

# A Pattern Language for Creating Pattern Languages

## 364 Patterns for Pattern Mining, Writing, and Symbolizing

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In this paper, we present the purpose, creating process, and overview of a pattern language for creating pattern languages, consisting of 364 patterns for pattern mining, pattern writing, and pattern symbolizing. For the past 10 years, we, Iba Lab, have created more than 20 pattern languages on various topics to describe human actions, consisting of more than 600 patterns in total. By creating these new pattern languages, we have studied and developed methodology to create pattern languages and to practice and modify them. In addition, we have realized that lots of people are interested in our creating process when providing university courses on pattern languages, holding seminars for business people and teachers, and also when we present our patterns at international conferences. However, sharing the knowledge has always been a struggle. With this context, we started a project to inquire our tacit patterns when we create pattern languages. The 121 patterns for pattern mining, 121 patterns for pattern writing, and 121 patterns for pattern symbolizing (which includes pattern naming and pattern illustrating) are the results of the inquiry. This paper presents the purpose, creating process, and overview of these projects, instead of showing each pattern in details.

Categories and Subject Descriptors: **[Social and professional topics]**: Professional topics—*Project and people management*

General Terms: Human Factors

Additional Key Words and Phrases: pattern language, pattern mining, pattern writing, pattern symbolizing

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## 1. INTRODUCTION

For the past 10 years, we, the Iba Lab, have created more than 20 pattern languages about various topics that each provide tacit design knowledge of human actions, consisting of more than 600 patterns in total (Iba, 2015). Topics include learning (Iba & Iba Lab, 2014a; Harashima, *et al.*, 2014), collaboration (Iba & Iba Lab, 2014b), presentation (Iba & Iba Lab, 2014c), project design (Iba & Kajiwara, 2016; Kubota *et al.*, 2016), change making (Shimomukai, *et al.*, 2015), disaster prevention (Furukawazono, *et al.*, 2015), beauty in everyday life (Arao, *et al.*, 2012), living well with dementia (Iba & Okada, 2015), living with continuous self-actualization (Nakada, *et al.*, 2013; Kamada, *et al.*, 2014), living in the age of a global society (Matsuzuka, *et al.*, 2013), cultural design (Kadotani, *et al.*, 2013, 2014), cooking (Isaku & Iba, 2014, 2015, 2016; Akado *et al.*, 2016a; Yoshikawa *et al.*, 2016), natural living (Kamada *et al.*, 2016), generator as a new role to facilitate an idea generation (Nagai *et al.*, 2016; Akado *et al.*, 2016b), and policy design (Iba & Takenaka, 2013).

Through our experience of creating these new pattern languages, we have studied and developed our own methodology of creating, use and modify pattern languages. These methods are described in our works with pattern mining (Iba & Isaku, 2012; Iba & Yoder, 2014; Akado, *et al.*, 2015) and pattern illustrating (Miyazaki, *et al.*, 2015).

In addition, we have realized that many people are interested in this creation process when providing university courses on pattern languages, holding seminars for business people and teachers, and also when we present our patterns at international conferences. However, sharing the knowledge has always been a struggle. With this context, we started a project to inquire our tacit patterns in our ways of creating pattern languages. This was done as a 3-phase project, since we often considered the creation of pattern language in the corresponding three phases. Thus, we wrote 121 patterns for pattern mining, 121 patterns for pattern writing, and 121 patterns for pattern symbolizing (which includes pattern naming and pattern illustrating). This adds up to 363 patterns, which is crowned by an ultimate pattern, *Pattern Language Creation*, making

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a total of 364. These patterns are all written (in Japanese) in full pattern format, and they were presented in 3 volumes of booklet, 780 pages in total.

In what follows, we present the purpose, creating process, and overview of these projects. We will not go into details of the individual patterns, but abstracts of all 364 patterns can be seen in the appendix. See our paper *Pattern Mining Patterns* (Sasabe *et al.*, 2016b) and *Pattern Symbolizing Patterns* (Shibata *et al.*, 2016) for further information on these subset pattern languages.

We, of course, acknowledge that there are already many patterns for pattern mining and pattern writing, but our intent is, first of all, to share patterns we experienced so far. So we will discuss the overlap and relation between existing patterns and our patterns later. In this paper, we show the overview, the process, and patterns.

## 2. STRUCTURE OF PROPOSED PATTERN LANGUAGE

The proposed pattern language for creating a pattern language consists of 364 patterns in total. The language consists of three subsets of 121 patterns each for *Pattern Mining*, *Pattern Writing*, and *Pattern Symbolizing*. The 363 patterns are crowned by the lead pattern, *Pattern Language Creation*, to make a total of 364. The three sections are roughly organized in a sequential order where the reader of the patterns will be guided through the unfolding process of creating a pattern language, starting with the data collection (pattern mining), writing the actual pattern language (pattern writing), and then finally making the pattern language intuitive and understandable (pattern symbolizing). This three-step process is what we define as the process of pattern language creation.

Although pattern mining and pattern writing are familiar topics for people in the pattern community, pattern symbolizing is a rather new concept that we have coined. It encapsulates knowledge on how to show the content of the pattern, including the process of its naming and illustrating, with expressions to encourage intuitive comprehension.

To organize such a vast number of patterns, we decided to define the relationships between the patterns in two ways. The first is something close to the idea of Minto's pyramid structure (Minto, 1987). The most important, main topic pattern, *Pattern Language Creation*, is at the top, and below this the three topics that compose this (pattern mining, writing, and symbolizing) branch off. The 121 patterns in each of these three sublanguages are again divided into three equally-sized subcategories, each crowned with a topic pattern that expresses an idea that is important for the sublanguage. These patterns are again divided into three, and so on, creating a fractal sort of structure. This results in a pyramid structure composed of 5 levels of abstraction, which is visualized in Figure 1. The very bottom layer of patterns gives specific advice for specific situations, but if you go to the pattern directly above it, it gives you more context or reason the pattern should be used. This kind of order, starting from the big, abstract idea and then gradually increasing its detail, according to Minto is very close to the way our human brains process logical information, and thus helps the reader understand such large and complicated information:

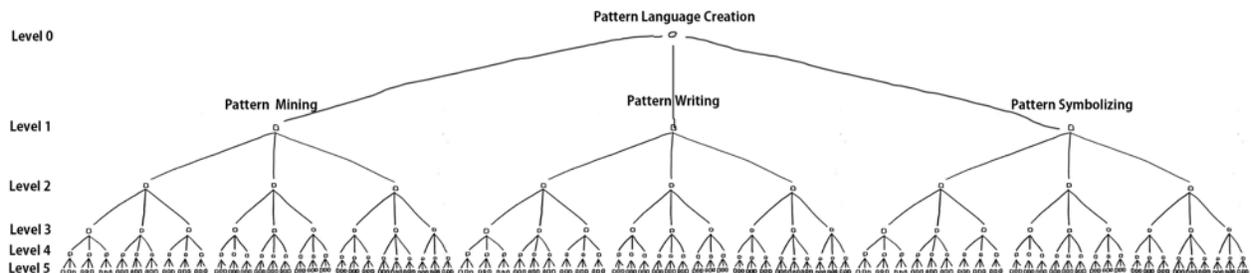


Fig. 1. Whole structure of a patter language for creating pattern language.

“All mental process (e.g., thinking, remembering, problem solving) apparently utilize this grouping and summarizing process, so that the information in a person's mind might be thought of as being organized into one giant conglomeration of related pyramids.” (Minto, 1987, p.8)

The patterns in the language are organized in roughly a sequential order. Therefore, by reading through the patterns in their numerical order, you will be guided through the unfolding process of creating a pattern language. Each level of patterns describes the pattern it branched off in the previous level in detail. For example, each of the patterns in level 2 will have three patterns branch off from it in level three that describes the concept in detail. Due to the fractal structure, the patterns in level three will again each have three patterns that branch off of it that go into further detail. Therefore, patterns at higher levels can be considered as elaborate category names for the patterns of lower levels.

Let's read the actual patterns in order to understand this structure (the letter/numbers in parenthesis indicate their pattern number). This is also visualized in Figure 2:

- In level 0, *Pattern Language Creation* (0) has 3 sub-patterns: *Pattern Mining* (M), *Pattern Writing* (W), and *Pattern Symbolizing* (S).
- In level 1, branching off from *Pattern Mining* (M), there are 3 sub-patterns: *Experience Mining* (MA), *Drawing a Map* (MB), and *Digging for the Seeds of Patterns* (MC)
- In level 2, branching off from *Experience Mining* (MA) there are 3 sub-patterns: *Strategy for Discoveries* (MA1), *Searching through Conversing* (MA2), and *Collecting Clues* (MA3)
- In level 3, branching off from *Strategy for Discoveries* (MA1) there are 3 sub-patterns: *Grasping the Process* (MA1.1), *Own Gut Feeling* (MA1.2), and *Mining Atmosphere* (MA1.3)
- In level 4, branching off from *Grasping the Process* (MA1.1) there are 3 sub-patterns: *Experienced Person* (MA1.1.1), *Well-Balanced Selection* (MA1.1.2), and *Mid-Sized Interviewee Group* (MA1.1.3).

In the pyramid structure of patterns, all sub-patterns are mentioned in the part of Solution statements (Figure 2). Let's take examples of that each pattern refers to their 3 sub-patterns in the sentences of solution. The solution of *Experience Mining* (MA), in the level 2, is:

**Go on a search for experiences by yourself and/or others, and collect important pieces of wisdom along with their reasons as if you are mining for treasure.** Devise a *Strategy for Discoveries* to collect pieces of wisdom from people who have good experience in the topic you are about to write a pattern language in. When listening to stories, be sure to be *Searching through Conversing* by deepening topics through natural conversations. Value quantity over quality, and make sure to *Collect Clues* by recording its qualitative traits.

The solution of *Strategy of Discoveries* (MA1), in the level 3, is:

**Devise a strategy on getting the right information from the right persons to make sure the pattern language about to be made will be useful.** To collect a diverse set of experiences, start by *Grasping the Process* by imaging how you would select the people to interview and how many people you will need to select. Trust your *Own Gut Feeling* when doing so. Also, keep in mind of the *Mining Atmosphere* when going through this process.

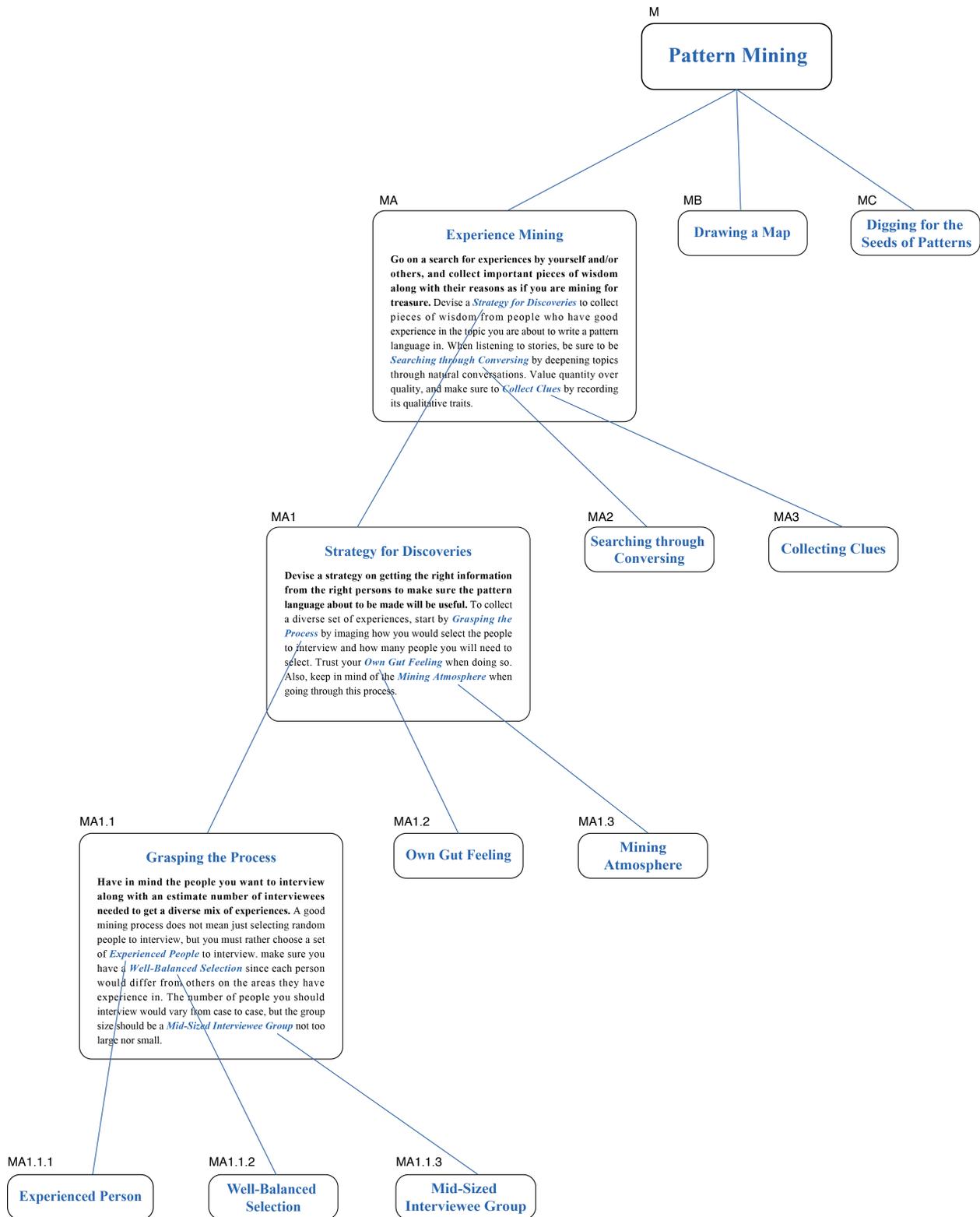


Fig. 2. Connections between upper patterns and sub-patterns in the pyramid structure of patterns.

