

A REFLECTION ON DESIGNING PARTICIPATORY DESIGN WORKSHOP - CASE STUDY OF ELDERLY PRODUCT DEVELOPMENT WORKSHOP WITH MULTIDISCIPLINARY COLLABORATION

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ABSTRACT:

In favor of human-centered viewpoint, implementing participatory design approach becomes more prevalent in design process. Designing a design workshop for participants with multidisciplinary background and agenda arouses much strenuous challenge than a general design workshop for people with similar background. To ferment an appropriate final deliverable, is it necessary or useful to plan ahead any expected outcomes? It is also worthwhile to argue who owns the right to shape the final design. In this paper, we will describe the scopes and identify the characteristics of general workshop and a review of various participatory design workshops, and finally share the model and reflection on a latest workshop of developing elderly product & service. The collaborative inquiries with elderly users, service providers, product retailers and developers were facilitated to generate insightful ideas. Reflection and recommendation of designing the workshop are shared.

Keywords: Workshop design, Participatory design approach, Collaborative inquiry, Elderly design

1. INTRODUCTION TO WORKSHOP TRAINING

A comprehensive description and instructional guide on general workshop design, for instance issues of preparation, creation of learning activities and workshop plan, facilitation and evaluation, has been discussed and elaborated (Brooks-Harris & et al., 1999; Dearling, 1992; Steinert & Ouellet, 2012). In order to identify the role and nature of design workshop, it is necessary to review concepts about learning experience and approach, and to clarify the definition of workshop.

Taking the account of the revised Bloom's taxonomy (Anderson & et al., 2001), it is obvious that workshop training can contribute to all six levels of learning (Table 1).

Levels of learning	Actions commonly taken in workshop training	Learning outcomes
I	Remember	To describe, define, identify, ...
		Being able to recall factual answers, recognizing the context etc.

II	Understand	To classify, demonstrate, interpret, ...	Comprehend the ability of translation, interpretation and extrapolation
III	Apply	To apply, produce, sketch, solve, ...	Experience when to apply, who to apply etc.
IV	Analyze	To analyze, categorize, differentiate, select, ...	Break down knowledge into parts and show relationship among it
V	Evaluate	To appraise, criticize, compare, ...	Articulating the project's criteria and make decision with reason
VI	Create	To compose, construct, design, hypothesize, plan, ...	Comprehend the skill of synthesis

Table 1: The functions of workshop training in perspective of the Bloom's six levels of learning taxonomy.

Workshop is a relevant approach to facilitate the above-mentioned levels of learning. Those 'action' words, for instance identify, classify, demonstrate, produce, select, compare, and design, can be formulated into short exercises executed by single or a group of participants. Arranging the whole learning process into several well-defined tasks is also a common practice in most workshops.

Pearson (1985) also mentioned that simply experience in learning activity is not enough and it is important to have briefing and debriefing, either in formal or informal way. The reflection in debriefing lies at core of experienced-based learning.

1.1. DEFINITION OF WORKSHOP

Undoubtedly, the above six levels of learning experience are usually fermented in mode of collaborative learning environment where usually a small group of people are facilitated to work on, contribute to or deliver certain tasks, problems or goals.

Brooks-Harris & et al. (1999) wrote comprehensively about definition of workshop, and developed an integrated model on designing and facilitating workshop in context of fine art. They firstly described the historical definition of 'Workshop' which is a word being used as an analogy of a place where things were made and sold. They inferred that when educators started to use 'workshop' to describe a particular type of learning environment, it can be assumed that "a workshop is a place where work occurs, where tools are used to accomplish this work, where things may be repaired, and where the work may result in a particular product or outcome." (p.3). They also pointed out other people's viewpoints, for instance workshop is a platform to develop competence or promote behavior change of participants by interactive yet problem-focused learning through hands-on practice in mode of practical and intensive interaction, and in form of small-group work while the application of new learning, identification and analysis of problems, and in the development and evaluation of solutions.

