Multicultural, Institutional and Disciplinary Approach in the Design Studio:
Connecting and Understanding within a Multicultural Context

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1. Introduction

With the increasing demand for both diversity and globalization, designers should be aware of different user behaviors, needs, desires, and context. However, most design education nowadays does not reflect the emerging needs for multicultural and multidisciplinary collaboration. Students have little exposure to different cultural contexts and not enough experience of working in a multidisciplinary environment. As a result, projects produced in the traditional design education settings are often lack of understandings and connections, and therefore, less applicable to the real world practice.

When the University of Cincinnati (UC) was accepted to participate in the project sponsored by Proctor and Gamble (P&G) in 2006, Processors Choi and Wang invited the design program at the Hong Kong Polytechnic University (HKPU) to run the project simultaneously for the comparison of similarities and differences between the two cultures. The process and the outcomes from the two design programs were presented at the 2006 IDSA National Conference and Education Symposium. In order to better understand the cultural diversity and further explore strategies for multi-institutional and multidisciplinary collaboration, the authors conducted a design workshop at the Guangzhou Academy of Fine Art (GAFA) in Guangzhou, China, December 2006. Each of the three design teams consisted of faculty and students from assorted disciplines to offer the opportunities for students to work in a multidisciplinary environment.

This paper documented the similarities and differences that the three teams in two continents had in pursuing the same design project: Designing for Aging Travelers. Based on observations and analysis from the experiments with the three institutes, the authors proposed a model for a multicultural, institutional, disciplinary approach in design studio.

2. Multicultural, Institutional, and Disciplinary Design Studios: Three Case Studies

In order to address the global issues and see how the diverse travelers handle the problems related to local and international travels, the Professors Choi and Wang invited a team from the School of Design at HKPU to work on the same project in Winter 2006. The process and the outcomes from both UC and HKPU were presented at the 2006 IDSA National Conference.

The participation of the design team from HKPU is valuable as it revealed the significant differences between aging travelers in the US and China. In order to further investigate the cultural differences and explore more with the multi-institutional and multi-disciplinary design approach, the authors offered the same project at GAFA in Guangzhou. The local faculties led the design studio and the authors offered a week-long workshop at GAFA.

2-1. Team and Collaboration Structures

One of the requests from P&G was to create interdisciplinary design teams that at least include industrial design and graphic design. Collaborations with other relevant professional tracks were encouraged.

- **UC:** The multidisciplinary team at UC comprised three faculty, nine undergraduate students, and two graduate students from Industrial Design, Graphic Design, and Marketing. The team was divided into two groups: one focused on the hotel experience, the other on the trip planning experience. Each group consisted of students from the three disciplines.

- **HKPU:** The studio at HKPU comprised of two faculty, seven graduate students, and a PhD student from Industrial Design, Visual Communication, and Engineering. The team was divided into two groups: one focused on culture and emotion, the other on culture and experience.

- **GAFA:** The studio at GAFA comprised three faculty and twenty-eight undergraduate students (sophomore level to senior level) from Industrial Design, Integral Design, Fashion Design, Textile, Printing, Fine Arts Education, and Decorative Art. The team was divided into five groups: personal and beauty care, health and wellness, travel package, mobile phone, tour bus, and subway wayfinding. The authors joined the team for a week after the initial research had been conducted.

Both faculty and students worked closely with people from other disciplines. They were exposed to different perspectives, methodologies and media in analyzing and solving the same design problem. They learned different "languages" from each other in order to establish a common ground throughout the design process.

2-2. Design and Research Process

Each team followed a similar approach in terms of design and research process: identifying the opportunities, understanding the opportunities, conceptualizing the opportunities, and realizing the opportunities. Followings are brief descriptions of the design and research process of each institute.

