, we want to piece the students’ projects together on a platform. The projects that the students finished this summer will be the cornerstone for this platform and will be enriched by future study abroad students’ projects. This platform will therefore become a site to house and showcase accumulated undergraduate research. Future students will be able to examine previous groups’ research projects, as well as learn from and complement them. Moreover, in the traditional on-campus classroom, the proactive map will be a pedagogical platform that allows teaching and jigsaw learning centered on “place studies.”

In addressing the three pain points observed from the interview, we plan to design the map website with three modules: timeline, experience, and story. The first one provides a moveable timeline that users could navigate through to view historical images and events of this site to visualize historical developments. We will be overlaying a collection of historical maps and images on the proactive map, so that users can explore the connections between past and present and be informed about abundant cultural productions across time. These historical sources would also offer more raw data to help students build an archive for the expert-oriented model, as explained in the previous section. The design of this timeline would involve students in the production of the historical contents and allow them to review the chronologically arranged content created by others.

Second, this proactive map will be linked with the Open Source Google Map and the website <https://mapwarper.net/>. This allows users to correspond specific sites noted on historical maps with modern day locations and view them side by side. The geographical experience will also be archived through images and short videos about specific sites which users could click and zoom in. Study abroad students would contribute images and short videos about specific sites to share their own experiences. Additionally, we are looking into the possibility of using virtual reality technology to provide necessary visual aids and thus create a site-touring experience in the [Visualization Studio](#) at North Carolina State University. This pedagogy could hopefully expand the relevant experience of study abroad to less privileged students.

Third, this website will provide space for different types of stories to unfold, including these categories: people (e.g., emperors, scholar-officials such as Su Shi, foreigner such as Marco Polo, etc.), architectures (e.g., Leifeng Pagoda, Tianzhu Monasteries, Cold Spring Pavilion, etc.), literature works (e.g., gazetteers, miscellaneous notes, travelogues, etc.), and objects (e.g., tea, silk, inksticks, etc.). For example, under the category of people, one can pick the role as an emperor to explore a sightseeing route by the Emperor Gao of the Song dynasty in the Twelfth Century. Based upon real historical records of the Emperor's travel around the lake, this guided route would allow users to explore important sites the emperor stopped by and the leisure activities he engaged in. In addition to the stories we build into the map, a list of possible topics will be created under each category as "place holders." Students could choose from these candidate topics to conduct their research. They can also suggest and add new stories that are not originally listed on the website. We hope these stories would allow students to intentionally identify, examine, and tell stories of the lake, and thus discuss the cultural significance brought by different visitors to cultural sites.

Furthermore, as an extension of the current project, we also plan to have this platform carry real-world functions. For example, the proactive map may be linked with a Global Positioning System (GPS) to act as a tool for tourists. It could offer real-time notification with a research-based guide for people who are touring around cultural sites. When people wander around one cultural place, such as West Lake, they will receive push-notifications near the sites that contain information about historical and cultural significance. This information will include stories about the place, relevant artistic productions, and digital narratives created by our students during the study abroad program as mentioned above.

Conclusion

This research project demonstrates that "place studies" and place-centered projects are beneficial for the teaching and learning of cultural sites in multiple ways. Place studies provide students with a theoretical framework to focus on the interplay between cultural norms and natural landscape. This academic perspective motivates students to experience the sites not merely as a sightseer or a foreigner, but as a researcher who is willing to explore the insider's experience. Through this research project in the study abroad program, students could get a better sense of the "timeline," a more enriched "experience," and more importantly, a better opportunity to learn and research the "story" and cultural significance of the sites they have visited. The place-based research project enables their study-abroad experience to go beyond simply a lesson; it is transformed into a meaningful research process that allows students to follow the "expert model" of examining cultural sites.

We expect that this place-based research project could be applied to different cultural sites relevant in various study abroad programs and on campus classrooms. The majority of the students in our program came from engineering backgrounds and are taking courses in the disciplines of science and engineering, but they still benefited from this project. Doing research and presenting about cultural sites could hone transformative skills in collecting and evaluating data, proposing and revising research questions, as well as making and presenting an argument. For students who came from the humanities and social sciences, this project allowed them to investigate questions pertinent to their interests and apply the framework and skills of their fields into their own research. Getting to know important cultural landmarks encourages students to explore the political symbolism, the economic transformations, and the social structures embedded in places. Furthermore, the proactive map we propose would enhance the teaching of cultural sites in both study abroad programs and on-campus courses, as well as reach a wider audience, and thus contribute to public history and tourism development. This is the plan for our ongoing and future research.

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