

A New Method for Project-Based Learning in International Design Workshop Setting

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Abstract

Design oriented educational institution around the world, project-based learning is well practiced in local setting as well as global setting. Communication is one of the significant aspect in this learning settings. Currently, many design projects are implemented by members beyond their belonging organization, creating difficulties in face to face communication, especially when members are in different countries. This study proposes a new method for project-based learning in design education program implemented on international design workshop and discuss about outcome through empirical program.

This method is composed in three phases. First phase is online pre-workshop session using SLACK, where each member do their own researching and surveying on the specific topic related to the project, share and discuss them with other members. The second phase is face to face workshop, which all members gather in one place to work on the project intensively to make their group design proposal. The lastly in the post workshop phase, each member get back online to make reflection on the project, feedback them on the proposal, and make improvements. Also, compile and publish a project reports on the overall program for documentation. Through out the program, SLACK platform is used for basic communication and sharing data and information. S This program are operated in an international design workshop called “Global Design Workshop” of Chiba Institute of Technology(CIT, Chiba, Japan), with students from Chiba University(CU, Chiba, Japan) and Tunghai University(THU, Taichung, Taiwan) . The theme of the workshop was “New work place, space, style using IoT technologies. *Project-Based Learning, International Design Workshop, Multilingual Communication, Online Discussion Platform, ICT, Education*

Design oriented educational institution around the world, project-based learning(PBL) is well practiced in local setting as well as global setting. Exchanging the thought and making discussion over specific topic to find and solve the problem is the major goal of PBL education

requires high level communication skills. Communication among participants is one of the significant aspect of this learning style. On the contrary, especially in the international scene, IASDR 2017communication is one of the highest barrier for people using a language other than one’s native one. In this study we propose a method for efficient communication among participants and effectively facilitating PBL program where language commonly used are not their native one.

International design workshop program held in summer of 2016 at Chiba Institute of Technology are used for empirical case study for this proposed method.

1. Literature Review

The major problem in this study is how to overcome communication difficulties among people of different native language and cultural background. These problem are described in the literature. First of all, most of the communications are established by linguistic abilities but also depends on the context of their belonging culture. The context culture are roughly divided into two parts: high context culture and low context culture. A communication in high context culture, most of the information are already in person, so the information within the message is implicit. On the other hand, communication in low context culture is totally opposite of one of high context culture, the information in the message is explicitly conveyed.(Hall and Hall, 2001; Hall, 1976)

The communication between members mixed from both high and low context culture, one from high context culture tends try to create comfortable zone for communication.(Suderman, 2006) In the high context culture, people tends to expect context consistency, so communication between people who don't share common context, disparity in perception appears, resulting possibility of generating difficulties in smooth and proper communication.

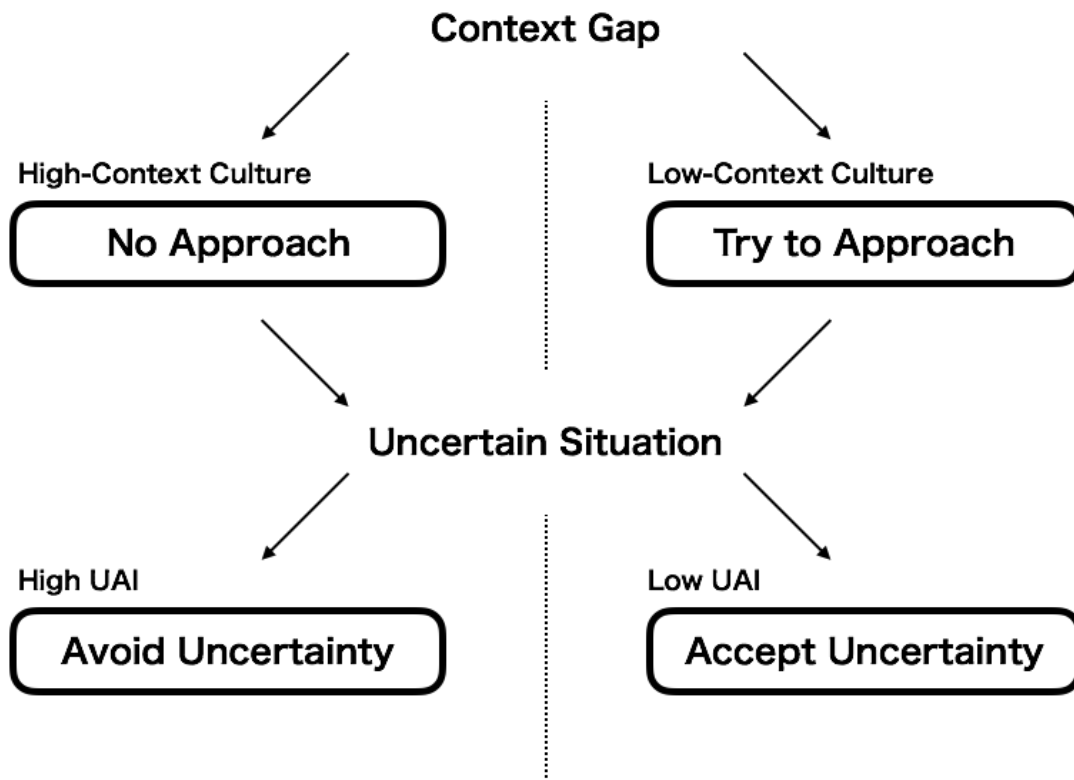
Referring to Hofstede's Cultural dimensions theory by Greet Hofsted, "Uncertainty Avoidance" is the dimension which related to stress level in a society facing an unknown future and dealing with tolerance for ambiguity.(Hofstede, 2011) The reference states that Japan is one of the country with higher Uncertainty Avoidance Score which means Japanese culture which accept uncertain information covered by high context culture. At the same time, Taiwan shows similar pattern but there are small gaps in between. Taiwanese are also have high Uncertainty Avoidance Score but lower than Japanese.