- **UC:** The design studio at UC was conducted for ten weeks during the winter quarter of 2006 (Figure 1). The students in two groups started the project by conducting user and contextual research. The team identified female baby boomers as their target audience from the initial research and focused on the personal and beauty care products. They developed a persona and several scenarios and followed by identifying design criteria. Then students brainstormed for the exploration of design ideas.
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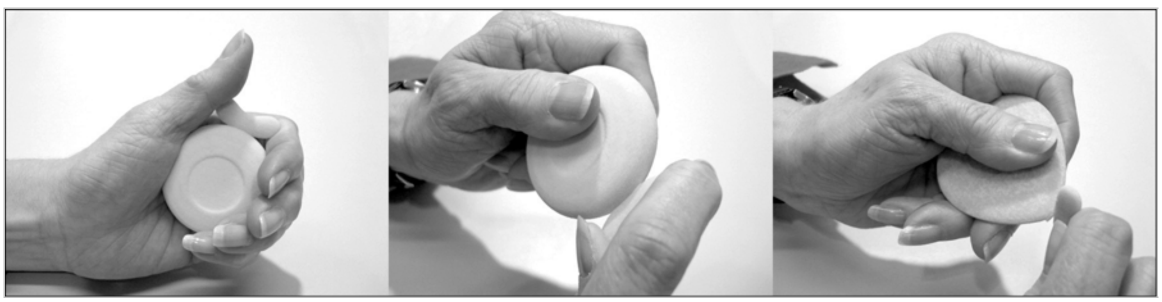


Figure 1. User test of the prototype, UC.

- The two groups worked closely during the process as they intended to develop a systematic design solution for both hotel experience and trip planning experience. Graphic design students focused on the branding design and nonverbal communication while industrial design students focused on the innovative product development. User survey and interviews were conducted during the process for the testing of the prototypes and modifications were made according to user inputs. The final proposal is a comprehensive set of personal and beauty care products that accommodate the user needs from home to hotel to home.

- **HKPU:** The two groups at the design studio at HKPU started the project by identifying the opportunities from primary and secondary research of the aging consumers in China (Figure 2). They conducted surveys and interviews in major Chinese cities. The culture and experience group focused on the “elderly kids” while the emotion and experience group focused on the elderly women. Each group generated 100 design concepts and narrowed them down using a weighted matrix. The culture and experience group evaluated the opportunity by doing further in-depth research and observations in Shanghai and came up with a multifunction traveling packs. The emotion and experience group focused on skincare of the elderly women in China. The goal was to identify a symbolism that this generation could relate to and not feel awkward or alienated while purchasing and using the products.

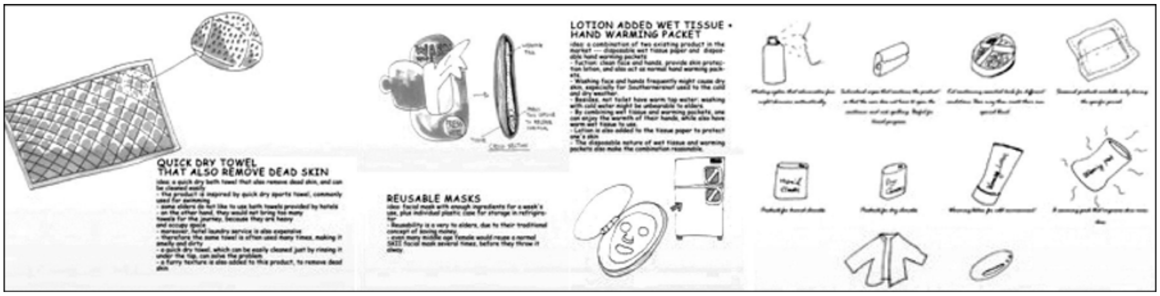


Figure 2. Conceptualizing the product opportunities, HKPU.

- **GAFA:** The design studio at GAFA was divided into five groups that focused on: personal and beauty care, health and wellness, travel package, mobile phone, tour bus, and subway wayfinding (Figure 3). Each group started the process by identifying the opportunities from primary and secondary research of the aging consumers in China. They conducted surveys, interviews, observations, and contextual research in Guangzhou. For instance, the transportation group pursued the research with a group of aging travelers on a tour bus by joining the journey. Each group created several personas and scenarios and visualized the scenarios by storyboards. After the explorations of ideas by sketches, they built rough study models from the selected sketches and conducted user study with testing and interviews with the target audience.

