Peer Learning with Pattern Languages

Takashi Iba

Abstract In this paper, we study the way of peer learning by dialogue with using pattern languages. Pattern languages is a collection of patterns to describe design knowledge that exists in particular areas of a profession. For past 7 years, we have been holding workshops for dialogue with using a pattern language in order to realize peer learning. In this paper, we introduce the dialogue workshop with using the Learning Patterns, a pattern language for creative learning, and analyse the data of our survey. The results of 710 valid responses show 92.4% of participants got findings about the way of learning, when they read the book of the Learning Patterns; 91.5% reflected that the dialogue was important to get findings; 95.7% of participants considered this activity to listen to others as significant, in various reasons; 90.3 % thought the pattern language was helpful to share their experience with peers; with the workshop, 88.3 % was able to imagine how they can actually take actions of patterns they chose; and 96.5% of participants thought to read the pattern language and to participate in the dialogue workshop were enjoyable.

1 Introduction

Pattern languages can uncover design knowledge that exists in particular areas of a profession. Design knowledge refers to both the intelligence to notice problems and the clue to solve them. In other words, pattern languages describe expertise in problem solving under certain conditions and in particular contexts.

The originator of pattern language was the architect, Christopher Alexander who proposed it to develop design knowledge of building and town (Alexander, 1979). His intention was to have people who lived in a community get involved in the process of designing their own towns and houses. In the late 1970s, he wrote a book with his colleagues that contained 253 patterns on practical architectural design (Alexander et al., 1977). Ten years after the book was published, Alexander’s idea of pattern language was adopted in the field of software design (Beck & Cunningham, 1987; Gamma et al., 1995). Since the 1990s, an increasing number of fields have adopted the methods of pattern language (Coplien & Harrison, 2004;
Manns & Rising, 2005; Manns & Rising, 2015; Hoover & Oshineye, 2009; Pedagogical Patterns Editorial Board, 2012). On the basis of this background, I have been creating pattern languages in a new area of knowledge concerning human actions such as learning, presentation, collaboration, education, business, social innovation, policy-making, and even beauty in daily life.

Third generation pattern languages for human actions are used not only for self-study by reading patterns, but also as media for narrative and dialog. For different purposes, I invented some specific types of workshops: the creative dialog workshop, a collaborative improvement workshop, and an idea generation workshop.

In this paper, we demonstrate the dialogue workshop with using a pattern language, and examine the feedbacks from the workshop participants.

2 Dialogue Workshop

Pattern languages are used in workshops that provides participants an opportunity to reflect on their experiences, talk about them with others, and make a plan for future actions using the pattern language (Iba, 2011a, 2011b; Iba et al., 2012). In this paper, we show the example of the dialogue workshop with using the Learning Patterns.

The Learning Patterns consists of 40 patterns (Fig. 1). At the centre of the pattern language is pattern No.0: Creative Learning, and the three main patterns for such learning: Opportunity for Learning (1), Learning by Creating (2), and Open Learning (3) surround the Creative Learning. The subsequent patterns are grouped into three categories. The first group, patterns Nos. 4 – 15, relates to Opportunity for Learning (1). The second group of patterns, Nos.16 – 27 shows patterns related to Learning by Creating (2). The third group, pattern Nos.28 – No.39 relates to Open Learning (3). These patterns help learner achieve a Creative Learning through their interactions.

In the workshop we held in our university, first, participants are asked to recall their experiences in terms of the Learning Patterns. They are asked to choose five patterns they wish to master in the near future. Then, participants are free to mingle and to find and talk with other participants. When they find someone who has experienced a pattern they want to master, they listen to the other participant’s story.

Dialog workshops using the Learning Patterns have been held at the Faculty of Policy Management and Faculty of Environment and Information Studies, Keio University, since 2011. All freshmen at the two faculties, approximately 900 students, have participated in these workshops and talked about their experiences of learning in light of the patterns (Fig. 2). About 6,500 students have participated in the workshops over the past 7 years.

First, participants can talk to people to whom they have never talked before. By setting a rule that participants must talk only to people they do not know, the workshop becomes an extraordinary and interesting event and is still feasible even
if participants are shy and do not like talking to new people. This is because the atmosphere and rules of the workshop make it more comfortable for people to talk. Moreover, the workshop is fun and interesting and the participants even make new friends, although the theme is learning.

Second, to actualize the patterns they want to implement, the participants gain ideas about specific actions they can take and also learn that the same pattern can have various applications. In this workshop, participants are often motivated by other people’s attitudes and experiences, of learning in the case of Learning Patterns, and by seeing the diversity of the experiences of others. Through the
workshop, the participants gain a broader viewpoint of the world and themselves to help them share and solve problems they are facing.

Third, the workshops not only allow participants to know something unique about others, but also to discover new aspects in themselves by using the pattern language to talk about themselves. In the dialogs, they also sometimes discover they have experience with a pattern that they did not realize they had experienced. Some participants are already using the pattern names as part of their vocabulary and making emphatic comments about what the dialog workshop actualizes in them.

Thus, dialog workshops facilitate not just simple conversation and trading information, but become places for creative dialog. Iba (2012) presents a pattern language for designing this type of workshop and Iba (2014) introduced the method of pattern language as media for mining, analysing, and visualizing experiences.

