

TALKING DESIGN: A SWISS/CHINA CROSS-CULTURAL COLLABORATION

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ABSTRACT

This paper reports a preliminary analysis of the role of negotiation in cross-cultural design collaboration between Swiss-trained design students and China-trained design students at the annual cross-cultural design student collaboration in Zurich. The research that informed this paper aimed to extend currently mono-culturally oriented Co-design description of data collection and discourse analysis to a cross-cultural context. Our aim is to investigate the role of negotiation in constructing shared concepts in cross-cultural design collaboration. An ethnographically informed study using video-assisted technology was carried out to capture both verbal and non-verbal data of design discourse of a cross-cultural team during early design episodes. Preliminary analysis on the data aimed to testify currently available Co-Design analysis methods from problem solving and reflective practice design paradigms. A comparison between Swiss-trained and China-trained designers are done on 1) the distribution of verbal, sketches and gestural cues used during design interaction, and 2) tracing team framing through the distribution of association and disassociation of design episodes. The research outcomes show a cultural variance in the data collection and analysis methods currently available in Co-Design studies.

Keywords: Collaborative design, Cross-cultural Design, China, Teamwork.

1 NEGOTIATING CONCEPT IN CO-DESIGN

Current Co-Design research studies have developed models and methods in collecting and analyzing design teams in understanding socio-cognitive aspects of the activities. These models can be divided into the paradigmatic views of Co-design as 1) social negotiation (SN) and 2) reflective practice (RP) [1, 2]. SN has its basis on seeing the act of designing as rational problem solving, in which problem space is separated from solution space, creative concept are therefore explicitly negotiated within the representation space between divided tasks. RP sees designing as a descriptive and

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cyclical problem settings activity in a conversational action with arisen situations. Teamwork is therefore a largely tacit and collective activity with a common goal. The paradigmatic orientation of research method determined how research studies has been planned, structured and analyzed [1, 3].

This paper reports a study investigating the paradigmatic view of Co-Design as a social negotiation process. In this epistemological view, design activity at the conceptual stage of design can be seen as a social negotiation process. Designers in a team interact and negotiate individual ideas into a shared concept [4-8]. At the individual level, the negotiated settlements happen between designer and design task [1]; In a collaborative setting, these negotiated statements extend to negotiation between designers [5]. To understand these negotiated statements of these design activities, we traced two aspects of Co-Design activities: 1) the distribution of cognitive cues and 2) the dynamics of team through team framing. Analysis methods developed in the field of design cognition on studying designers at work informed the formal. We trace communication cues in the forms of verbalizing, sketching, gesturing, and using objects [9]. With the latter, we adopt Schon's reflective practice model of designing, which defined the action of designing as an abstraction of situated reflection [10]. Design is largely a 'reflective conversation with the situation'[5, 6]. The dynamic of designer-designer and designer-task interaction of the team can be traced through these moves. Stumpf developed a coding scheme based on the new rhetoric structure to detect frame shifts of a design team in constructing design. She traced designers' design discourse to identify the distribution of associations and disassociations of ideas between designers. The analysis method revealed the cognitive moves of a collaborative design activity [2].

We argue that these studies are largely mono-culturally oriented with an assumption of symmetrical patterns of design discourse among team members. It is therefore insufficient to account for cross-cultural design team activities in which cultural variance in cognitive, social aspects of design discourse is possible. The research that informed this paper therefore aims to extend currently available Co-Design studies to a cross-cultural context. In particular, the case studies selected are design teams consist of Western-trained designers (WD) and China-trained designers (CD) with a differing cultural background, spoken language, and design education. Current ways of detecting argumentation structure during team framing are largely based on analyzing verbal discourse [2, 6, 11]. Co-Design studies using verbal discourse may neglect a cross-cultural setting where language inefficiency becomes a difficulty for designers to verbalize thought. Design discourse could be very different in cross-cultural teams taking into consideration language difficulty and socio-cultural factors. Through comparisons of communication cues and team framing between WDs and CDs, this paper reports a preliminary study in revealing cultural variance in Co-Design activities.

2 RESEARCH CONTEXT: WUZU 2005 DESIGN COLLABORATION

Due to the earlier off-shoring of manufacturing which leads to the demand of design profession, the Chinese government has since taken interest on expanding local design education. The number of China-trained designers is in rapid increase. There are now

i As suggested by Valkenburg, and that team design activity has cyclical stages adopting Schon's model of reflective practice. A designer names the situation, framing the problem from the situation, making moves toward a solution, and evaluating (reflecting) those moves." [6]

nearly 30,000 undergraduates and 2000 postgraduates graduated from Chinese design institutions compared to only 200 Chinese designers in the year 1985 [12]. Due to cultural differences, understanding China-trained designers is therefore in immediate urgency. In view of this, WUZU was founded by second and fourth authors as an annual design student exchange between two design institutions: The School of Design at the University of Southern Yangtze (SYTU) in China and The School of Art and Design at the University of Applied Sciences and Arts Zurich (HGKZ) in Switzerland. WUZU 2005 is the second year event with two weeks exchange based in Zurich. The first author was invited to use WUZU 2005 as a research platform. During the two weeks, ten design students and four teachers of various design disciplines from SYTU traveled to Zurich to meet with equal numbers of HGKZ's participants. The event is divided into two or three day long workshops of various design related projects and students working in cross-cultural groups.