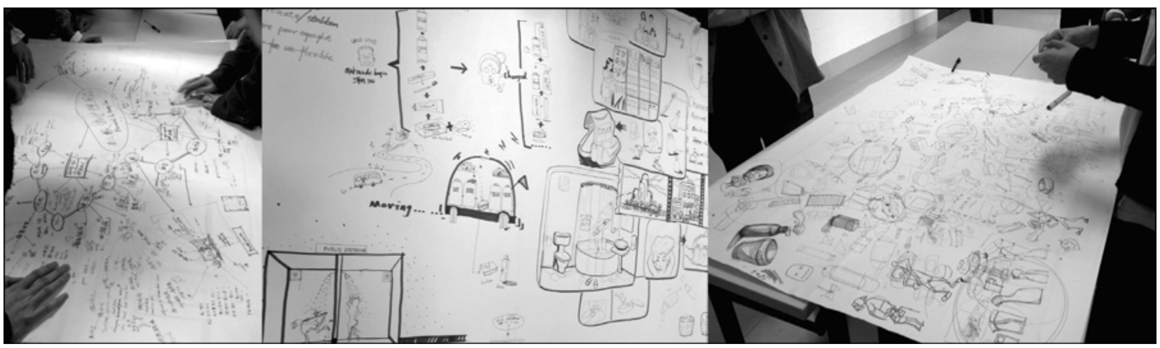


Figure 3. Design process, GAFA.

2-3. Differences

Although the three institutes followed a similar design process, the implementation varied. The breath and depth of project also varied from one institute to another; so did the outcomes.

- **Design Focus:** The UC team focused on universal design and branding for aging travelers. User studies were conducted throughout the process to achieve effectiveness in non-verbal communication, which was a team effort from both graphic design and industrial design. The HKPU team focused on the exploration of the Chinese culture, an approach that tightly connected the design solution with the specific cultural context. The GAFA team focused on the user experiences and drew conclusions from the intense contextual research and user studies.

- **Team Structure:** The UC team comprised faculty and students from America, Korea, China, and India. The international team makes it possible for the discussion of universal design for aging travelers. The HKPU team comprised faculty and students from Mainland China, Hong Kong, Canada, and America. With the design focus on the Chinese market, some students experienced difficulties in primary research due to language barrier. The team members at GAFA are from Mainland China with the exception of one from Hong Kong. This is the largest team in terms of the number of disciplines and the actual number of students participated in the project, which has shown its power in generating innovative ideas.

- **Students:** It was very interesting to see the differences from the two cultures. While it is too early to standardize the attitudes with three case studies only, it was found that most American students had stronger personal opinions while most Chinese students had a tendency to agree on collective decisions. This also means that most American students are driven by individual goals within the team's goal while most Chinese students are driven by the collective goals.

- **Target Audience:** From the reports of the three institutes, it is interesting to see the differences of user behaviors, needs, desires, and contexts. The primary research by UC was conducted in Cincinnati, OH, while the ones by HKPU and GAFA were conducted in Hong Kong, Guangzhou, Shanghai, and Beijing. While it is too early to draw conclusions about differences among the two countries, it is fair to say that it is much easier to locate a large group of aging travelers, the target audience for this project, in above mentioned cities in China. They tend to appear in group activities, in a park, a tour group, or other public spaces. They have less concern in privacy and are more willing to share their opinions with the students. The aging travelers in Ohio, however, are more family-oriented and have more concern in privacy.

2-4. Challenges

Each team experienced a number of challenges despite of the good intentions. Some of them might be resolved with a better strategy while others might remain unresolved. While some challenges will remain regardless of efforts, it is wise to be aware of them.

- **Time Difference:** The collaboration between different time zones, especially those in different continents, is a great challenge for effective and efficient communication. The time difference between Cincinnati and China is 12 hours. When working collaboratively with the HKPU team, the authors planned to share with each other the design process by online communication tools such as having a videoconference with Web cameras, instant messaging, and so forth. However, it was tough to do due to the time difference.

- **Language Barriers:** When working on a multicultural design studio, language is a factor that hinders communication. While English is an official language in Hong Kong, where more than one-third of the population speaks the language, it is not a widely used language in Mainland China. When the UC faculty joined the GAFA team for a week, it was time consuming for translations: from the UC faculty to the students, and from the students to the UC faculty.