The solution of *Grasping the Process* (MA1.1), in the level 4, is:

**Have in mind the people you want to interview along with an estimate number of interviewees needed to get a diverse mix of experiences.** A good mining process does not mean just selecting random people to interview, but you must rather choose a set of *Experienced People* to interview. Make sure you have a *Well-Balanced Selection* since each person would differ from others on the areas they have experience in. The number of people you should interview would vary from case to case, but the group size should be a *Mid-Sized Interviewee Group* neither too large nor small.

Finally, the solution of *Experienced Person* (MA1.1.1), in the level 5, is:

**Choose people who you feel are well experienced and admirable in the field you are about to create the pattern language in.** Though the person does not have to be perfect in every aspect, choose someone who shows good skill and behavior in some way. Look for these people not just in your group of first-degree acquaintances, but you can also ask someone in the field to introduce you to such a person.

Patterns in the bottom layer have no sub-patterns, and therefore may have only semantic reference to other patterns.

Figure 3, 4, and 5 show the structure for the sublanguages for *Pattern Mining*, *Pattern Writing*, and *Pattern Symbolizing* respectively. For convenience, each of these languages can be also considered an independent pattern language and be used separately as the Pattern Mining Patterns (Sasabe *et al.*, 2016b), Pattern Writing Patterns, or Pattern Symbolizing Patterns (Shibata *et al.* 2016). The Pattern Mining Patterns and Pattern Symbolizing Patterns are introduced in more depth in their corresponding papers. In this paper, we show just summaries of all patterns in the Appendix, including pattern name, pattern illustration, and first key sentence of the solution.

Ideally, one would start reading from pattern number zero *Pattern Language Creation* and help herself through the 780 pages of patterns to learn about the unfolding process of creating a pattern language. However, we are also aware that not all pattern users are willing to read the whole language before using it. Though ways of implementing these patterns in practical situations are left for future work (and we will cover some uses at the end of this paper too), in terms of reading the patterns we recommend first by skimming through the top few levels (~level 3) of the language to get a grasp of the process, and once you have started the creation process, you can reference the corresponding part you are working on from the language to look into patterns in more deeper levels. There is absolutely no need to read all the patterns to become able to create a pattern language, but the pattern language should be considered more of a reference / troubleshooter / idea generator for the process. The list of abstracts of the patterns (the one in the appendix of this paper) will become useful in this skimming process.

If this top-down tree structure were the only structure we defined, it would only be the “tree” structure that Christopher Alexander had criticized (Alexander, 1965): a very reductionism-inspired structure. That is why we introduced the second way of organizing the patterns: into a network. Though the pyramid structure is intuitive, clean, and easy to understand (Figure 6), the semantic relations between the patterns in reality is more organic (Figure 7). This is why in the sentences of each pattern, often times references to other related patterns are made. Therefore, the pattern languages makes use of the “vertical” structure to help readers understand when reading the patterns, while maintaining the “horizontal” relationships to hint its organic nature.

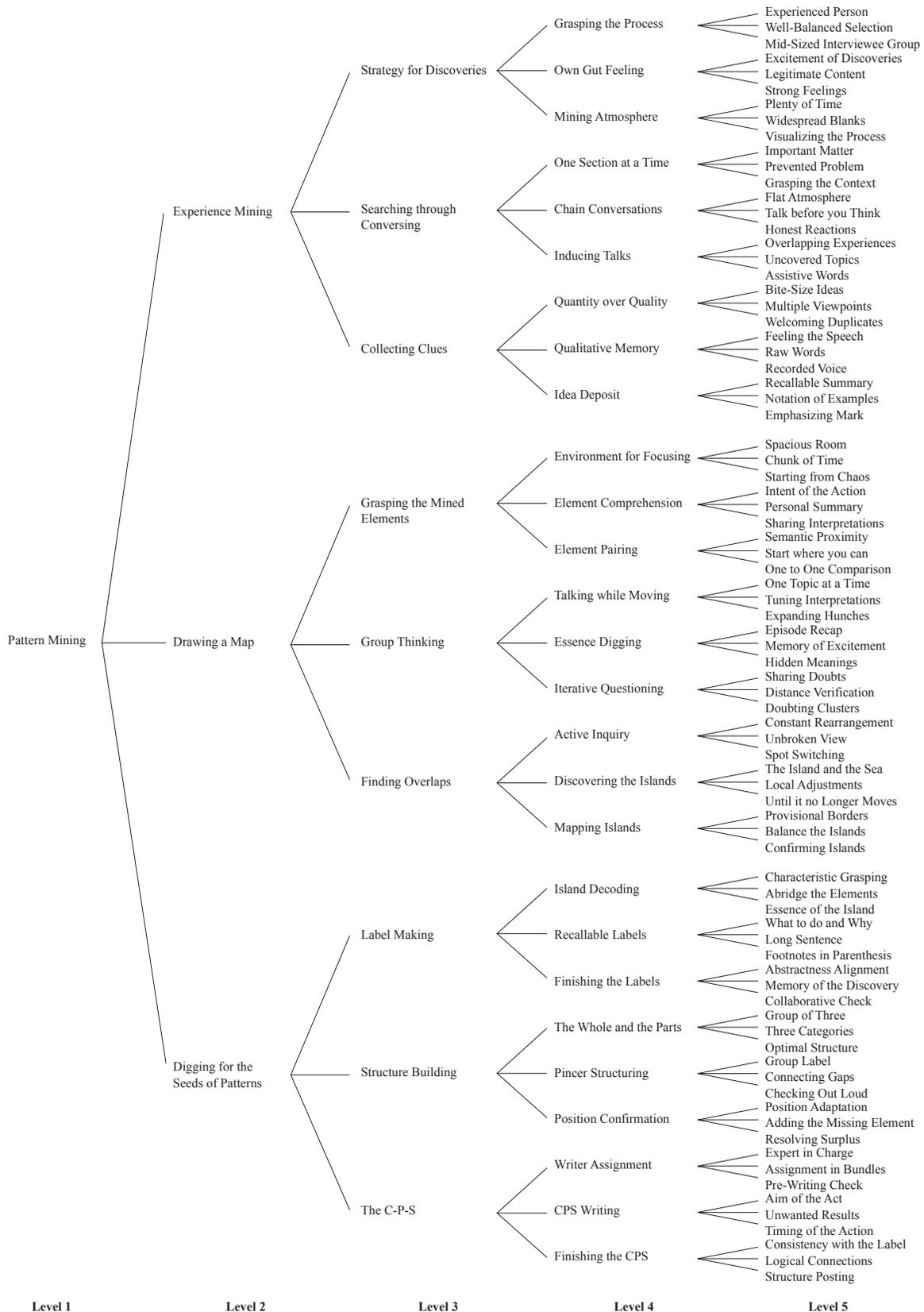


Fig. 3. An overview of Pattern Mining Patterns (M).

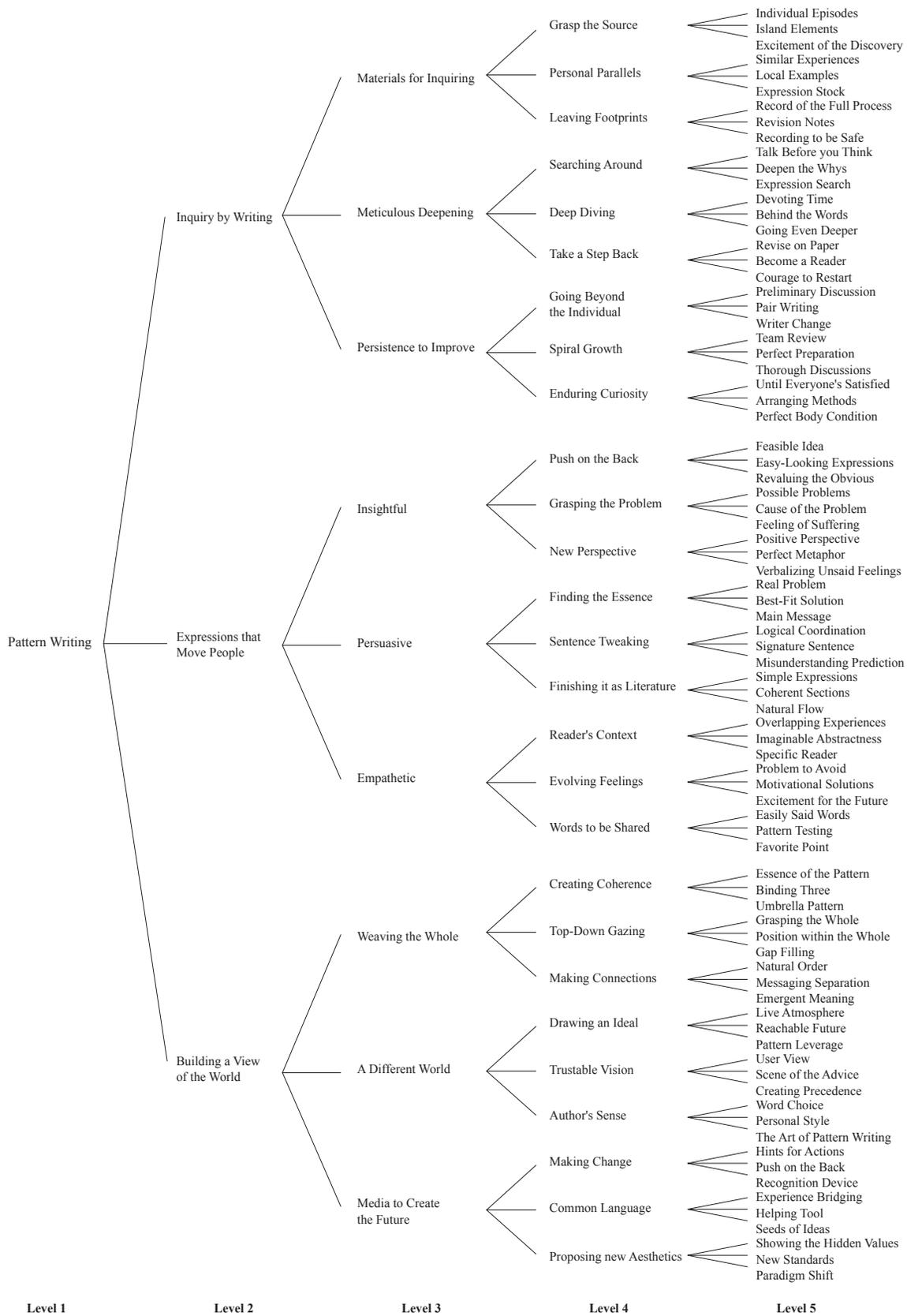
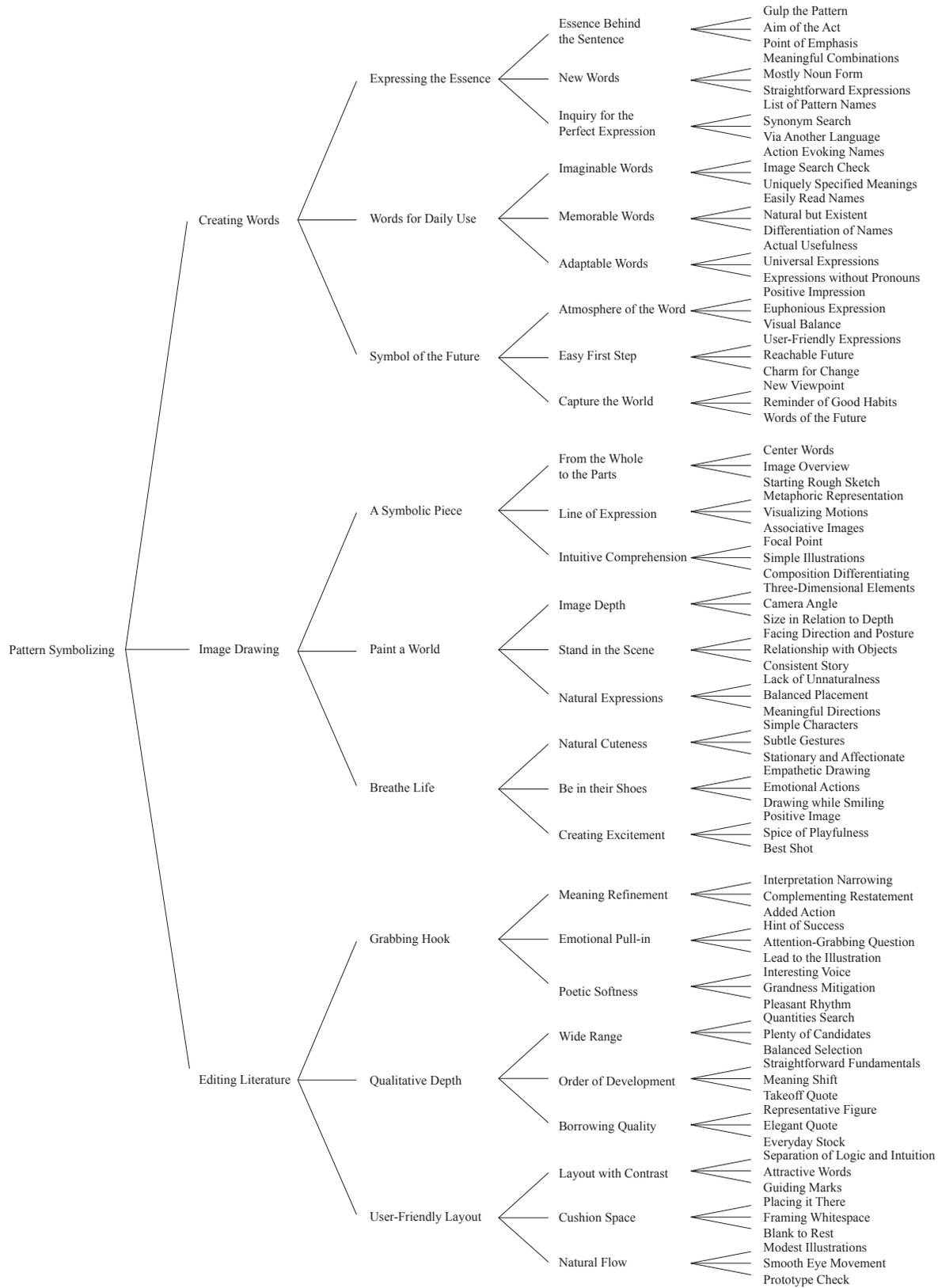