Fig. 2. Dialogue workshop using a pattern language (Keio University, 2017)

3 A Survey on Dialogue Workshops with the Learning Patterns

We conducted the survey on dialogue workshops with the Learning Patterns to the students who participated in the workshop at Keio University in 2017. The survey covers about from the experience of reading the pattern booklet to the experience of the workshop. The number of valid responses of this survey is 710.
To grasp the premise to the workshop, we asked to participants about how many patterns they have already experienced in 40 patterns of the Learning Patterns. The result is shown in Figure 3.

**Fig.3.** Answer for the question "How many patterns you have already experienced in 40 patterns of the Learning Patterns?" [N=710]

Also, we asked whether they have any findings about the way of learning, when reading the book of the Learning Patterns. The result in Figure 4 shows 92.4% of participants, in total, got findings about the way of learning, when they read the book of the Learning Patterns.
On dialogue workshop, we asked about how many people they talked with in the dialogue workshop for 45 minutes. The result is shown in Figure 5.

As we shown above, participants got findings when reading the book of the Learning Patterns. On the other hand, they also got findings in dialogue workshop. Figure 6 shows the result of the answer to the question "After reading the book, you joined the Dialogue Workshop. When did you get the most findings about the way of learning?". This result shows that 91.5% of participants in total said the dialogue was important for them to get findings.
Fig. 6. Answer for the question "After reading the book, you joined the Dialogue Workshop. When did you get the most findings about the way of learning?" [N=710]

And, figure 7 shows answer for the question, whether they think it was significant that they listened to the learning experiences from the others, for they to think about their own way of learning. This result shows that 95.7% of participants in total consider this kind of activity to listen to others as significant.

Fig. 7. Answer for the question "Do you think it was significant that you listened to the learning experiences from the others, for you to think about your own way of learning?" [N=710]

Related to this answer, we asked the question, what was good about the dialogue workshop with using the Learning Patterns, to the participants who considered this activity to listen to others as significant in the previous question. Multiple replies are allowed. The result is shown in Figure 8, and you can find there are various reason why they consider this workshop as significant.
Fig. 8. Answer for the question "If you chose "Strongly agree" or "Agree" in the previous question, please answer this question. What was good about this dialogue workshop that we have shared our own learning experiences, using the Learning Patterns? Please check all that apply."

In our past qualitative study of dialogue workshops (Iba, 2015), participants said pattern languages are helpful to tell their experience. This time, we asked the question "Did you feel that the Learning Patterns was helpful to tell someone your own stories of learning in the dialogue?" to all participants. Figure 9 shows the result that 90.3% of participants in total think the pattern language was helpful to share their experience with peers.

Fig. 9. Answer for the question "Did you feel that the Learning Patterns was helpful to tell someone your own stories of learning in the dialogue?" [N=710]

One of the purposes to hold dialogue workshop with pattern languages is to be able to imagine the future states when they will apply the patterns into practice based on what they listen to their peers. Figure 10 shows the answer for the question "About the 5 patterns you have chosen; are you now able to imagine clearly, how you can
actually take action?”, and it shows 88.3 % of participants in total think they become to be able to imagine how they can actually take actions of patterns they chose.

Fig.10. Answer for the question "About the 5 patterns you have chosen; are you now able to imagine clearly, how you can actually take action?" [N=710]

According to our past qualitative survey (Iba, 2015), some participants said they realized, during the workshop, that they already had experience of patterns that they chosen as "no experience" when reading the book of the Learning Patterns. We were interested in how many people get such a finding, so asked it this time. Figure 11 shows answer, and it shows 82.0% of participants realized, during the workshop, that they already had experience of patterns that they chosen as "no experience" when reading the book of the Learning Patterns.

Fig.11. Answer for the question "Were there any patterns you realized, during the workshop, that you already had experience of patterns that you chosen as "no experience" when reading the book of the Learning Patterns?" [N=710]

Figure 12 shows answer for the question about the experience of reading the Learning Patterns book and participating in the dialogue workshop, "All in all, was
it enjoyable for you to read the Learning Patterns or having the dialogue with others?”. As a result, 96.5% of participants think it was enjoyable. In addition, figure 13 shows the result of the answer to the question, "Do you recommend this workshop about the Learning Patterns to the freshmen coming next year?". It shows 95.9% of participants recommend this workshop.

**Fig.12. Answer for the question "All in all, was it enjoyable for you to read the Learning Patterns or having the dialogue with others?" [N=710]**

**Fig.13. Answer for the question "Do you recommend this workshop about the Learning Patterns to the freshmen coming next year?" [N=710]**

Finally, we asked the past experience to share the practical knowledge and episodes related to it with others. Figure 14 shows their experience of talking about the way of learning with friends, teachers, family and so on, before this workshop. 14.8% of participants very often do so, and 36.9% sometimes; Almost half of participants have very few experience to talking about their way of learning.
Fig.14. Answer for the question "Have you ever talked about the way of learning with friends, teachers, family and so on, before this workshop?" [N=710]

5 Conclusion

In this paper, we introduced the dialogue workshops with pattern languages, and take a case of dialogue workshop with using the Learning Patterns, and study the result of survey for workshop participants. We anticipate that you will hold this kind of workshops based on the evidences presented in this paper.

References


Iba, T. and Iba Laboratory (2014a) Collaboration Patterns: A Pattern Language for Creative Collaborations, CreativeShift.

Iba, T. and Iba Laboratory (2014b) Learning Patterns: A Pattern Language for Creative Learning, CreativeShift.

Iba, T. and Iba Laboratory (2014c) Presentation Patterns: A Pattern Language for Creative Presentations, CreativeShift.