3 DATA COLLECTION AND ANALYSIS METHODS

The study aimed to explore how China-trained design students (CD) negotiate ideas in design collaboration with Swiss-trained design students (SD). We explore the role of negotiation in a cross-cultural team using qualitative methods of ethnographically informed participant observation. Ethnographically informed observation is a suitable option necessary for exploring the social interaction involved during collaborative design [4]. Three types of data were collected: field notes, interview accounts and video footages. Field notes in the form of jot note were taken at the end of each session and whenever possible during the intervals. Interviews were conducted using Mandarin with Chinese students and English with Swiss students. We used video-assisted recording to capture design sessions. Video captures complex data and therefore is particularly useful in settings where interactive dialogues and activities take place [13]. Also, the use of real time recording can avoid any observer bias that may occur with conventional field observation. It is especially useful in this study where negotiation takes place between cross-cultural designers in the form of verbal (talking) and nonverbal discourse (gesture, sketching, object). Video footage allows repeated viewing and is therefore useful to expose otherwise invisible phenomena and patterns of activities. The first author used a mini handheld mini-DV camera to record teams throughout the event workshop sessions. Video footages were digitized, translated and transcribed directly from Chinese language into English language.

The implications drawing from the triangulation of data collected at WUZU are presented below in two sections. Each section further explains the analysis method adopted and its outcomes. Firstly, we explore differences between Chinese and Swiss students in terms of the use of verbal, sketching, gesture and objects in establishing design discourse. Secondly, we carried out a preliminary analysis of team moves using Stumpf's coding scheme of team framing.

4 TALKING DESIGN: A SWISS/CHINESE COMPARISON

This section reports on the analysis of design discourse between team members through video footage captured at the two day concept design workshop. The workshop is divided into morning and afternoon sessions over a two day period. Students are required to design a prototype according to a design brief (Table 1). There were a total of 9 cross-cultural teams that held their discussions in one lecture room. Admittedly, there was only first author who was doing the observations, therefore only one team could be observed at any one time. At the beginning of the workshop, first author briefly observed each team in deciding on the team to observe for a prolonged period.

The only selection criteria of which team to observe was based on the activeness of the team. Video footages of team A and team B at the concept design workshop were taken.

Choose a type of food from supermarket and design in group of two (Chinese-Swiss) either one of this:
a tool, to eat it
a package
a presentation to serve
All design should be “unique” and refer to the food product.

Table 1 Design brief, concept design workshop, WUZU2005

Team A consisted of a Chinese student (C1) and two Swiss students (S1 and S2) and a potato was chosen as their topic. Team A was captured with a near to complete process supported by interviews. The video footage was 49 minutes long which covered the design episodes captured over the two day period of the concept design workshop. There were intervals between the sessions when first author was able to interview C1 and S1 on the project. The interview accounts add insight to the design discourse.

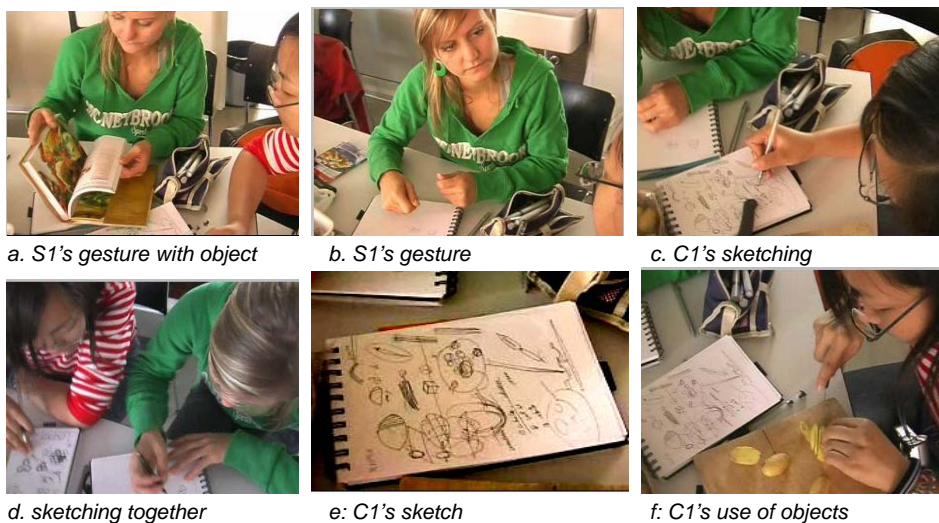


Figure 1 Types of interactions between S1 and C1

The team chose to design a plate or bowl to present a potato dish. Interaction between SD1 and CD1 was active with verbalization and the use of sketches, gesture and objects. We traced and compared the communicative forms of verbalizing, sketching, gesturing, and using objects, or a combination of them that directly contributed to the construction of a concept (see Figure 2). CD1 verbalised with the support of sketching or gesturing using an object synchronously (figure 1c & 1f, 2a). SD1 did not use much of the sketching and preferred to verbalize with occasional gesture and the use of object (figure 1a & b, 2b). The amount of turn taking was similar between SD1 and CD1.