Fig. 4. An overview of Pattern Writing Patterns (W).



Level 1

Level 2

Level 3

Level 4

Level 5

Fig. 5. An overview of Pattern Symbolizing Patterns (S).

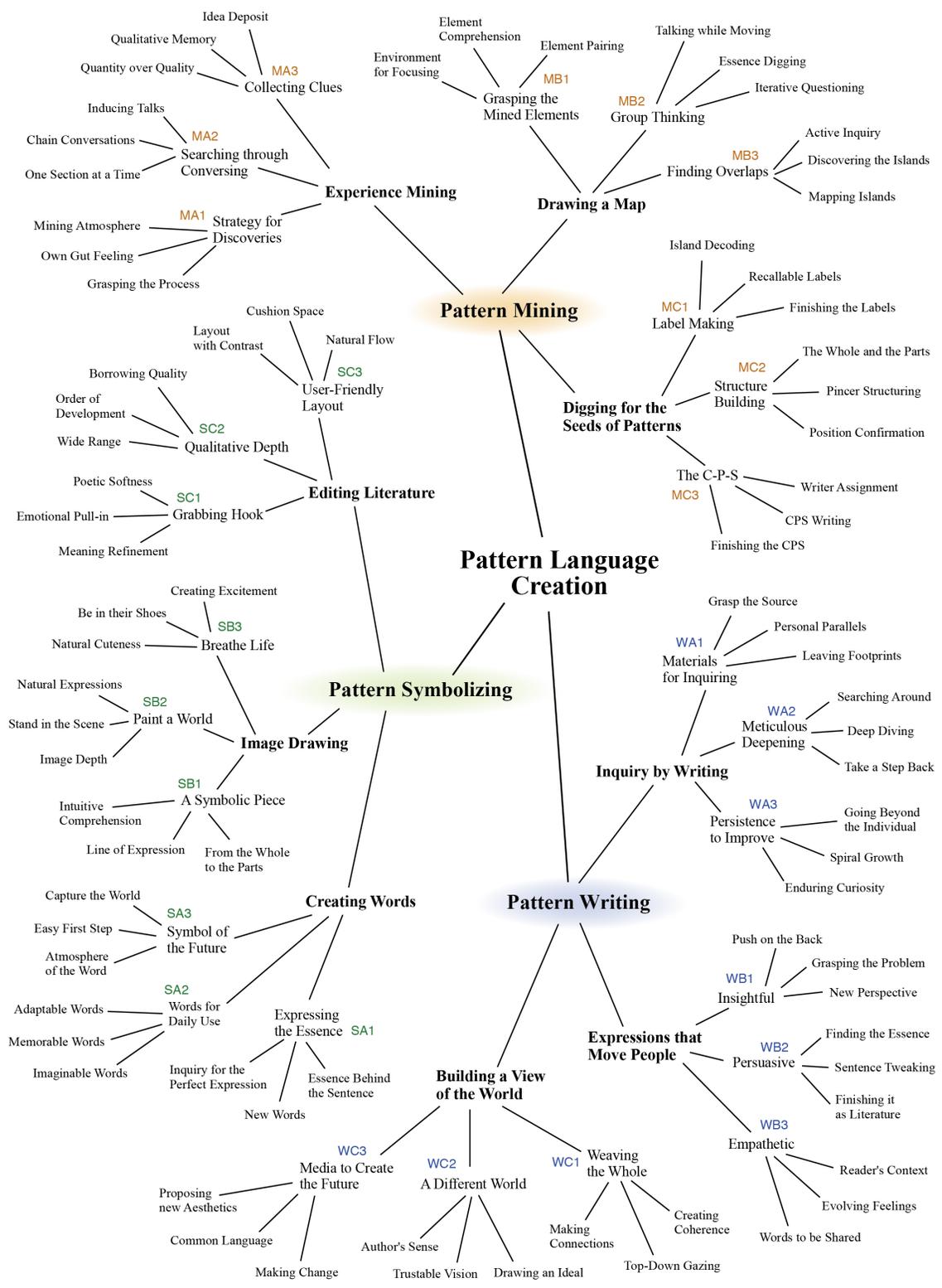


Fig. 6. Categorical structure of patterns in a patter language for creating pattern language.



### 3. CREATION PROCESS OF THE PATTERN LANGUAGE

Here we write the creating process of the proposed pattern language in order to show where and how these patterns came from. As mentioned earlier, the pattern language was created from the motivation of sharing the tacit knowledge in our lab with other people who are interested in creating new pattern languages. Hence, we mined patterns from experiences by reflecting by current members and interviewing with alumni of our lab.

In 2015, we conducted three projects: Pattern Writing Project, Pattern Mining Project, and Pattern Symbolizing Project, each in charge of creating the corresponding sublanguage of the whole language. Each projects consisted of 6 - 7 members with mixed level of skills and experience in creating pattern languages. Elaborate information about each project member's experience is provided in the appendix for reference, but to summarize, the *Pattern Language for Creating Pattern Languages* was created from our experience of creating the following pattern languages in Table 1.

We obtained the seed of patterns through collaborative introspection by the project members, and also through interviews with other lab members and alumni with experience. During the mining phase, we investigated pattern languages we created so far and also documents from their creation process. For example, by referencing the iterations of the same pattern being revised, we were able to compare the final version of pattern names with its older versions. We also compared pattern illustrations from our pattern languages with and those of student groups in the course "Pattern Language." By comparing these materials, we discussed what is good and how do we make it again and again. All findings were written on post-it notes.

Then, following by our typical process of organizing elements during the mining phase (Iba & Isaku, 2012), we conducted a rough clustering of these elements using the KJ method (Kawakita, 1967). The KJ method is a bottom-up, category-generating method by Jiro Kawakita (hence the name), which is partly similar to the Grounded Theory (Glaser & Strauss, 1967). In the KJ method, ideas that are thought to have similar attributes are grouped together and placed close to each another (therefore the method is also sometimes called the *affinity diagram*). However, these similarities must not be mere superficial resemblances, core traits and functions must be observed and talked through before a single connection between two notes can be made. Another important aspect to keep in mind is that notes must be moved in terms of pairs.

After that, we turn to think in a top to bottom orientation to divide the patterns and to make categories. This step is not strict top-down thinking, but thinking from the top based on the clusters of elements we got in the previous step. In this step, we allowed us to add new seeds of patterns, and to combine several seeds into one general seeds in order to fit the pyramid structure. Again, we examined the contents of each seed of patterns, and then arranged the location and structure. Like this, process was not a linear process, but a circular process among several levels in the structure. Figure 8, 9, and 10 show the mining phase of Patter Writing Project, Pattern Mining Project, and Pattern Symbolizing Project respectively. In these project, proto-patterns of the pattern language presented in this paper were used for pattern mining, writing, and symbolizing for creating the pattern language.

Table 1 Source experiences of creating pattern languages

Pattern Language Title	Reference
Project Patterns	Naruse <i>et al.</i> (2008)
Research Patterns	Kobayashi <i>et al.</i> (2008)
Learning Patterns	Iba, <i>et al.</i> (2009); Iba & Miyake (2010); Iba & Sakamoto (2011); Iba & Iba Lab (2014a)
Presentation Patterns	Iba <i>et al.</i> (2012a); Iba & Isaku (2014); Iba & Iba Lab (2014b)
Collaboration Patterns	Iba & Isaku (2013); Iba & Iba Lab (2014c)
Generative Beauty Patterns	Arao, <i>et al.</i> (2012)
Pedagogical Patterns for Creative Learning	Iba <i>et al.</i> (2011)
Survival Language	Furukawazono <i>et al.</i> (2013); Furukawazono & Iba (2015)
Change Making Patterns	Shimomukai & Iba (2012); Shimomukai <i>et al.</i> (2012); Nakamura <i>et al.</i> (2014); Shimomukai <i>et al.</i> (2015)
Personal Culture Patterns	Nakada <i>et al.</i> (2013)
Global Life Patterns	Matsuzuka <i>et al.</i> (2013)
Creative Education Patterns	Harashima <i>et al.</i> (2014a)
Learning Patterns for Self-Directed Learning with Notebooks	Harashima <i>et al.</i> (2014b)
Entrepreneurship & Management Patterns	Iba <i>et al.</i> (2012b)
Policy Language	Iba & Takenaka (2013)
good old future patterns	Kadotani <i>et al.</i> (2014)
CoCooking Patterns	Isaku & Iba (2015); Isaku & Iba (2016)
Generative Cooking Patterns	Isaku & Iba (2014)
Words for a Journey	Iba <i>et al.</i> (2015a); Iba <i>et al.</i> (2015b); Iba <i>et al.</i> (2016)
Project Design Patterns	Iba and Kajiwara (2016); Kubota, <i>et al.</i> (2016)
Cooking Patterns	Akado <i>et al.</i> (2016a)
Cooking Life Patterns	Yoshikawa <i>et al.</i> (2016)
Parenting Patterns	Sasabe <i>et al.</i> (2016a)
Generator Patterns	Nagai <i>et al.</i> (2016); Akado, <i>et al.</i> (2016b)
Creative Life Patterns	Iba Lab (2014)
omotenashi patterns	Harasawa and Iba (2013)
Creative Society Patterns	Oi <i>et al.</i> (2015)
SBC (Student Build Campus) Pattern	Iba <i>et al.</i> (2015c)
SFC Culture Language	Ogo <i>et al.</i> (2016)
Holistic Mining Patterns	Iba & Isaku (2012)
Dialogue Workshop Patterns	Iba (2012)
Pattern Illustrating Patterns	Miyazaki, <i>et al.</i> (2015); Iba & Iba Lab (2015)
Mining Interview Patterns	Iba & Yoder (2014)
Mining Workshop Patterns	Akado <i>et al.</i> (2015)
Pattern Writing Patterns	not published



Fig. 8. Pattern Mining for Pattern Writing Patterns (W).



