A co-design project for a nursing information system

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1. Introduction

Co-design is a process in the research and development of products or services, and has been receiving considerable attention in the design research fields (Sanders and Stappers, 2008). In co-design, researchers and design experts participate into the community and build collaboration with members of the community to generate solutions to design problems (Nishimura et al., 2013; Sunaga et al., 2014; Watanabe et al., 2014). While the clinical nurse engages in designing and developing the information system using in clinical practice, there are practical issues that an information systems that is unfitted for clinical practice is developed. It is important to collaborate with people who involved in the development of information system such as user, designer and engineering from early phase for designing and developing a more fitted information system. We started a co-design project for developing a nursing information system by the collaboration between medical services, engineering and design (MED) in Saga University Hospital since 2012. The aim of our project is to build up user-based framework that nurses continuously develop information system and to develop an information system that is fitted for clinical practice.

2. Method

We established a project team included clinical nurses. The project team consisted of 26 nurses (4 chief nurses and 2 vice chief nurses) in Saga University Hospital Nursing, two experts of information design in an Art University, two engineering scientists majored in service engineering and a psychologist. In 2012, we hold three workshops as an early phase of research and development. The aim of a series of workshops was to reconstruct nursing service by looking back on his/her nursing and confronting their own experience.

2.1 First workshop: Expression

The first workshop was to draw an instrument familiar with nurses (Figure 1). Drawing, one of the key expressions in our project, has the effect to redirect their attention toward her/his own nursing. In addition, this workshop had a function to build effectively our interdisciplinary team.

2.2 Second workshop: Experience essay

Nurses composed an essay about an experience with their patients in the second workshop (Figure 2). The project team extracted keywords from essays and categorized these keywords. Essays included tasks of nursing, situations and the relationship between medical staffs and a patient.

2.3 Third workshop: Experience mapping

The researcher group created a toolkit for experience mapping. The toolkit consisted of four components: people, action, feelings, and intention. The purpose of this workshop was to restructure nurses’ essays
composed in the second workshop (Figure 3). This restructuring allowed nurses to overview their own nursing.

Figure 1. Nurses drew a familiar instrument in the first workshop.

Figure 2. All project members arranged keywords in the second workshop.

Figure 3. Nurses created an experience map using the toolkit.

3. Results

It was founded that nursing service have a two-layered structure consisted of the layer of task and feelings (Figure 4). The layer of task is a part of nursing service as an act of nursing. The layer of feelings is a part of hopes and thoughts for patients behind the act of nursing. And it is revealed that the layer of feelings is important for nurse rather than that of task. After participation in workshops, more and more nurses who are unfamiliar with information system wished to participate in our project.

4. Discussion

It is suggested that our co-design project was well performed. As with co-design, community based participatory approach (CBPA) to research has developed in the field of public health and health sciences (Leung et al., 2004). CBPA also emphasizes the collaboration between researchers and communities and
could explain how the activities of our co-design project performed. Co-design will provide the advantage to design and develop the user oriented information system in healthcare fields.

![Two-layered structure of nursing](image)

**Figure 4.** A two-layered structure of nursing.

References