Brooks-Harris & et al. devised a definitional characteristics of Workshops- i) short-tem intensive learning, ii) small group interaction, iii) active involvement, iv) development of competence, v) problem solving, vi) behavior change as an outcome, vii) application of new learning. And five possible workshop emphasis were identified- i) problem solving, ii) skill building, iii) increasing knowledge, iv) systemic change, v) personal awareness/ self-

improvement. Meanwhile, they come up with a new definition of workshop- "A workshop is a short-term learning experience that encourages active, experiential learning and uses a variety of learning activities to meet the needs of diverse learners" (p.6).

In the instructional workbook developed by Steinert & Ouellet (2012), they states from Webster's New Collegiate Dictionary that workshop is "a usually brief, intensive educational program for a relatively small group of people in a given field that emphasizes participation in problem solving efforts" (p.3). They further describe that, share same view as Brooks-Harris & et al., workshop is a time- and cost-efficient educational method to provide learners whose are given opportunity to exchange information, practice skills and receive feedback in an active involvement setting. Furthermore, they consider the inherent flexibility and promotion of principles of experiential and adult learning are the reasons of why workshop is popular. And workshop can be adapted to diverse settings so to facilitate knowledge acquisition, attitudinal change or skill development.

1.2. CO-OPERATIVE INQUIRY AND DESIGN RESEARCH

According to Heron (1985), co-operative inquiry is a systematic way of elaboration and refinement in the cycle of experiential learning. It is a co-operative way of learning from individual and shared experience. As a workshop leader, I also experienced that there are always substantial reflection and knowledge that I identify from the reaction of participants and management process of a workshop. Thus, as suggested by Reason and Rowan (1981), co-operative inquiry is a primarily way of doing research with people rather than on people.

Binder & Brandt (2008) argued that current design research, put less emphasis on study of traditional human factors and stress the anthropological oriented study of potential users in the correspondent field, is usually driven by user-centred perspective with different kinds of user studies such as exploration of scenarios and prototyping the hypothetical solution. Apparently, participation with future users becomes a common approach. They further argue that the notion of a laboratory, more fully than a workshop, carries a relevant framing of design research where stakeholders are facilitated to explore possible concepts collaboratively in a transparent and scalable process. And there are several design workshops done by the authors share this quality. For instance the Design for Silver Age: Co-creation workshop 2015, led by first author of this paper, is an attempt to probe and explore new product and service concept for Hong Kong elderly and it demonstrates the need of approach towards co-operative model with stakeholders from the product development, promotion and consumption cycle- the designer, manufacturer, retailer, service provider and user. The research element in this workshop occupies a dominant position. Time-wise, the initial preparation such as background research, user study, home visit and market research took two months and the actual design process in workshop setting took three days instead. To tackle complex problem, as what Gibbons et al. (1994) described that quoted by Binder & Brandt (2008), this type of approach responses to the general movement towards open collaboration and new modes of knowledge production which is also visible in science, engineering and multi-disciplinary innovation partnerships.

Binder & Brandt also refers to Laurel (2003) observation about the practice of user research- “Many have discussed how results of ethnographic field studies can become useful starting points for design considerations and representations including but not limited to personas, use patterns and scenarios are among the suggestions that are now in wider circulation” (p.116).

Binder & Brandt supported the comment of Westerlund (2007) that workshop has gained considerable attention in session of collaborative work for structuring the design research process. The session with limited time frame where users and designers work collaboratively in design activities shown significant result. They also inserted that co-design sessions with many stakeholders also show strong impact on the client organization in terms of alignment and commitment (Brandt, 2007).

2. A REVIEW OF DESIGN WORKSHOP

2.1 DESIGN WORKSHOP ORGANISED IN SCHOOL OF DESIGN

The below (table 2) shows examples indicating five major types of design workshops offered at School of Design from 2007 to 2015.