Fig. 9. Pattern Mining for Pattern Mining Patterns (M).



Fig. 10. Pattern Mining for Pattern Symbolizing Patterns (S).

#### 4. UTILIZING THE PATTERN LANGUAGE

In this section, we will show some cases in which we used the proposed pattern language. There are two known uses of the pattern language: as a supporting tool for pattern writers, and as a tool to check the experience of pattern writers.

##### 4.1 Use as a tool for supporting beginning pattern writers

These patterns, in their summary form, were handed out to students at our university course teaching how to create a pattern language. The summary consists of the pattern name, pattern illustration, and solution as shown in Appendix of this paper. In the course, about 100 students, most of which are first-time pattern writers, form small teams of about 4 to 7 to create a pattern language through the 7-week course. Though the course included a lecture on each of the steps introduced in the pattern language, the patterns were handed out as supplementary material that they could reference at any time during their group work (Figure 11).



Fig. 11. Using the Patterns for Pattern Mining, Writing, and Symbolizing in the class of Pattern Language, Keio University.



Fig. 12. Pattern-Experience Chart of a Pattern Language for Creating Pattern Languages.

#### 4.2 Use as a tool to check personal experience

Once the pattern language was created, our question was: Are these patterns actually practiced? We checked our question by investigating if the pattern writers in our lab had any experience with the patterns. In a checklist format, we asked each person in our lab to place a check by each pattern if they had experience with it.

From the results of the checklist, a radar chart was generated for each student, which we call "pattern-experience chart" (Iba & Yoshikawa, 2016). Pattern-experience charts in Figure 12 shows their experience expressed visually, each of the three colors respectively representing one of the sub-languages (*Pattern Writing*, *Pattern Mining*, or *Pattern Symbolizing*) in the pattern language. This way each student can see which parts they are good at, and which parts they need to work more on. Figure 13 shows actual charts of Iba Lab members.

Figures 14, 15, and 16 show the collective experience of our lab members of the Pattern Mining, Pattern Writing, and Pattern Symbolizing Patterns, respectively. This shows the general trend in which patterns are easy to achieve, and which parts are harder to practice.

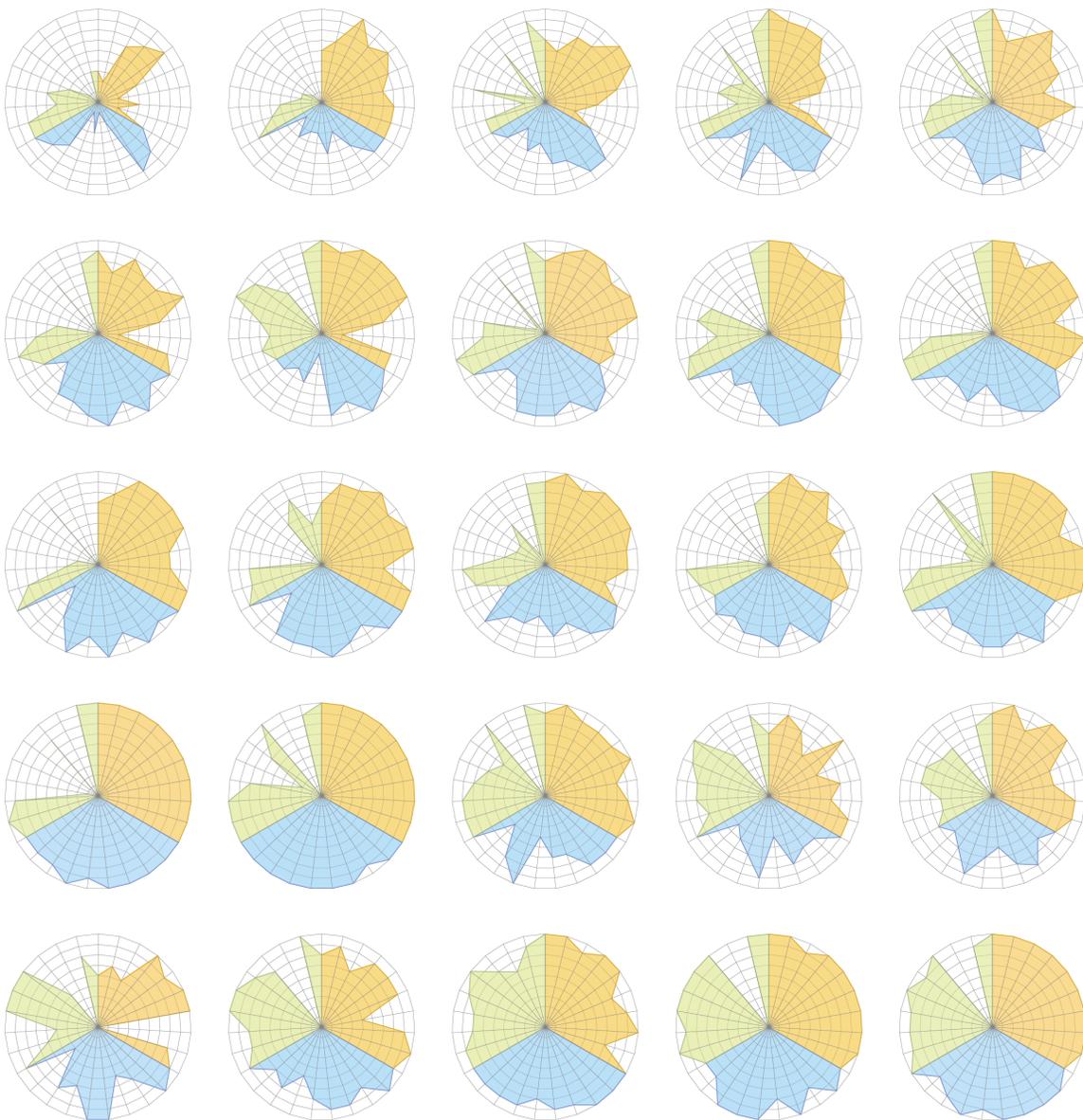


Fig. 13. Actual Examples of Iba Lab member's Pattern-Experience Charts.

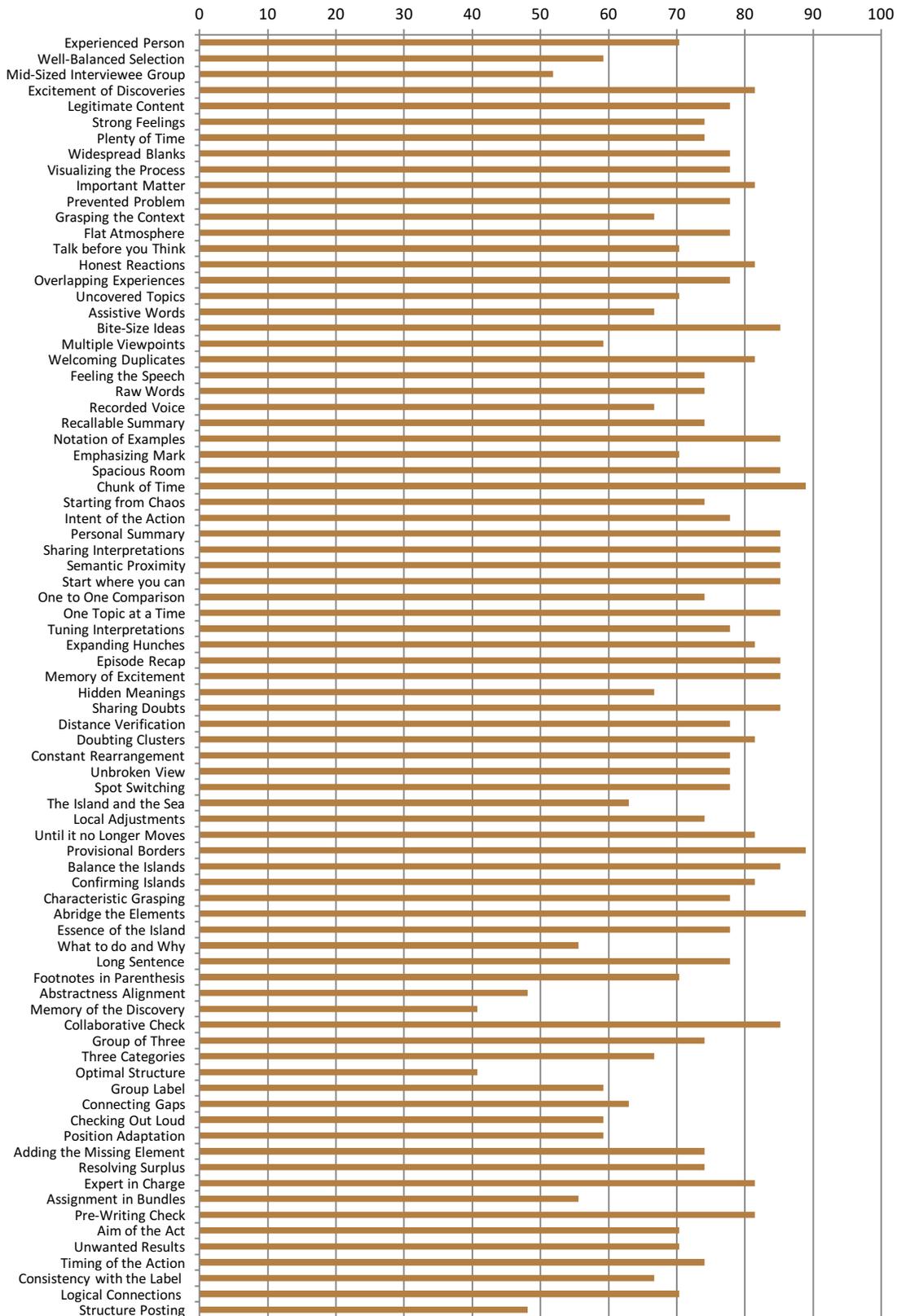


Fig. 14. Percent of Members who Experience Each Pattern in Pattern Mining Patterns (Total Number is 27).