- **Communication among Different Disciplines:** Even with students speaking the same language, the communication among team members from different disciplines was another challenge. With students and faculty from different disciplines, each joined the project with a different goal and look at the project from a different perspective. It provides a great opportunity for developing innovative solutions and at the same time requires strategy for better coordination and communication. A positive team dynamic can lead to greater results while a negative one may lead to misunderstandings and conflicts.

- **Schedule Difference:** When working across institutes, the difference in academic calendar is another factor that hinders a smooth collaboration. The authors planned to have the studios at UC and HKPU run simultaneously, so that students could share research findings from the two continents, and provide feedback across the teams throughout the process. However, the differences in academic calendars made it impossible to work as the original plan.

2-5. Benefits

Despite the challenges that the three institutes experienced, there are huge benefits from the multicultural, institutional, and disciplinary studio that are difficult or impossible to achieve otherwise.

- **Multicultural Experience:** Due to limited life experience, most students had little understanding of user behaviors, needs, and desires from another culture, and therefore, had little awareness of the consequences of their designs for people from another culture. From the multicultural experience, students were exposed to different culture, paradigms, lifestyles, and demands. By exchanging findings and ideas with design teams from another culture, students' perspectives were broadened.

- **Multidisciplinary Solution:** The second benefit was to work in a multidisciplinary team and learn from different design approaches. While there is a common design process across the design field, each discipline has its unique perspective, language, media, methodology, tools, and end products. The multidisciplinary studio provided the students as well as the faculty a great opportunity in learning new ways of identifying, understanding, conceptualizing, and realizing the opportunities.

- **Multi-Institutional Collaboration:** It is also a great chance for both faculty and students to see how the teams from the other institutes worked on the same design problem. From the observations, communications, and comparisons, they have better awareness of their strengths and weakness. They are exposed to different education systems and methodologies and learn from each other.

3. Suggested Model

With the experiences gained from the three studios, the authors were able to develop a formula for an ideal model for the multi-cultural, multi-institutional, and multi-disciplinary studio. However, the model should be modified accordingly depending on the actual circumstances. Here is what the formulated model looks like.

3-1. Forming Teams

Each school should recruit students from various related fields, such as design, marketing, and engineering in order to understand and solve the problems of using, making, and marketing of the products. Also, the ideal team would consist of both undergraduate and graduate students to create a balance between design research and design practice.

If an ideal multidisciplinary team cannot be formed within each institute, instructors should try to seek collaborations with other institutes and create a balance across them (Figure 4). It is ideal to have instructors from each of the participated discipline. Yet it is important to have an instructor act as the leader of the project for better coordination.

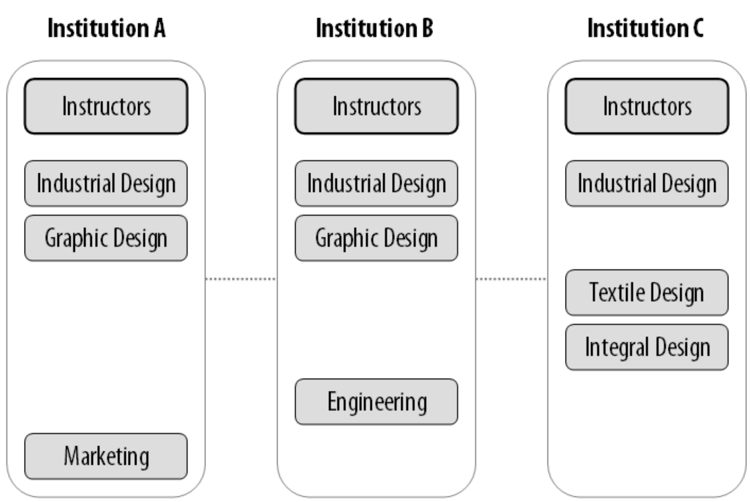


Figure 4. Sample team structures.

Once the team is set in each institute, the roster with disciplines, roles, specialties, and email addresses should be exchanged for management and communication.

3-2. Protocol

A clear protocol to share with each participated institute is crucial for a successful project. The protocol would include the following:

- The design brief: the purpose of the project, process (can be modified by each school), and deliverables.

