A Review on Creativity Tools Used in Participatory Action Research and Its Design Activities

Using a cross-border workshop as an example

Yen-Fu Chen1) Chia-Hua Lin2)

1) Department of Media Design, Tatung University 2) The Graduate Institute of Design Science, Tatung University

Introduction

In the past two decades, the issue of disaster prevention, rescue, rehabilitation and reconstruction has been noticed and discussed increasingly in Taiwan. Taiwanese government has earmarked large amounts of funds for the establishment of the Central Disaster Emergency Operation Center each year. However, the government and Taiwanese people did not look into the issue deeply from the perspective of design field. Margolin (2002) stated that designers could deal with human problems on broad scale and contribute to social well-being because they have the ability to envision and give form on material and immaterial products. This statement presents that designers have social responsibility to improve the quality of living through design thinking and techniques. Based on Margolin’s description, designers should be encouraged to look into the issue of disaster prevention, rescue, rehabilitation and reconstruction in Taiwan.

By comparison with Taiwan, Japan has adopted design thinking process to deal with disaster issues for years. In particular, social design has long been a major focus for the cooperation of industry-government-academia. To bring the perspective of social design to disaster issues in Taiwan, a seven-days design workshop – the ‘Disaster Prevention & Reconstruction + Design Workshop’ was conducted by Design College, Tatung University and School of Art and Design, University of Tsukuba. This design workshop was conducted in Fuxing District, Taoyuan City, Taiwan. The district is impacted by natural disasters (e.g. falling rocks and landslides) that are affected by typhoons and earthquakes every year.

The aim of this workshop was addressing the prevention of disaster escalation and the rehabilitation of disaster areas through design process. In the design workshop, participants were from Taiwan and Japan. These participants adopted different creativity tools to work together for identifying residents’ problems, defining design issues and refining design ideas. This study focuses on the comparison of these creativity tools that were used in different design activities.

Method and Practice

The process of this workshop is similar with the process of Participatory Action Research (PAR). The concept of PAR is taken from Kurt Lewin’s (1946) Action Research (AR) that proceeds in a spiral of steps each of which consists of a circle of observation, plan, action, and reflection. Because of these steps, AR is both proactive and reactive for a practitioner (Craig, 2009). PAR emphasizes participation, action and research (Chevalier and Buckles, 2013) so this approach is useful for practitioners who have professional skills and undertake social research.

22 art and design students from Taiwan, Japan and China were mixed and divided into four groups in this design workshop. Each group was marked by four colors and these group were called ‘Red’, ‘Yellow’, ‘Blue’ and ‘Black’. These participants were postgraduate students so they have sufficient design skills and experience to undertake design activity. To share experience, knowledge, information and perspectives, these participants spoke mainly in English and Japanese. During the workshop, four university staff (two staff were from Tatung University and two staff were from University of Tsukuba) and one senior graphic designer as consultants oversaw participants’ design activities and gave suggestion in appropriate time.

Besides, different kinds of creativity tools such as notebooks, pencils, color pencils, maker pens, color paper, simili paper, and paper clay were offered to visualize and develop participants’ ideas. These tools were distributed to each group before participants undertook the design activity. Participants were allowed to have the run of these tools during the workshop.

As shown as Figure 1, the procedure of the workshop consisted of 7 phases: the empathy phase, the definition phase, the 1st ideation phase, the refinement phase, the 2nd ideation phase, the prototype phase and the test phase. In the empathy phase, participants were given the information about a specific disaster area in Fuxing District in the beginning. The disaster
area was affected by falling rocks. To obtain more details of this disaster area, each group went to the area for participatory observation. Also, victims of the disaster area and local residents were interviewed by participants. In the definition phase, each group participants defined the design issue based on their observation and interviews. Then they developed design concepts and discussed with consultants for dealing with the design issue in the 1st ideation phase.

In the refinement phase, participants reviewed the feedback from consultants and refined the design issue and ideas. Therefore, participants were suggested to undertake more participatory observations and in-depth interviews in this phase. In the 2nd ideation phase, participants redeveloped design concepts and discussed with consultants. Then each group produced the artefacts (mock-ups) based on the suitable concept in the prototype phase. The artefacts were presented and tested in the test phase.

To record the process of the workshop, 6 students from Tatung University as workshop staff used cameras for video recording and sound recording.

**Result and Discussion**
During the process of the workshop, each group participants adopted different types of creativity tools in different phase. Note-taking was mainly used to record interview although participants could use mobile devices such as smart mobile phones for recording. When interviewing victims and residents, Taiwanese participants had to translate language to Japanese participants so Taiwanese participants wrote down keywords for reminding themselves. On the other hand, Japanese participants received a lot of information in short time. It seemed that notebook would be useful in this phase.

In the definition phase, the 1st ideation phase, the refinement phase and the 2nd ideation phase, each group applied different tools for supporting their design actives. Four groups used color pencils, maker pens and simili paper for analyzing and inducting data. Participants sketched their ideas on paper for discussion. However, one group also selected paper clay in these phases. Comparing with other groups, this group made different artefacts by using paper clay to present their ideas although the participants in this group also sketched on paper. These participants seemed to share more ideas and perspectives with these artefacts in the discussion so they could define the design issue clearly. Besides, these artefacts aided participants to reflect which idea was better. This group was undertaking design activities well during the workshop. The shape of paper clay seemed to provide participants visual communication but also give the opportunity to stimulate participants design thinking.

**Conclusion**
This study presented the design process of a cross-border workshop - the ‘Disaster Prevention & Reconstruction + Design Workshop’ that applied the approach of participatory action research and different types of creativity tools. By means of these creativity tools, participants’ viewpoints and ideas were presented visually so they could discuss and induct for the design issues and ideas. The result indicates that the use of paper clay led participants to discuss and reflect. It seems that paper clay successfully provides participants visual communication and stimulation but this confidence should be explored further.

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**Reference**