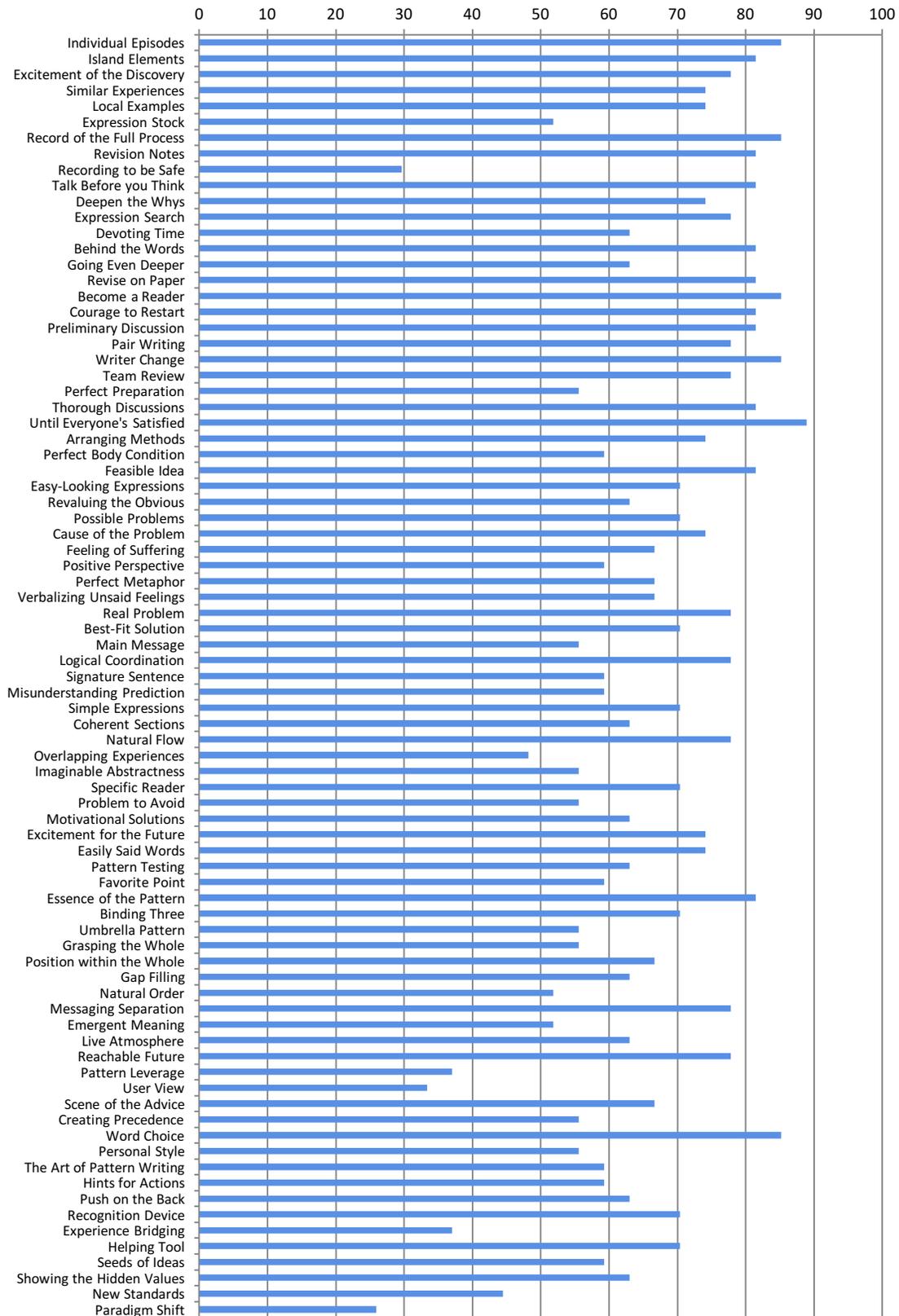


Fig. 15. Percent of Members who Experience Each Pattern in Pattern Writing Patterns (Total Number is 27).

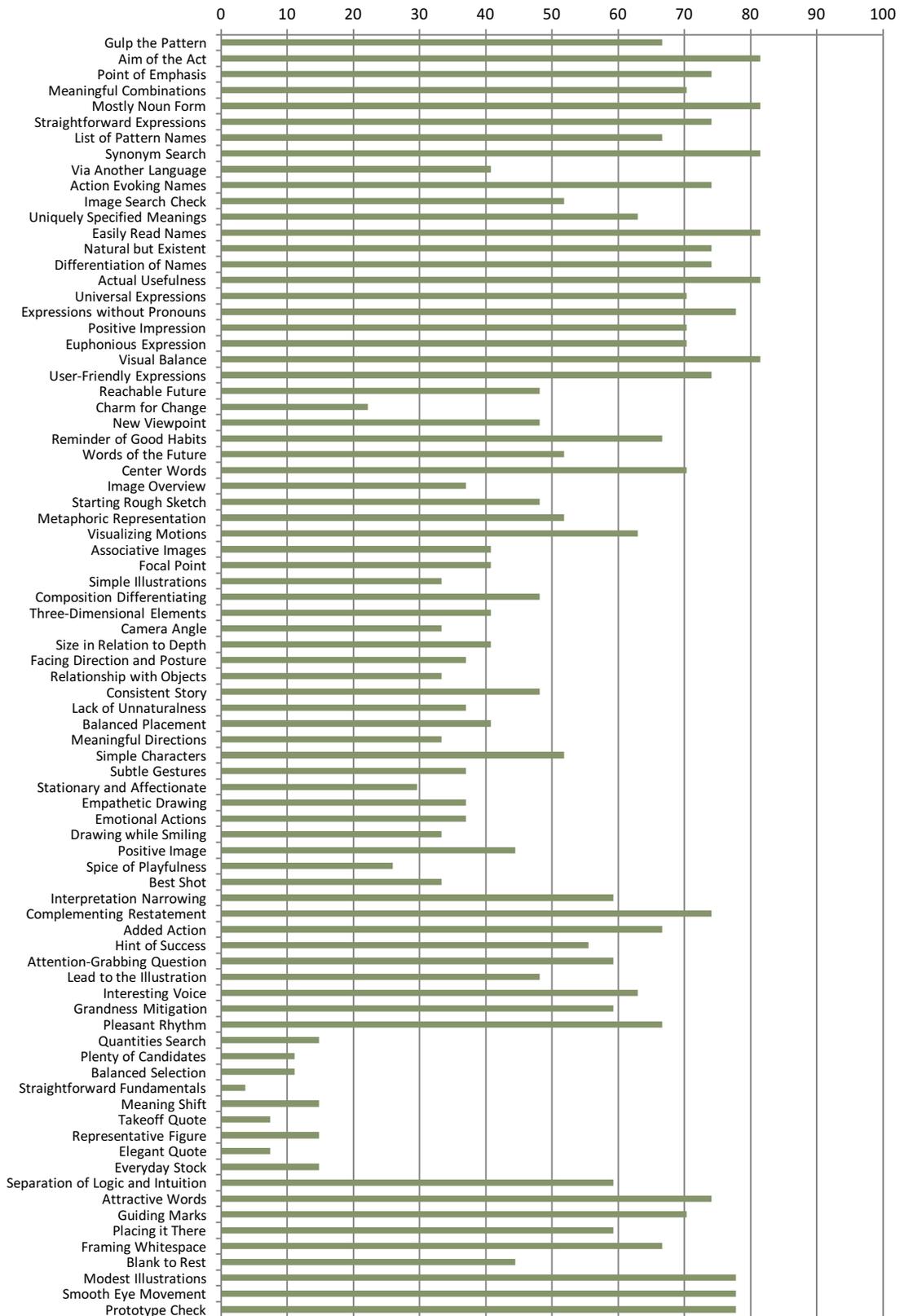


Fig. 16. Percent of Members who Experience Each Pattern in Pattern Symbolizing Patterns (Total Number is 27).

## 5. CONCLUSION

In this paper, we presented the purpose, creating process, and overview of a pattern language for creating pattern languages, consisting 364 patterns for pattern mining, pattern writing, and pattern symbolizing. Though this paper is a big milestone for our continuous effort in creating a world where anyone can use and create a pattern language to support their human and creative lives, we also acknowledge that there is still much more work to be done. Not only do the patterns need refining, tuning, and some reorganizing, more inquiry awaits us on implementing the language in more practical situations. We will continue our effort, and report our progress in coming papers.

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## APPENDIX

### A. SUMMARY OF A PATTERN LANGUAGE FOR CREATING PATTERN LANGUAGE

#### M: Pattern Mining

MA: Experience Mining

MB: Drawing a Map

MC: Digging for the Seeds of Patterns

#### W: Pattern Writing

WA: Inquiry by Writing

WB: Expressions that Move People

WC: Building a View of the World

#### S: Pattern Symbolizing

SA: Creating Words

SB: Image Drawing

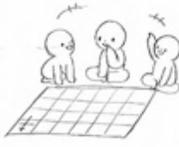
SC: Editing Literature

# Pattern Mining

Level 1	Level 2
<p>M</p> <p><b>Pattern Mining</b></p>	<p>MA</p> <p><b>Experience Mining</b></p>  <p>Go on a search for experiences by yourself and/or others, and collect important pieces of wisdom along with their reasons as if you are mining for treasure.</p>
	<p>MB</p> <p><b>Drawing a Map</b></p>  <p>Create a "map" out from the information gained through the <i>Experience Mining</i> that would help look for where patterns might be hidden.</p>
	<p>MC</p> <p><b>Digging for the Seeds of Patterns</b></p>  <p>Create the "Seeds of Patterns" from the "Islands" discovered in <i>Drawing a Map</i>.</p>

**M: Pattern Mining**

**MA: Experience Mining**

Level 2	Level 3
<p>MA</p> <p><b>Experience Mining</b></p>  <p>Go on a search for experiences by yourself and/or others, and collect important pieces of wisdom along with their reasons as if you are mining for treasure.</p>	<p>MA1</p> <p><b>Strategy for Discoveries</b></p>  <p>Devise a strategy on getting the right information from the right persons to make sure the pattern language about to be made will be useful.</p>
	<p>MA2</p> <p><b>Searching through Conversing</b></p>  <p>Don't overload the interviewee one question after another, but have a conversation with them and listen for tips and episodes from the talk.</p>
	<p>MA3</p> <p><b>Collecting Clues</b></p>  <p>The information collected through the interview will all become materials and clues for writing the patterns - write out and save any information that arise.</p>

**M: Pattern Mining**

**MA: Experience Mining**

**MA1: Strategy for Discoveries**

Level 3	Level 4	Level 5	
<p>MA1</p> <p><b>Strategy for Discoveries</b></p>  <p>Devise a strategy on getting the right information from the right persons to make sure the pattern language about to be made will be useful.</p>	<p>MA1.1</p> <p><b>Grasping the Process</b></p>  <p>Have in mind the people you want to interview along with an estimate number of interviewees needed to get a diverse mix of experiences.</p>	<p>MA1.1.1</p> <p>Experienced Person</p>	<p>Choose people who you feel are well-experienced and admirable in the field you are about to create the pattern language in.</p>
	<p>MA1.2</p> <p><b>Own Gut Feeling</b></p>  <p>Don't become a passive listener: go ahead and deepen the parts of their speech that you really find interesting yourself.</p>	<p>MA1.1.2</p> <p>Well-Balanced Selection</p>	<p>When selecting people to interview, choose people so that you can get a diverse mix of experiences.</p>
	<p>MA1.3</p> <p><b>Mining Atmosphere</b></p>  <p>Create a good atmosphere that the group would feel comfortable mining for experiences.</p>	<p>MA1.1.3</p> <p>Mid-Sized Interviewee Group</p>	<p>Estimate the number of interviewees from the size of the pattern language you plan to write.</p>
	<p>MA1.2.1</p> <p>Excitement of Discoveries</p>	<p>MA1.2.1</p> <p>Excitement of Discoveries</p>	<p>Enjoy the chain of discoveries that occur in yourself as you listen, and have them speak more of the parts you find interesting.</p>
	<p>MA1.2.2</p> <p>Legitimate Content</p>	<p>MA1.2.2</p> <p>Legitimate Content</p>	<p>Ask for more reasons and/or episodes on the episode or tips until you gain a true understanding of it.</p>
	<p>MA1.2.3</p> <p>Strong Feelings</p>	<p>MA1.2.3</p> <p>Strong Feelings</p>	<p>Listen especially carefully to the parts that the interviewees have a strong feeling or passion for.</p>
	<p>MA1.3.1</p> <p>Plenty of Time</p>	<p>MA1.3.1</p> <p>Plenty of Time</p>	<p>Make sure to secure plenty of time to get a through set of tips and episodes.</p>
	<p>MA1.3.2</p> <p>Widespread Blanks</p>	<p>MA1.3.2</p> <p>Widespread Blanks</p>	<p>Spread large sheets of craft paper across a large table so that you can place all the information gained from the interview onto the table.</p>
	<p>MA1.3.3</p> <p>Visualizing the Process</p>	<p>MA1.3.3</p> <p>Visualizing the Process</p>	<p>Write out information gained from the interview onto small sticky notes to place on the table so that the group can grasp the progress, as well as creating a collaborative atmosphere.</p>