Workshop example (cases extracted from 2007-2015)		Design for Silver Age: Co-Creation Design Workshop (for various stakeholders)	Education Corner Creative Workshop (BODW event)	3D Printed Eyewear Design Workshop (for practitioner or other)	Frame Creation, a Design-based Methodology for Driving Innovation by Prof Kees Dorst (for academic)	I.do Workshop (summer program for local & overseas students)
Design workshop's specific focus area	Skill sets on design & make	Appreciation of design thinking/ approach	*	*	*	*
		Craftsmanship/ Tacit knowledge			*	
	Concept probing & knowledge sharing	Academic research/ data collection/ methods sharing	*			*
		Future proposal	*			*
		Public engagement/ social concept exchange/ policy inform	*	*		

Table 2: Common types of design workshops offered at School of Design, The Hong Kong Polytechnic University.

A simple survey was done by the authors on total number of workshops organized by School of Design (Nov 2006 to Jun 2015) and Jockey Club Design Institute of Social Innovation

(JCDISI) (Dec 2012 to Feb15). In total more than seven hundred design education and promotional activities are recorded in which 14% out of it are design workshops or workshop series. From the identified fifty-two design workshops organized by School of Design in Mar 2007 to May 2015, two major types of activities including 'skill set transfer' and 'concept probing & knowledge sharing' are concluded. Four types of target audiences are found and they are designer or design student, academic, business partner, and other student or public.

In fact, there are more standalone workshops had been organized in each event for instance the DesignEd Asia Conference had offered series of workshop training and it was counted one workshop activity only in this survey. In previous five years (2011 to 2015), sixteen individual workshops were offered. Moreover, it is seemingly the JCDISI posited in area of social innovation whereby active engagement with community and stakeholders are crucial. 30% of their activities adopt workshop approach.

2.2 TYPES OF PARTICIPATORY DESIGN WORKSHOPS

Below briefly describes various types of participatory design workshops that had been organized in Hong Kong and Mainland China.

(I) Workshops design to facilitate collaborative work of professional designers and NGOs

A series of workshops including "In Search of Marginalized Wisdom: Sham Shui Po Craftspeople" in 2006 to 2007 (Siu, 2007), "Miracle 5: Social Enterprise & Designers Crossover Workshop" in 2009, and "Carpet, Banner and Leather: Experiments in Upcycling Design" in 2009 to 2010 (Community Museum Project, 2010) had been developed to promote the awareness and explore the feasibility on upcycling business model. It is the first of its kind in Hong Kong that engages large group of professional designers, production and business partners (e.g. NGOs or social enterprises) to explore and develop works of upcycling products using local resources and local production service. These workshops were operated in a relative longer mode (e.g. three months or above) and the outcomes were exhibited rather than orally presented. It consists of three to five mandatory workshop meetings and several production meetings at weekends with mutual agreement by designers and other partners until the exhibition date.

(II) Workshops design for empowerment (non-designer)

IIa- For people living in urban environment

"World of Women Workers" is a workshop organized in 2013 for empowering marginalized women living in Hong Kong (Lee & Chan, 2013). The participants are members of Hong Kong Women Workers Association and design students were trained to co-create a community art work with the women in a five day workshop including training, visit and production workshop. The workshop aims to enable participant's creativity and self-actualization in the context of urban living such as the roles of working mother and home working mother in Hong Kong.

IIb- For people living in rural environment

The authors carried out a design research project “Forging Interdisciplinary Research for Establishing Community Rural Design and Social Economy in the PRD” in 2013-14. A major part of the project is the implementation of a participatory design workshop for local villagers (both adults and kids). The workshop aims to facilitate the villagers to identify their local resources and issues by assets mapping (both tangible & intangible), and devise new solution with participation of villagers. At the end both the villagers and designers reinvented the traditional indigenous crafts, and a community children library and study room were created for serving local children. The project demonstrated a successful case on mobilize participants and engages to improve the quality of living actively.