C1 extensive use of nonverbal discourse of sketching, using objects and gesturing in support of verbal discourse may implies language difficulty, however, her interview account suggests otherwise: “I thought it is easier to show them with more visual instead of talking too much.” Language was not an issue for S1 even though her command of English language was at entry level. These outcomes imply two research questions for further work: 1) is language difficulty the main issue in a cross-cultural

collaborative design and 2) what factors influencing negotiation of ideas in these situations? Although the preliminary analysis revealed the excessive use of verbal cues by S1 and less verbal cues by C1, we were not able to single out language difficulty as the cause of these patterns of interactions from this study. Therefore, future work on a detailed discourse analysis is needed to investigate the forms of design talk [7] in cross-cultural context.

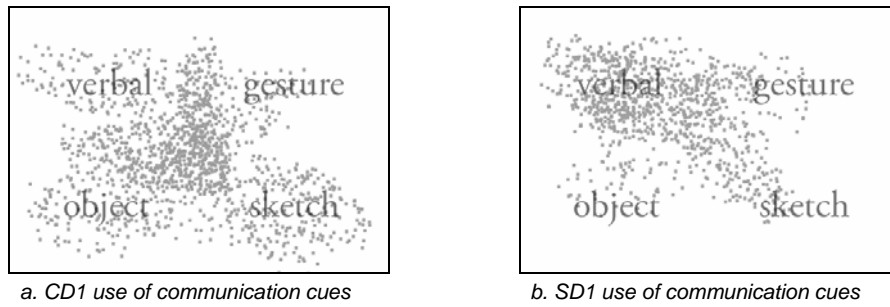


Figure 2 The comparison of communication cues between CD1 and SD1

5 TEAM FRAMING IN A SWISS/CHINESE TEAM

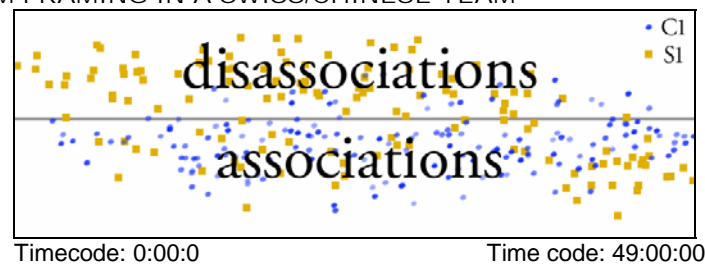


Figure 3 the spread of association and disassociation between C1 and S1

The negotiation process of collaborative design can be seen as a team member's persuasion of the others in a group. Stumpf developed a coding scheme to analyze design team interaction based on new rhetoric argumentation structure. The coding scheme is useful to analyze the argumentation structure of the team. We analyzed verbal discourse of the video footages using Stumpf's New Rhetoric approach of reflective practice [2]. In this paper, we ran a preliminary analysis by counting and comparing association and disassociation initiates by C1 and S1 in order to understand the pattern of negotiation between them (see Figure 3). The transcription was divided into episodes. An association was coded when the idea suggested in one episode supported the idea of previous episode. Disassociation was coded when the idea suggested deviated from the previous idea. The result shows two outcomes: 1) more disassociations from S1 than C1 and 2) CD1 shows a contrasting pattern of Stumpf's assumption that disassociation at the beginning will resolve into association at the end of design discourse. However, as the analysis was done on verbal discourse, from previous analyses, and C1 used more nonverbal discourse, therefore the analysis using nonverbal data is necessary to trace C1's contribution to disassociation.

CONCLUDING REMARKS

In this paper, we explored and testify currently available Co-Design methods on a cross-cultural design team. The outcome suggests there are differences between Swiss-trained and China-trained design students in 1) the distribution of communication cues during

design interactions and 2) the distribution of association and disassociation in the team framing. In summary, we propose that cultural differences in the use of communication cues and team framing pattern are important contributing factors to be considered by Co-Design research community on the study of design interaction in teams. A concrete understanding of cross-cultural Co-design is an immediate need. This research aims to identify a Co-Design model sufficient in describing design activities in a cross-cultural team with particularly focus on Western-trained and China-trained designers. We are currently analyzing data collected from observations at a case study on a design practice in China with WDs and CDs working in team. Future work focuses on reporting the ethnographic description and detail discourse analyses of Co-design episodes collecting from the naturalistic setting.

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