**M: Pattern Mining**

**MA: Experience Mining**

**MA2: Searching through Conversing**

Level 3	Level 4	Level 5	
<p>MA2 <b>Searching through Conversing</b></p>  <p>Don't overload the interviewee one question after another, but have a conversation with them and listen for tips and episodes from the talk.</p>	<p>MA2.1 <b>One Section at a Time</b></p>  <p>Search for information by asking for each section of the pattern - the solution, problem, context, etc. - one at a time.</p>	<p>MA2.1.1 Important Matter</p>	<p>Start by asking them for something they value or think is important for when doing the action of the topic.</p>
	<p>MA2.2 <b>Chain Conversations</b></p>  <p>Instead of following a question-answer style, look for important tips through bi-directional conversations.</p>	<p>MA2.1.2 Prevented Problem</p>	<p>Ask what would happen if they didn't do the <i>Important Matter</i>, or what problems it is preventing.</p>
	<p>MA2.3 <b>Inducing Talks</b></p>  <p>Share your own related experience, or restate their story with your own words to induce more ideas from the interviewee.</p>	<p>MA2.1.3 Grasping the Context</p>	<p>Ask the situation or the condition in which the <i>Important Matter</i> becomes necessary or the <i>Prevented Problem</i> is likely to occur.</p>
	<p>MA2.2.1 Flat Atmosphere</p>	<p>Create an atmosphere that welcomes thoughts and ideas from everyone.</p>	
	<p>MA2.2.2 Talk before you Think</p>	<p>Say anything that comes to your mind, and don't worry too much about the quality of the idea.</p>	
	<p>MA2.2.3 Honest Reactions</p>	<p>Express your sympathetic reactions to the speaker.</p>	
	<p>MA2.3.1 Overlapping Experiences</p>	<p>Share your own experience that might be close to what they are saying to deepen the conversation further.</p>	
	<p>MA2.3.2 Uncovered Topics</p>	<p>Explore new topic areas that the group has not talked about to search for more ideas.</p>	
	<p>MA2.3.3 Assistive Words</p>	<p>Help the interviewee put their ideas into words by providing words that you feel are close to what they are trying to say.</p>	

**M: Pattern Mining**

**MA: Experience Mining**

**MA3: Collecting Clues**

Level 3	Level 4	Level 5	
<p>MA3 <b>Collecting Clues</b></p>  <p>The information collected through the interview will all become materials and clues for writing the patterns - write out and save any information that arise.</p>	<p>MA3.1 <b>Quantity over Quality</b></p>  <p>Leave the evaluation of ideas off until later, and focus on getting as much information as possible.</p>	<p>MA3.1.1 Bite-Size Ideas</p>	<p>Write down anything that comes across your mind, even if it is something very small.</p>
	<p>MA3.2 <b>Qualitative Memory</b></p>  <p>Try to remember the qualitative atmosphere of the person and their episode so that you can refer to it when writing the patterns later on.</p>	<p>MA3.1.2 Multiple Viewpoints</p>	<p>Explore the topic from various aspects.</p>
	<p>MA3.3 <b>Idea Deposit</b></p>  <p>The information collected through the interview will all become materials and clues for writing the patterns - save all information that might become important later on.</p>	<p>MA3.1.3 Welcoming Duplicates</p>	<p>Each person should write the idea out in their own words, even if it overlaps with a topic already covered or if someone else is writing about the same idea.</p>
	<p>MA3.2.1 Feeling the Speech</p>	<p>Be present at the actual mining process so that you can meet and feel the atmosphere of the person and their speech.</p>	
	<p>MA3.2.2 Raw Words</p>	<p>Take note of any keywords or special wordings that the person uses when they talk.</p>	
	<p>MA3.2.3 Recorded Voice</p>	<p>Take an audio recording of the whole Mining process.</p>	
	<p>MA3.3.1 Recallable Summary</p>	<p>When writing down a memo on a note, write a summary of the idea specific enough so that the group can recall what it is trying to say later on.</p>	
	<p>MA3.3.2 Notation of Examples</p>	<p>Supplement the notes with any specific episodes and examples that comes up.</p>	
	<p>MA3.3.3 Emphasizing Mark</p>	<p>If an idea seems especially important, emphasize it by putting a mark onto the note.</p>	

**M: Pattern Mining**

**MB: Drawing a Map**

Level 2	Level 3
<p>MB</p> <p><b>Drawing a Map</b></p>  <p>Create a "map" out from the information gained through the <i>Experience Mining</i> that would help look for where patterns might be hidden.</p>	<p>MB1</p> <p><b>Grasping the Mined Elements</b></p>  <p>Form a shared understanding of the information gained through the <i>Experience Mining</i> among the group before <i>Drawing a Map</i>.</p>
	<p>MB2</p> <p><b>Group Thinking</b></p>  <p>Instead of everyone thinking and moving the notes for themselves, go through the process together as if the group is one large brain, and talk through any thought processes that you have so you can share it to other members.</p>
	<p>MB3</p> <p><b>Finding Overlaps</b></p>  <p>Find the common meaning shared among several notes, and notice the overlapping patterns.</p>

**M: Pattern Mining**

**MB: Drawing a Map**

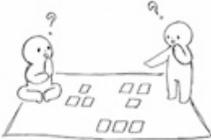
**MB1: Grasping the Mined Elements**

Level 3	Level 4	Level 5	
<p>MB1</p> <p><b>Grasping the Mined Elements</b></p>  <p>Form a shared understanding of the information gained through the <i>Experience Mining</i> among the group before <i>Drawing a Map</i>.</p>	<p>MB1.1</p> <p><b>Environment for Focusing</b></p>  <p>Coordinate an environment where you can spread several sheets of craft paper on a large table and focus for long periods of time.</p>	<p>MB1.1.1</p> <p>Spacious Room</p>	<p>Create an environment where you can focus on the clustering without any hassle.</p>
		<p>MB1.1.2</p> <p>Chunk of Time</p>	<p>Schedule long periods of time for the clustering so that you can thoroughly consider the relationships between each piece of information.</p>
		<p>MB1.1.3</p> <p>Starting from Chaos</p>	<p>When first placing the sticky notes onto the craft paper, do not try to neatly organize them, but place them at random facing different directions.</p>
	<p>MB1.2</p> <p><b>Element Comprehension</b></p>  <p>Carefully but dynamically, comprehend the true meanings of each note one by one.</p>	<p>MB1.2.1</p> <p>Intent of the Action</p>	<p>Try not to get misled by the actions itself written on the note, but try to read deeply into why the action is needed or what larger intent the action is trying to accomplish.</p>
		<p>MB1.2.2</p> <p>Personal Summary</p>	<p>Summarize the essence of the information written on the note and the reason it is important in your own words.</p>
		<p>MB1.2.3</p> <p>Sharing Interpretations</p>	<p>Grasp the <i>Intent of the Action</i> of the note, share your <i>Personal Summary</i> with the group, and discuss whether your understanding of the note is correct.</p>
	<p>MB1.3</p> <p><b>Element Pairing</b></p>  <p>Place two elements that are semantically close nearby.</p>	<p>MB1.3.1</p> <p>Semantic Proximity</p>	<p>When moving notes close to one another, don't get caught by any common words or superficial similarities, but focus on its meaning and consider if it is really close.</p>
		<p>MB1.3.2</p> <p>Start where you can</p>	<p>Don't try to start from any specific place, but gaze over the whole table and start with notes that you feel the slightest <i>Semantic Proximity</i>.</p>
		<p>MB1.3.3</p> <p>One to One Comparison</p>	<p>Do not move a note close to a "group" of notes, but always consider proximity of notes on a "one to one" relationship.</p>

**M: Pattern Mining**

**MB: Drawing a Map**

**MB2: Group Thinking**

Level 3	Level 4	Level 5	
<p><b>MB2</b> <b>Group Thinking</b></p>  <p>Instead of everyone thinking and moving the notes for themselves, go through the process together as if the group is one large brain, and talk through any thought processes that you have so you can share it to other members.</p>	<p><b>MB2.1</b> <b>Talking while Moving</b></p>  <p>Always talk to and consult the group when moving a note.</p>	<p><b>MB2.1.1</b> One Topic at a Time</p>	<p>Don't have multiple tracks of conversation going on simultaneously - consider and discuss one topic at a time as a group and have each person share their interpretations.</p>
		<p><b>MB2.1.2</b> Tuning Interpretations</p>	<p>Have each person share any thoughts and fine tune the meanings of each note or group to create a common understanding.</p>
		<p><b>MB2.1.3</b> Expanding Hunches</p>	<p>Share your thoughts with the group even if is not organized not put into the right words yet.</p>
		<p><b>MB2.2</b> <b>Essence Digging</b></p>  <p>Look for the essence of each note by recalling who's idea it was, what kind of an episode it came from, and in what way it seemed important.</p>	<p><b>MB2.2.1</b> Episode Recap</p>
		<p><b>MB2.2.2</b> Memory of Excitement</p>	<p>Recall any emphasized points, points that gained lots of sympathy, or memorable episodes from the mining process when moving the notes.</p>
		<p><b>MB2.2.3</b> Hidden Meanings</p>	<p>Infer unsaid parts of the action written on the notes from the personality and activity of the person which the note originated from.</p>
		<p><b>MB2.3</b> <b>Iterative Questioning</b></p>  <p>Even if a note was moved once, repeatedly consider its relationship with other notes and adjust its position.</p>	<p><b>MB2.3.1</b> Sharing Doubts</p>
		<p><b>MB2.3.2</b> Distance Verification</p>	<p>Even if two notes were confirmed once to be close in meaning, test to see if it is really close later on several times.</p>
		<p><b>MB2.3.3</b> Doubting Clusters</p>	<p>Even if clusters of notes start to form, always have a doubting mind and question if the notes are really close in meaning.</p>

**M: Pattern Mining**

**MB: Drawing a Map**

**MB3: Finding Overlaps**

Level 3	Level 4	Level 5	
<p><b>MB3</b> <b>Finding Overlaps</b></p>  <p>Find the common meaning shared among several notes, and notice the overlapping patterns.</p>	<p><b>MB3.1</b> <b>Active Inquiry</b></p>  <p>When clustering both the notes and the participating humans should be constantly moving.</p>	<p><b>MB3.1.1</b> Constant Rearrangement</p>	<p>The notes should be constantly changing positions - do not be afraid to move a note that has already been moved once.</p>
		<p><b>MB3.1.2</b> Unbroken View</p>	<p>Spread the craft paper on a continuous surface so that all of the notes can be viewed at once.</p>
		<p><b>MB3.1.3</b> Spot Switching</p>	<p>When clustering, switch and change standing positions so that you can get a view of the table from different viewpoints and pay attention to all of the notes.</p>
	<p><b>MB3.2</b> <b>Discovering the Islands</b></p>  <p>Find the "islands," or the groups of notes.</p>	<p><b>MB3.2.1</b> The Island and the Sea</p>	<p>Make the contrast between the "islands" or groups of notes formed through <i>Finding Overlaps</i> and the surrounding "sea" strong so that they are recognizable.</p>
		<p><b>MB3.2.2</b> Local Adjustments</p>	<p>Makes small adjustments even within the "islands" to show their local distance and meaning.</p>
		<p><b>MB3.2.3</b> Until it no Longer Moves</p>	<p>Persist the clustering process until the notes will no longer move.</p>
	<p><b>MB3.3</b> <b>Mapping Islands</b></p>  <p>Organize and confirm the "islands" formed by semantically close notes.</p>	<p><b>MB3.3.1</b> Provisional Borders</p>	<p>Draw in temporary lines around the "islands" that are starting to form in pencil.</p>
		<p><b>MB3.3.2</b> Balance the Islands</p>	<p>If any of the islands is significantly larger or smaller in size, try braking apart or combining the islands to balance their contents.</p>
		<p><b>MB3.3.3</b> Confirming Islands</p>	<p>When all the islands are balanced out and settled, trace the borders in pen and fix the notes in place with tape.</p>

**M: Pattern Mining**

**MC: Digging for the Seeds of Patterns**

Level 2	Level 3
<p>MC</p> <p><b>Digging for the Seeds of Patterns</b></p>  <p>Create the "Seeds of Patterns" from the "Islands" discovered in <i>Drawing a Map</i>.</p>	<p>MC1</p> <p><b>Label Making</b></p>  <p>Think of and write a "Label" that describes the contents of each island in one sentence to create the core of the <i>Seeds of Patterns</i>.</p>
	<p>MC2</p> <p><b>Structure Building</b></p>  <p>Find the relationships between the <i>Seed of Patterns</i> to make the structure of the pattern language along with the position of each pattern.</p>
	<p>MC3</p> <p><b>The C-P-S</b></p>  <p>Write out the Context, Problem, and the Solution based on each of the <i>Seeds of Patterns</i>.</p>