III- Design for Silver Age: Co-creation workshop

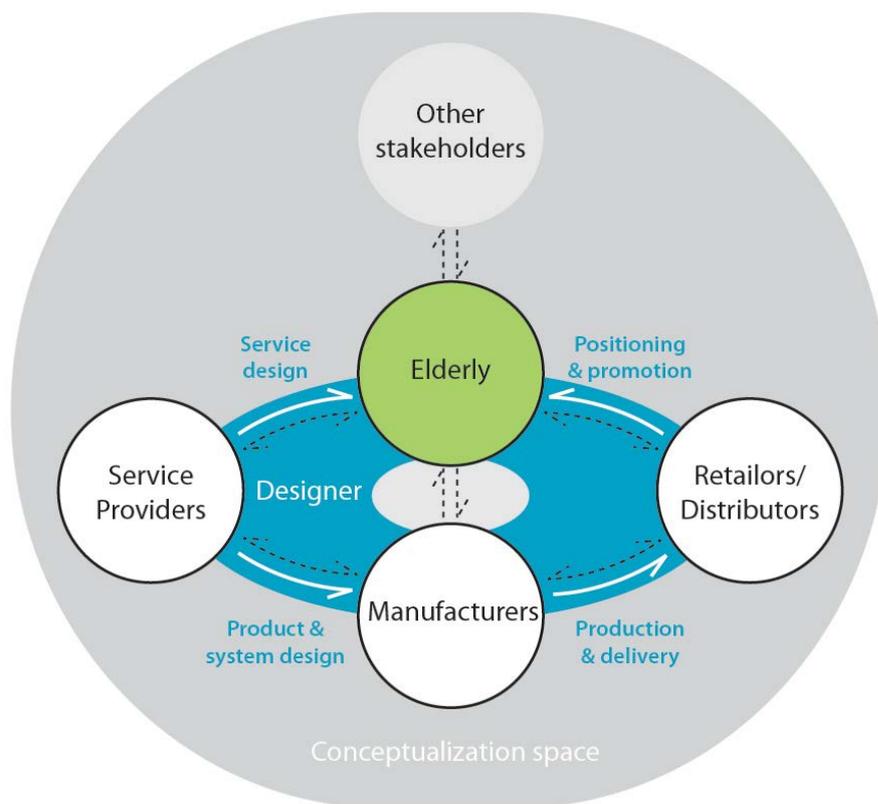


Figure 1: A collaborative model to describe the four major design focuses of the five key participants who contribute in the 'Problems-Opportunities' conceptualization space during the workshop for developing product and service design development for elderly.

Design for Silver Age: Co-creation workshop is an annual project organized by Jockey Club Design Institute of Social Innovation with support of Institute of Active Ageing, The Hong Kong Polytechnic University since 2013. The workshop aims to devise innovative solution for the emerging senior market of Hong Kong. In the past two consecutive workshops, the participants included elderly, social service provider and designer. In 2015, a holistic product service development collaboration model (Figure 1) was introduced where not only elderly, social service provider and designer were on board, but also retailer of elderly product as

well as potential elderly product developer and manufacturer were invited. Five teams targeting different emphasis were formed to tackle scenarios either addressing mobility, cognition, hearing & vision, monitoring, and lastly furniture for elderly. In regarding the overall workshop process, this type of workshop is similar to the above-mentioned type I workshop in which professional designer and other stakeholders are involved. In particular, the key participant, elderly user, and other non-designers were considered as one of the designers who are lack of design training. As such, the individual team were leaded by experienced designer who was responsible for leading the team and carried out different workshop tasks. Several workshop tools were given to team leader who used it to facilitate the participatory or co-creation process. All participants experienced problems and opportunities identification, idea brainstorming, developing and prototyping. The project team found this collaborative platform in workshop mode very useful in particular the project nowadays is very complicated where multidisciplinary investors are needed. For instance, a smart device to monitor elderly living needs contribution from more than one type of manufacturers, and this workshop organized by University can play a middle man who liaises with all parties including the service provider to allow further discussion on sharing the rights of intellectual properties at latter phase of the project.