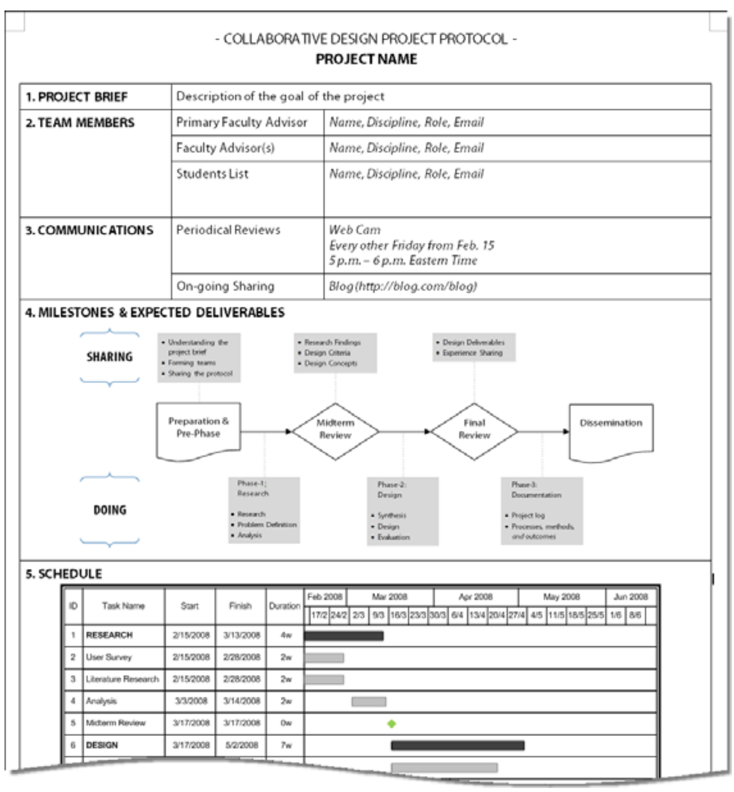
- Team members: the roles, disciplines, and contact information of the team members.

- Communication: the means of communication: online and offline, frequency, contents, and language.

- Milestones expectations: Define project milestones and expectations at each milestone. Visualize and specify action items and deliverables.

- Schedule: While the actual project schedules may be different from one institute to another, the milestones should be the main checkpoints for the progress of the project.

The content of the protocol can include various items depending on the nature and the context of the institutions, project, constraints, resources, and so forth. While the items such as the detailed schedules may be different due to the different academic calendars, however, items like the milestones and the expectations should be same across the institutions. This way, the uniqueness of each school can be kept, while the consistency of the project can be maintained. Following is an example of the collaborative design project protocol (Figure 5).


- COLLABORATIVE DESIGN PROJECT PROTOCOL -

PROJECT NAME

1. PROJECT BRIEF	Description of the goal of the project	
2. TEAM MEMBERS	Primary Faculty Advisor	*Name, Discipline, Role, Email*
	Faculty Advisor(s)	*Name, Discipline, Role, Email*
	Students List	*Name, Discipline, Role, Email*
3. COMMUNICATIONS	Periodical Reviews	*Web Cam Every other Friday from Feb. 15 5 p.m. – 6 p.m. Eastern Time*
	On-going Sharing	*Blog (http://blog.com/blog)*

4. MILESTONES & EXPECTED DELIVERABLES

5. SCHEDULE

Feb 2008 | Mar 2008 | Apr 2008 | May 2008 | Jun 2008

17/2 | 24/2 | 2/3 | 9/3 | 16/3 | 23/3 | 30/3 | 6/4 | 13/4 | 20/4 | 27/4 | 4/5 | 11/5 | 18/5 | 25/5 | 1/6 | 8/6

ID	Task Name	Start	Finish	Duration
1	**RESEARCH**	2/15/2008	3/13/2008	4w
2	User Survey	2/15/2008	2/28/2008	2w
3	Literature Research	2/15/2008	2/28/2008	2w
4	Analysis	3/3/2008	3/14/2008	2w
5	Midterm Review	3/17/2008	3/17/2008	0w
6	**DESIGN**	3/17/2008	5/2/2008	7w

Figure 5. Sample protocol.