**M: Pattern Mining**

**MC: Digging for the Seeds of Patterns**

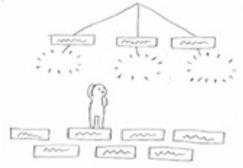
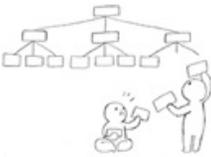
**MC1: Label Making**

Level 3	Level 4	Level 5	
<p>MC1 <b>Label Making</b></p>  <p>Think of and write a "Label" that describes the contents of each island in one sentence to create the core of the <i>Seeds of Patterns</i>.</p>	<p>MC1.1 <b>Island Decoding</b></p>  <p>Look at the notes one by one to find the common essence existent among them.</p>	<p>MC1.1.1 Characteristic Grasping</p>	<p>Gaze over the notes gathered in the island and find decide which is the most characteristic message of the group.</p>
	<p>MC1.2 <b>Recallable Labels</b></p>  <p>Make the one sentence of the label descriptive enough so that its meaning can be recalled later on just with the label.</p>	<p>MC1.1.2 Abridge the Elements</p>	<p>Find the common message that several of the notes within the island are expressing.</p>
		<p>MC1.1.3 Essence of the Island</p>	<p>Summarize the messages of the notes in the island into one sentence, as if you are going to convey the message to someone else.</p>
		<p>MC1.2.1 What to do and Why</p>	<p>Write on the label the actual action that needs to be done along with why it should be done.</p>
	<p>MC1.2.2 Long Sentence</p>	<p>Make the sentence of the label descriptive enough so that all the important information is included, even if the sentence gets long.</p>	
	<p>MC1.2.3 Footnotes in Parenthesis</p>	<p>If there are any episodes or examples that are important, add them in parenthesis at the end of the label.</p>	
	<p>MC1.3 <b>Finishing the Labels</b></p>  <p>Finish the labels by adjusting its abstractness based on the other labels, and lost by enforcing its contents.</p>	<p>MC1.3.1 Abstractness Alignment</p>	<p>Decide on the best level of abstraction of the label by comparing it to the abstraction label of other labels, and rewrite the labels as needed.</p>
		<p>MC1.3.2 Memory of the Discovery</p>	<p>Recall the <i>Excitement of Discoveries</i> and the <i>Strong Feelings</i> that you felt when you did the <i>Experience Mining</i>, check to see if they are reflected onto the labels, and rewrite the labels if it isn't.</p>
		<p>MC1.3.3 Collaborative Check</p>	<p>Check the labels written by individual members as a team to check for any misunderstanding and fix any expressions that could made be better.</p>

**M: Pattern Mining**

**MC: Digging for the Seeds of Patterns**

**MC2: Structure Building**

Level 3	Level 4	Level 5	
<p>MC2 <b>Structure Building</b></p>  <p>Find the relationships between the <i>Seed of Patterns</i> to make the structure of the pattern language along with the position of each pattern.</p>	<p>MC2.1 <b>The Whole and the Parts</b></p>  <p>Alternately look at the whole and the parts to see what kinds of labels are there, and start making its structure.</p>	<p>MC2.1.1 Group of Three</p>	<p>Get a grasp of what you have by grouping the labels into groups of three based on their semantic closeness.</p>
	<p>MC2.2 <b>Pincer Structuring</b></p>  <p>Proceed with the structuralizing process by both creating bottom-up grouping and top-down categorization.</p>	<p>MC2.1.2 Three Categories</p>	<p>With the <i>Groups of 3</i> in mind, think how you can categorize the whole language into three categories.</p>
	<p>MC2.3 <b>Position Confirmation</b></p>  <p>Check the position of each label in relation to the whole and the labels that are nearby, and confirm its position by make any changes to its position and expressions based on its relative position.</p>	<p>MC2.1.3 Optimal Structure</p>	<p>Choose the optimal structure for the pattern language based on its feature and goals.</p>
	<p>MC2.2.1 Group Label</p>	<p>MC2.2.1 Group Label</p>	<p>When thinking of the structure on a bottom-up basis, look at the <i>Groups of 3</i> to think of a label for the layer above.</p>
	<p>MC2.2.2 Connecting Gaps</p>	<p>MC2.2.2 Connecting Gaps</p>	<p>When thinking of the structure on a top-down basis, think of what kind of a <i>Group Label</i> should exist below each of the <i>3 Categories</i>.</p>
	<p>MC2.2.3 Checking Out Loud</p>	<p>MC2.2.3 Checking Out Loud</p>	<p>Orally explain to the group the relationship between the upper layer label and the labels that are below it, to check to see if it is logical and/or has any points that feel strange.</p>
	<p>MC2.3.1 Position Adaptation</p>	<p>MC2.3.1 Position Adaptation</p>	<p>Since the meaning of each label would change based on its position within the whole, rewrite the labels so it reflects the position it is at.</p>
	<p>MC2.3.1 Adding the Missing Element</p>	<p>MC2.3.1 Adding the Missing Element</p>	<p>As the result of the <i>Structuralizing</i>, if you feel there is an element missing where it should be, reflect back on the <i>Experience Mining</i> or even do another round to add more labels.</p>
	<p>MC2.3.1 Resolving Surplus</p>	<p>MC2.3.1 Resolving Surplus</p>	<p>If there are any labels that were leftover as a result of the <i>Structuralizing</i>, look for other labels that they can be merged or integrated into, and if not, delete the label.</p>

**M: Pattern Mining**

**MC: Digging for the Seeds of Patterns**

**MC3: The C-P-S**

Level 3	Level 4	Level 5	
<p>MC3</p> <p><b>The C-P-S</b></p>  <p>Write out the Context, Problem, and the Solution based on each of the <i>Seeds of Patterns</i>.</p>	<p>MC3.1</p> <p><b>Writer Assignment</b></p>  <p>When writing out the CPS (Context, Problem, Solution), the person who understands the seed the most should be the person in charge of doing so with its position also taken into consideration.</p>	<p>MC3.1.1</p> <p>Expert in Charge</p>	<p>When choosing which seed to be in charge of writing, start by choosing the ones you feel strongly attached to or have a clear image of what the pattern is saying.</p>
		<p>MC3.1.2</p> <p>Assignment in Bundles</p>	<p>When choosing who writes the pattern, the same person should be in charge of all the patterns in the <i>Group of Three</i> or the <i>Three Categories</i> generated through the <i>Structure Building</i>.</p>
		<p>MC3.1.3</p> <p>Pre-Writing Check</p>	<p>If you are not sure of any of the patterns given to you, make sure to consult the other members on its meaning before taking it home to write.</p>
	<p>MC3.2</p> <p><b>CPS Writing</b></p>  <p>When writing the CPS (Context, Problem, Solution), write out the Solution first, then the Problem, and finally the Context.</p>	<p>MC3.2.1</p> <p>Aim of the Act</p>	<p>When writing the solution, make sure to scribe out not only the preferred action, but also consider the quality that the action is trying to achieve.</p>
		<p>MC3.2.2</p> <p>Unwanted Results</p>	<p>When writing the Problem statement, do so by thinking what would happen and what kind of a quality would be lost if they didn't do the action provided in the Solution.</p>
		<p>MC3.2.3</p> <p>Timing of the Action</p>	<p>When writing the Context, do so by thinking of when the action written in the Solution becomes important, and when the Problem is likely to occur.</p>
	<p>MC3.3</p> <p><b>Finishing the CPS</b></p>  <p>Finish the CPS by checking to see if its contents match what the label says and if the three sections are logical.</p>	<p>MC3.3.1</p> <p>Consistency with the Label</p>	<p>Check to see if the Context, Problem, and the Solution on the CPS doesn't differ from the message on the label, and make any fixes if there are any glitches.</p>
		<p>MC3.3.2</p> <p>Logical Connections</p>	<p>Read the CPS in the order Context, Problem, then the Solution to check to see if it is logical and natural, and make any fixes if it isn't.</p>
		<p>MC3.3.3</p> <p>Structure Posting</p>	<p>At the end of the <i>Finishing the CPS</i> process, arrange the CPS cards in the structure found in the <i>Structure Building</i> process on the wall, and take a photo of the whole, along with its parts.</p>

# Pattern Writing

Level 1	Level 2
<p>W</p> <p><b>Pattern Writing</b></p>	<p>WA</p> <p><b>Inquiry by Writing</b></p>  <p>Write the patterns with the mindset that you are going through a process of inquiry. To write patterns, you must start by collecting the <i>Materials for Inquiring</i>.</p>
	<p>WB</p> <p><b>Expressions that Move People</b></p>  <p>Make the expressions strong enough that the readers would feel empowered to build the coming future.</p>
	<p>WC</p> <p><b>Building a View of the World</b></p>  <p>Create new words of the future that would move people and bring social change by breathing life into not only the individual patterns, but also to the language as a whole.</p>

**W: Pattern Writing**

**WA: Inquiry by Writing**

Level 2	Level 3
<p>WA</p> <p style="text-align: center;"><b>Inquiry by Writing</b></p>  <p>Write the patterns with the mindset that you are going through a process of inquiry. To write patterns, you must start by collecting the <i>Materials for Inquiring</i>.</p>	<p>WA1</p> <p style="text-align: center;"><b>Materials for Inquiring</b></p>  <p>Create the fundamentals that are important for creating a pattern language, and go through the process of inquiry by facing these elements.</p>
	<p>WA2</p> <p style="text-align: center;"><b>Meticulous Deepening</b></p>  <p>Get excited of the unknown product that is about to made, and as a pattern writer have the mindset of creating new patterns derived from the seeds of patterns.</p>
	<p>WA3</p> <p style="text-align: center;"><b>Persistence to Improve</b></p>  <p>Always have the aspiration for reaching a better quality, and aim for something that is truly good in quality.</p>

**W: Pattern Writing**

**WA: Inquiry by Writing**

**WA1: Materials for Inquiring**

Level 3	Level 4	Level 5	
<p>WA1</p> <p><b>Materials for Inquiring</b></p>  <p>Create the fundamentals that are important for creating a pattern language, and go through the process of inquiry by facing these elements.</p>	<p>WA1.1</p> <p><b>Grasp the Source</b></p>  <p>Check to see what you found in the mining process, and consider what kinds of patterns you should write.</p>	<p>WA1.1.1</p> <p>Individual Episodes</p>	<p>Look back at each of the episodes that came out in the mining process, and recall its important essence, along with the qualities that it had.</p>
	<p>WA1.2</p> <p><b>Personal Parallels</b></p>  <p>Search for similar experiences within yourself to make the pattern more personal to you.</p>	<p>WA1.1.2</p> <p>Island Elements</p>	<p>Look back at the islands created through the clustering process, and consider what each of the islands mean, and what kinds of episodes are hanging from each of the patterns.</p>
	<p>WA1.3</p> <p><b>Leaving Footprints</b></p>  <p>Proceed with the writing process while leaving all iteration history so that you can go back to the previous phase at any time.</p>	<p>WA1.1.3</p> <p>Excitement of the Discovery</p>	<p>Recall the emotion and impressions you felt when you heard or mined of the episodes.</p>
	<p>WA1.2.1</p> <p>Similar Experiences</p>	<p>Look back at the similar experience that you have, and recall the thoughts and emotions you had at the moment. Look for similar experiences that match the story of the interviewee.</p>	
	<p>WA1.2.2</p> <p>Local Examples</p>	<p>Reference the stories and experiences of the people around you that you know.</p>	
	<p>WA1.2.3</p> <p>Expression Stock</p>	<p>Keep out an antenna for good expressions and illustrations, and make a stock of the ones that you like.</p>	
	<p>WA1.3.1</p> <p>Record of the Full Process</p>	<p>Record and reserve the whole revision process so that you can go back to any point in time later on.</p>	
	<p>WA1.3.2</p> <p>Revision Notes</p>	<p>Print the patterns out on paper, and write in it what needs to be fixed and how so that you can always reference the feedback that you received.</p>	
	<p>WA1.3.3</p> <p>Recording to be Safe</p>	<p>Keep an audio record of the process at all times.</p>	