2.3. DESIGN WORKSHOP'S SPECIFIC EMPHASIS

Design workshop, though shares the same emphasis and structure of a general workshop, demonstrates a specific tendency towards several activities related to creativity and integration. By adopting the five possible emphasis described by Brooks-Harris & et al. (1999), the below table illustrates major characteristics in particular the specific emphasis identified in the workshops by the School of Design. In practice, the five emphases may overlap with one another. This framework can be adopted into participatory design workshop with elderly participants and other stakeholders. As a matter of fact, this framework is a generalized learning process that explicitly maps the learning experience and individual product development component in the setting with participatory or co-creation approach. Please see table 3 at next page.

3 REFLECTIONS ON PARTICIPATORY DESIGN WORKSHOP

Involving elderly in the process of ideation of elderly product and service is believed an effective approach to enhance design solution. Demirbilek & Demirkan (2004) had adopted participatory design model for probing the user's concern on safety, usability and aesthetics of residential design, and facilitating the improvement of quality of life of independent older people's living.

Sanders (2008) describes definition of co-creation or co-design which refers to collective creativity of collaborating designers and non-design trained people working together in process of design development. He stated the development of co-design from the movement of participatory design approach that became emerging in 70's. Nigel Cross is one of advocator who argued the importance to promote the approach 'user participation in design' for improving the design process. It was considered to be a reflection of designer and design

researcher on criticizing user-centered design, and moving toward treasuring the value of more people-centric, networked, empowered and active consumers view from a product- and manufacturer-centric view.

General workshop emphasis		The five emphasis	1- Problem solving	2- Skill building	3- Increasing knowledge	4- Systemic change	5- Personal awareness/ self-improvement
		Relevant workshop's contexts/ components	For problem identification & solving process in group setting	For the transfer of coded or tacit skill	For interactive/ experiential learning	For consultation or organizational development	For self-motivation/ actualization
		Major workshop objective	To gather collective ideas & creative thoughts for tackling common problems	To promote interpersonal learning & hands-on practice	To apply new knowledge & have reflection	To change attitudes and behaviors of participants/ community	To facilitate participants to get aware of own thought, attitudes, or feelings for making change of their state
Design workshop's specific focus area	Skill sets on design & make	Appreciation of design thinking/ approach	e.g. creative method/ approach	e.g. technique of idea development	e.g. articulation of innovation process	e.g. enable empathy for getting mutual agreement	e.g. enable personal creativity
		Craftsmanship/ Tacit knowledge	e.g. crafting skill	e.g. hand tools manipulation	e.g. articulation of manipulating tools & material	e.g. appreciate new skill	e.g. enable one's crafting technique
	Concept probing & knowledge sharing	Academic research/ data collection/ methods sharing	e.g. participatory design approach	e.g. skills on probing ideas	e.g. adopting new method & get insight	e.g. collect participant's thoughts & analysis data of a group of people	e.g. participating in research process
		Future proposal	e.g. user test	e.g. devise new concept	e.g. making assumption & proving it	e.g. propose new possible design framework	e.g. enable personal ownership to the project
		Public engagement/ social concept exchange/ policy inform	e.g. facilitate mutual understanding	e.g. how to engage with public?	e.g. identification of different people's needs	e.g. participatory approach	e.g. facilitate one's involvement in public sector

Table 3: Comparison of five emphasis between general workshop and design workshop.

In practice, participatory design workshop shares the same idea of co-creation or co-design workshop though they are philosophically and historically different. Participatory design approach roots in a sociological development where the stakeholder's empowerment and democratization are advocated. Most people ignore or do not aware the political agenda behind it.

3.1. PARTICIPATORY DESIGN APPROACH FOR DEVELOPING ELDERLY PRODUCT

In perspective of schedule and plan, designing participatory design workshop is almost identical to general design workshop. Nonetheless, participatory design workshop should put the opinion and value of the key participants in the first place. For elderly design workshop, it is undoubtedly, if the elderly participants are the major end users, elderly input should be considered in higher priority than other participants. If that is the case, the briefing session, workshop tools, and the design process need to address it. For instance, the Design for Silver Age: Co-creation Workshop 2015 had invited a pair of male and female elderly.