In the low context culture, communications are taking place within the precondition that they share no unique context. Therefore, this is the culture where even though people do not know

the context on the other side, try to present their idea correctly by using gestures and words actively. But on the other side, high context culture relies on the close and long relationships between people sharing unique context constructed through long period of time, to communicate with less stress and more ambiguity. But when communication happens where this kind of relationship does not exist, there are hard time making communication. Because Japanese have high context culture, there are hard time doing group collaborative work, with less linguistic clue and no unique context is shared. Also, in uncertainty avoidance perspective, especially Japanese students, when they propose a new idea, surrounded by uncertain condition takes very careful and cautious approach. In other word, people's action tends to be suppressed under context are not understood or have differences in high context and high uncertainty avoidance culture.

Under the circumstances of high context and high uncertain avoidance index situation, it can be predicted that misunderstanding and or mislead of context and uncertain situation might occur in international workshop. In this study, we proposed a methodology which supports and overcome communication difficulties caused by cultural differences using SLACK for online text chatting tools and SONY MESH for simple and comprehensive prototyping tools. (Figure 1)

Figure 1. Communications in High and Low Context Culture
(UAI: Uncertainty Avoidance Index)



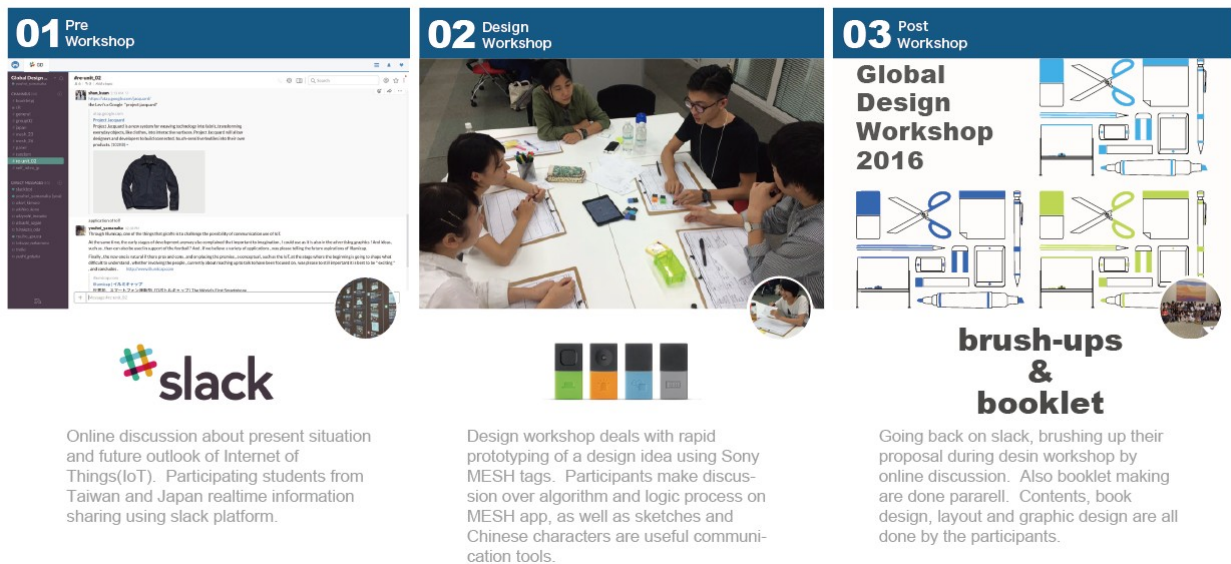


Figure 2: Overall outline of the design workshop

2. Methodology

Workshop Outline

This workshop program were held in the summer of 2016. Participants consist of three university, 14 students from Tunghai University (Taiwan), 7 students from Chiba University(Japan), 16 students from Chiba Institute of Technology(Japan). Along with the participants, 8 teaching assistants and 2 faulty members from Chiba Institute of Technology for facilitating the overall workshop program. The theme of the workshop “New Design of Work Place, Work Space, and Work Style using IoT(Internet of Things) Technology.” Through out the workshop, slack is used for communication tools and SONY MESH for rapidly prototyping design idea for actualization.