3-3. Test-drive

A test run before starting the main project is useful, as there is always potential glitch in the actual process. Creating and running a short project can help each team to make adjustments before the main project. The “test-drive” project can be small, but it should cover the whole process.

For example, if the main project is about the sustainability issue and solutions for mass transportation system in cities in the US, Europe, and in Asia, the “test-drive” project can be the designing of bus stops, which is a small part of the whole system. Or it can be a totally different subject, such as the design of a trash can.

The test-drive project not only helps to find out and correct the potential problems of the collaboration but also gives time for the instructors and students to get familiar. A successful test-drive will also get students motivated and ready for the main project.

3-4. Milestone Reviews

Checking the progress and sharing the results at each milestone is crucial to the success of the collaboration (Figure 6). Since the teams may be geographically separated, the reviews will likely to take place online, such as video conferencing with a web-cam. This, however, can be difficult when the schools locate in different time zones. In this case, project specific blog or services like Google Docs & Spreadsheets (http://docs.google.com) can be alternatives. At the completion of each milestone, the teams should have review sessions to state their goals and achievements as well as comments and suggestions to the others.

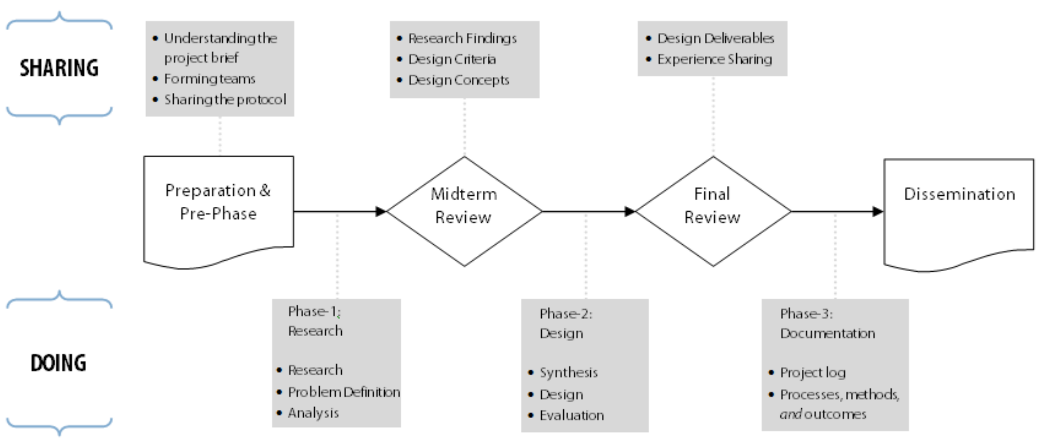


Figure 6. Sample milestones.

3-5. Cross Presentations/Workshops

Besides the milestone reviews, formal presentations in the midterm and the final stage will be beneficial. Visiting counterpart schools is ideal as it gives opportunities for active face-to-face discussions and critiques. Cross workshops are even more helpful for cross-pollination as it offers opportunities for students to learn from instructor(s) from different school and it provides more perspectives and insights to the students.

3-6. Dissemination

Like any projects, dissemination is very important. As long as it does not offend the confidentiality of the project, the process may be published and/or presented to public to benefit a larger community. The result can be presented in diverse fields as the members are from diverse areas. For example, if the faculty and students are from industrial design, graphic design, and business departments, the final report can be made to relevant professional and academic communities.

4. Conclusions

Increasing number of institutions is developing collaborations to address diverse issues. Those collaborations mostly focused on the exchange of students and faculties and it adds layers and dimensions of education by exposing individuals to different societal and educational context. However, the influence is mostly at the individual level. The multicultural, multi-institutional, and multidisciplinary approach in design studio enhances this by offering the systemized, interlaced educational experience to a greater number of students and faculties and therefore, a greater impact to the participated teams.

The proposed model for developing a multicultural, multi-institutional, and multidisciplinary design studio is not a rigid formula. It should be modified according to the immediate circumstances. A test-drive can be used to gain better understanding of the real situation and help the participated teams to develop a strategy that benefits them the most.