3.2. REFLECTION

This session will share our view on the challenge of organizing participatory design workshop for different stakeholders in area of developing elderly product.

Engagement

Inviting stakeholders to join into this meaningful workshop could be problematic. In this case, there are five types of stakeholders including user (elderly participant), product designer, elderly service provider, manufacturer and retailer selling elderly product. The author anticipated that curating an attractive brief with co-ownership for engaging different stakeholders is crucial. All stakeholders recognize the emerging market niche of elderly products for both elderly and care takers- various elderly or care taker's friendly products, service and living environment so to promote the concept of active aging and aging in place. It is also important to get a consensus on a mutual agreement with all participants that the intellectual property (derived from first stage) is evenly shared and it is subjected to the final agreement by the organization before the commencement of second stage of the project.

All participants have different agenda and expectation because of heading towards commercialization. This phenomenon is more obvious than general design workshop. A constructive briefing and warm up exercise are useful. Elderly participants and elderly service provider are one of active player who shows high interest to join in the workshop. Manufacturer plays crucial role to the commercialization of the project but showed less motivation except one participant who is an electronic product developer in area of elderly service. Apparently it needs more time to lobby appropriate manufacturer and an in-depth communication is required such as types of investment, potential market, sharing of intellectual property etc. This type of collaborative workshop should allow longer period of preparation and coordination.

Warm up with empathy

Two different warm up exercises were offered in this workshop. First, half day experiential learning on limitation of elderly physiological performance in daily life was arranged to enable participant's empathy about the possible situation when they age. The project team interviewed the designers, service providers and manufacturers, all of them experienced real difficulties of elderly in daily life and some new design insights were found.

Second, a board game "An Active Aging Trip" is designed to warm-up group dynamic and further proliferate all participants' empathy and personal experience, and get into the scenario of being aged through the game. Participants shared joy and had fun during moving around on a map showing three zones- home, nearby neighborhood and distance travel zone. It established a good atmosphere and underlining the workshop's design principle such as playful, positive, empathy of elderly living and concern of empowering elderly capabilities for the coming three days long co-creation workshop.

Anticipation & open-ended output

Co-creation workshop for participants with different backgrounds may cause the design of the workshop far more complicated than workshop for single type of participants. Most of the time the expected outcomes are from, not the workshop planner or participants, but the supporting organization.

Besides, focusing how to facilitate all participants to express, share and collaborate is a dominant question. Second, the degree on facilitating and shaping the group works into a new outcome is a major criterion of workshop design. Coining a proper framework (e.g curatorship) is needed. If the workshop objective is the generation of innovative concept or formulation of new design strategy, it is unavoidably, as well as beautifully, the outcomes could be unexpected, innovative and useful. The workshop facilitator should allow and ensure high degree of open-ended outcome.

Flexibility

The workshop approach and detailed process may also allow some freedom that the participants may not use all tools and follow the exact workshop process. The project leader needs to adopt the new development of the participant's findings, progress and the group dynamic at that moment.

The pace and output of individual group may vary. It is identified that individual team may show different project progress. It is normal as projects challenges are varied. The project leader should allow certain flexibility for the team leader and teammates whose can decide their own pace.

The output format cannot standardize as expected. Individual team leader or teammates may have various competences on design skills, for instance visualization skills or approaches, modeling skills and preferences on presenting design concepts (e.g. sketch or 3D rendering) etc. The essence of presentation is concept sharing, not assessing presentation skill.

Arts of facilitation

Decision-making is always a major factor that affects the quality of workshop outcome. It may rely on the workshop leader and or the team leader. However, in reality, it is controversial that designer or any stakeholder overrides the direction of the design.

Observation of workshop leader and his or her appropriate intervention is crucial. We suggest that the workshop leader may visit each team and call team leaders meeting from time to time. Immediate strategy can be made before too late.

Lastly, the above recommendation needs further examination for instance comparative study of more workshops (both similar type with different emphasis) is useful to verify the approach.

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