The program consists of three phases. Figure 2 shows the outline of the overall design workshop. First phase was Pre-Workshop, which started on slack platform from beginning of July, 2016. Here, the following discussion topics are given to all the participants: “research and share information about present situation and future outlook of IoT(Internet of Things) technology in design field.” Second phase was Design Workshop, which all the participants meet face to face for five days at the workshop venue in Chiba Institute of Technology(Japan) from August 29, 2016 to September 2, 2017. Figure 3 shows the outline of the five days

workshop program. And the last phase is Post Workshop which all the communication goes back online on slack. This phase started right after the phase 2 face to face workshop, continue on with their discussion on the proposal which they made for further brush-ups to apply for some arbitrary design competition. Also archive booklet making are done parallel, contents, book design, layout and graphic design all done by the participants.



Figure 3: Outline of five days “face to face” design workshop

Method of Communication

Basically, common language used during the workshop is English. Participants are all non-native English speakers. So to support their communication difficulty we prepared and stated some tools and method for efficient communication among participants.

Slack are being used all through pre-workshop to post workshop for mode of text communication, which help log and record the discussion processes. Also, texting makes some time lag during conversation allowing participants to look up unknown words or phrases in a dictionary or other mode of translation to understand and respond to the statement more precisely than immediate conversation.

Sketched and gestures are also used during the face to face workshop. Because we are dealing with design topics, sketches are very efficient way of communication to tell other participants idea.

3. Discussion

Using SLACK for sharing and recording idea with texts

Throughout the whole workshop program, SLACK acted as not only a chat tool but a media for communication. During the face to face workshop, in the first instance, communication difficulties appeared among all the members. Especially speaking in English is the hardest. But as workshop get underway, they started to text the idea. First they write the idea with their own native language and by using online translation service translate the idea to tell and text on SLACK and or write them on paper or stickies to share. The merits of this method are they can share and record the ideation process at the same time so that they can occasionally look back to trace the discussion and also generate some time lags during the communication which helps member to have time to understand what other member is thinking. Demerit is having difficulties to make immediate discussion over a topic. But to share idea avoiding the uncertainty of the contents, slow discussion is better to make the situation robust idea sharing is important to develop and make sophisticated proposal.

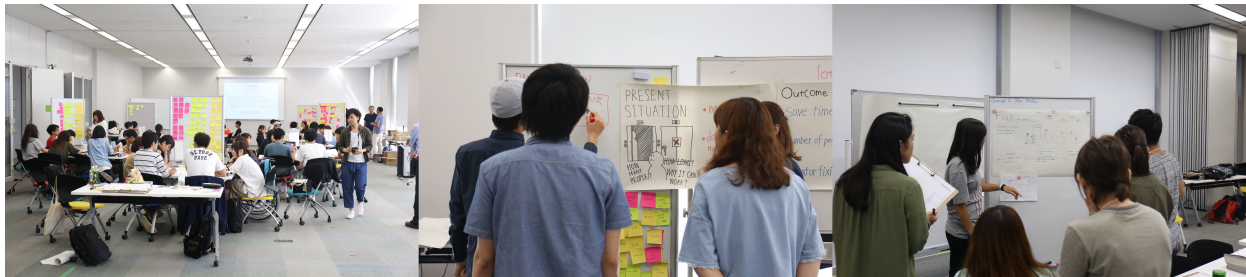


Figure 4. Active group discussion during face to face workshop

Using SONY MESH Prototyping Tools

During this workshop, SONY MESH are used to prototype and actualize the idea that they come up with. Most of the members are not very used to this prototyping tools, so first half of the workshop program was simple prototyping workshop. They learn the function of the tools as sensors, actuators, and algorithm in between to actualize their idea. The logic flow are visualized and actualized with the MESH(electronic tags) and visualized on graphical programming MESH application on Apple iPad. This helped participants to discuss and share their idea by not using the verbal communication which is the biggest barrier between them. Actual moving prototype made instantly and shared in front of them help accelerate the members to understand, discuss, and develop their ideas closer to actualization.



Figure 5. SONY MESH, prototyping tool helps accelerate member's understanding of idea

4. Conclusion

In this study, we have proposed a new method for project based learning in international workshop setting. As a result, there are two parts. Firstly, for communication, using online group communication tool such as SLACK is effective in high context and high uncertainty avoidance index culture. Sharing idea and information and doing discussion beforehand during the online pre-workshop will help participants to share idea and make discussion immediately and smoothly transfer into face to face workshop phase. Especially, when participants are from high context culture like Japanese and Taiwanese are most helpful which results in upgrading quality of the workshop program itself.

Secondly, using prototyping tools such as SONY MESH will help simple and easy prototyping. Presenting the actualized idea using prototyping tool will help other members to understand the idea presented with minimal verbal communication. By looking at actualized prototype tell more than describing it verbally and will help minimize the mental stress of feeling difficulties in verbal communication.

In future studies, we want to test the method with the members from both high and low context culture to make comparison studies. The communication difficulties will be more apparent

in this situation. Also, consider the development of method to observe the situation to IASDR 2017 acquire evidence data and qualitative and quantitative analysis method and test statistical significance to make this method more versatile.

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Author Biography

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