**W: Pattern Writing**

**WA: Inquiry by Writing**

**WA2: Meticulous Deepening**

Level 3	Level 4	Level 5	
<p>WA2</p> <p><b>Meticulous Deepening</b></p>  <p>Get excited of the unknown product that is about to made, and as a pattern writer have the mindset of creating new patterns derived from the seeds of patterns.</p>	<p>WA2.1</p> <p><b>Searching Around</b></p>  <p>While making the patterns, always be looking and be open for new ideas and discoveries.</p>	<p>WA2.1.1</p> <p>Talk Before you Think</p>	<p>Share your thoughts by saying it aloud or writing it out, even if you are not sure if it would be useful for the group nor you have your thoughts all organized yet.</p>
	<p>WA2.2</p> <p><b>Deep Diving</b></p>  <p>Rethink what you have and polish it by diving it deep and meticulously searching for its true essence.</p>	<p>WA2.1.2</p> <p>Deepen the Whys</p>	<p>Repeatedly ask the question "Why?" even think it is something obvious.</p>
	<p>WA2.3</p> <p><b>Take a Step Back</b></p>  <p>Take a moment to take a step back and look at the pattern with a fresh look to consider how you should take the next step.</p>	<p>WA2.1.3</p> <p>Expression Search</p>	<p>Look for alternative ways of expressing what you want to outside of the words and expressions you already have to expand on the image.</p>
	<p>WA2.2.1</p> <p>Devoting Time</p>	<p>Include in your schedule the chunk of time that you can devote to facing the patterns by yourself and write it.</p>	
	<p>WA2.2.2</p> <p>Behind the Words</p>	<p>Compare what is written in the pattern with what it really wants to say, and search for points that could be revised to become closer to the core.</p>	
	<p>WA2.2.3</p> <p>Going Even Deeper</p>	<p>Once you get a grasp of the essence, deepen your thoughts even deeper to focus and get closer to the essence.</p>	
	<p>WA2.3.1</p> <p>Revise on Paper</p>	<p>All members should have a printed copy of the pattern to be revised, and write in any feedback so that they can give it back to the person in charge of the pattern to revise the pattern based on the comments.</p>	
	<p>WA2.3.2</p> <p>Become a Reader</p>	<p>Consider yourself as a first time reader who knows nothing about the patterns and read the pattern to look for places that the pattern can be improved.</p>	
	<p>WA2.3.3</p> <p>Courage to Restart</p>	<p>Have the courage to restart and write a pattern as much as it takes to make bring it to the best condition, even after you have revised several times.</p>	

**W: Pattern Writing**

**WA: Inquiry by Writing**

**WA3: Persistence to Improve**

Level 3	Level 4	Level 5	
<p>WA3</p> <p><b>Persistence to Improve</b></p>  <p>Always have the aspiration for reaching a better quality, and aim for something that is truly good in quality.</p>	<p>WA3.1</p> <p><b>Going Beyond the Individual</b></p>  <p>Don't try to write everything on your own, but involve several sets of eyes to look at the pattern.</p>	<p>WA3.1.1</p> <p>Preliminary Discussion</p>	<p>Before starting to write the pattern, deepen the discussion on what should be written in the pattern with the whole group, and search for information to be included in the pattern.</p>
		<p>WA3.1.2</p> <p>Pair Writing</p>	<p>Form pairs within the project to discuss and revise a pattern together.</p>
		<p>WA3.1.3</p> <p>Writer Change</p>	<p>If you feel you can no longer have anything that you can contribute to a certain pattern, pass the pattern onto a different member for them to revise it.</p>
	<p>WA3.2</p> <p><b>Spiral Growth</b></p>  <p>Repeat the process of review and revising within the project.</p>	<p>WA3.2.1</p> <p>Team Review</p>	<p>If you feel you can no longer have anything that you can contribute to a certain pattern, pass the pattern onto a different member for them to revise it.</p>
		<p>WA3.2.2</p> <p>Perfect Preparation</p>	<p>Check multiple times before the group review process so that you can get the most out of it.</p>
		<p>WA3.2.3</p> <p>Thorough Discussions</p>	<p>Think that the most important rule for writing patterns is for everyone on the team to reach a consent, and continue the discussion until everyone is satisfied.</p>
	<p>WA3.3</p> <p><b>Enduring Curiosity</b></p>  <p>Continue the inquiry process with the motivation of creating something excellent.</p>	<p>WA3.3.1</p> <p>Until Everyone's Satisfied</p>	<p>Do not try to cut off project time by time, but endure and continue the process until everyone on the team is satisfied and finds a good point to leave off.</p>
		<p>WA3.3.2</p> <p>Arranging Methods</p>	<p>Be on the search for the best pattern writing process that fits your project.</p>
		<p>WA3.3.3</p> <p>Perfect Body Condition</p>	<p>When writing patterns, make sure to be considerate of your health and maintain a good body condition at all times.</p>

**W: Pattern Writing**

**WB: Expressions that Move People**

Level 2	Level 3
<p>WB</p> <p><b>Expressions that Move People</b></p>  <p>Make the expressions strong enough that the readers would feel empowered to build the coming future.</p>	<p>WB1</p> <p><b>Insightful</b></p>  <p>Make patterns so that they provide new discoveries and generate new ideas in the readers.</p>
	<p>WB2</p> <p><b>Persuasive</b></p>  <p>Express the information in a logical and comprehensive manner so that the readers can truly understand its message.</p>
	<p>WB3</p> <p><b>Empathetic</b></p>  <p>Pay attention to not only the logical correctness of the sentences, but also make sure the expressions are attractive that it would make the users feel excited and want to practice the patterns.</p>

**W: Pattern Writing**

**WB: Expressions that Move People**

**WB1: Insightful**

Level 3	Level 4	Level 5	
<p>WB1</p> <p><b>Insightful</b></p>  <p>Make patterns so that they provide new discoveries and generate new ideas in the readers.</p>	<p>WB1.1</p> <p><b>Push on the Back</b></p>  <p>Make the Solution something that would become an opportunity for the readers to take a step towards a positive future.</p>	<p>WB1.1.1</p> <p>Feasible Idea</p>	<p>Give the readers a practical idea that would push their backs to take the first step.</p>
	<p>WB1.2</p> <p><b>Grasping the Problem</b></p>  <p>Describe realistic problems and their causes that the readers are likely to face.</p>	<p>WB1.1.2</p> <p>Easy-Looking Expressions</p>	<p>Make the expressions so that it would make the readers want to take the first step, and also make the step seem easy to take.</p>
		<p>WB1.1.3</p> <p>Revaluating the Obvious</p>	<p>State the obvious in the solution to reevaluate the act.</p>
		<p>WB1.2.1</p> <p>Possible Problems</p>	<p>Write a Problem that often happens in the Context so it can be conveyed to the reader.</p>
	<p>WB1.2.2</p> <p>Cause of the Problem</p>	<p>Think of the Problem as the result of opposing universal rules, and write the dilemma in the Forces section.</p>	
	<p>WB1.2.3</p> <p>Feeling of Suffering</p>	<p>Make the expressions in the Problem realistic enough that it would make the readers feel disturbed and want to avoid such a problem.</p>	
	<p>WB1.3</p> <p><b>New Perspective</b></p>  <p>Think of patterns as a method for giving people new perspectives to look at things.</p>	<p>WB1.3.1</p> <p>Positive Perspective</p>	<p>Make the descriptions so that it gives the readers way to look at things more positive than usual.</p>
		<p>WB1.3.2</p> <p>Perfect Metaphor</p>	<p>Select a metaphor that fits in with the message to make the pattern better imaginable.</p>
		<p>WB1.3.3</p> <p>Verbalizing Unsaid Feelings</p>	<p>Put information that people feel is important but have a hard time describing it into words.</p>

**W: Pattern Writing**

**WB: Expressions that Move People**

**WB2: Persuasive**

Level 3	Level 4	Level 5	
<p>WB2</p> <p><b>Persuasive</b></p>  <p>Express the information in a logical and comprehensive manner so that the readers can truly understand its message.</p>	<p>WB2.1</p> <p><b>Finding the Essence</b></p>  <p>Think thoroughly what the main message of the pattern that can't be missed is.</p>	<p>WB2.1.1</p> <p>Real Problem</p>	<p>Write out the most prominent problem that occurs if the Solution isn't applied.</p>
		<p>WB2.1.2</p> <p>Best-Fit Solution</p>	<p>Check to see if the Solution "truly" solves the problem described.</p>
		<p>WB2.1.3</p> <p>Main Message</p>	<p>Find the message that is so essential to the pattern that there would be no meaning in writing the pattern without it.</p>
	<p>WB2.2</p> <p><b>Sentence Tweaking</b></p>  <p>Make the pattern more persuasive by polishing its expressions so that there are no unnecessary parts to it.</p>	<p>WB2.2.1</p> <p>Logical Coordination</p>	<p>Pay attention to the logical order within and between the different sections of the pattern.</p>
		<p>WB2.2.2</p> <p>Signature Sentence</p>	<p>First express the most important message of the pattern in one sentence, and then add on supplementary information from the sentence after.</p>
		<p>WB2.2.3</p> <p>Misunderstanding Prediction</p>	<p>Think of possible misunderstandings that could happen for the pattern, and fix its expressions so that it can be prevented.</p>
	<p>WB2.3</p> <p><b>Finishing it as Literature</b></p>  <p>Keep in mindset that you are creating a piece of literature, and focus on writing something that is easy to understand and accept for the readers.</p>	<p>WB2.3.1</p> <p>Simple Expressions</p>	<p>Use words and expressions that are easy to understand to make the pattern more user-friendly.</p>
		<p>WB2.3.2</p> <p>Coherent Sections</p>	<p>Check to see if each section/paragraph of the pattern is coherent as a set of sentences.</p>
		<p>WB2.3.3</p> <p>Natural Flow</p>	<p>Read the sentence out loud and check to see if it has a natural flow.</p>

**W: Pattern Writing**

**WB: Expressions that Move People**

**WB3: Empathetic**

Level 3	Level 4	Level 5	
<p>WB3</p> <p><b>Empathetic</b></p>  <p>Pay attention to not only the logical correctness of the sentences, but also make sure the expressions are attractive that it would make the users feel excited and want to practice the patterns.</p>	<p>WB3.1</p> <p><b>Reader's Context</b></p>  <p>Purposely leave some details out of the expression so that the readers can fill in the gaps with their own contexts.</p>	<p>WB3.1.1</p> <p>Overlapping Experiences</p>	<p>Write the patterns so that the readers can feel some overlap with their own situations and past experiences.</p>
	<p>WB3.2</p> <p><b>Evolving Feelings</b></p>  <p>Imagine how the readers would feel when they read the pattern, and make sure it moves in the positive direction.</p>	<p>WB3.1.2</p> <p>Imaginable Abstractness</p>	<p>Adjust the abstraction level of the sentences to find the expression that is best for the users to understand and get an image of the pattern.</p>
		<p>WB3.1.3</p> <p>Specific Reader</p>	<p>Select a specific person in your life that you would like to give the pattern to, and revise the pattern based on your imagination of how they would react to the pattern when they read it.</p>
		<p>WB3.2.1</p> <p>Problem to Avoid</p>	<p>Read the Problem and make sure it makes you want to avoid it in a realistic sense, and also hint that it can actually be avoided by providing the feeling of regret.</p>
	<p>WB3.2.2</p> <p>Motivational Solutions</p>	<p>Make the Solution statement exciting so that the readers would really want to do the action.</p>	
	<p>WB3.2.3</p> <p>Excitement for the Future</p>	<p>Use positive words in the Consequence, and when read, it should provide a hint of an exciting future that the readers would want to make come true.</p>	
	<p>WB3.3</p> <p><b>Words to be Shared</b></p>  <p>Make the expressions in the patterns attractive enough so that it would make the users want to share the pattern with others.</p>	<p>WB3.3.1</p> <p>Easily Said Words</p>	<p>Use the pattern names in conversations with team members to see if its word choice is okay regarding its easiness to say.</p>
		<p>WB3.3.2</p> <p>Pattern Testing</p>	<p>Before publishing the patterns, test out the patterns by actually using it in your daily lives and get a feeling of how the idea given in the pattern would be accepted by users.</p>
		<p>WB3.3.3</p> <p>Favorite Point</p>	<p>Make the pattern names, the introductory sentence, and the illustrations attractive enough so that the readers can find their favorite point within the pattern.</p>

**W: Pattern Writing**

**WC: Building a View of the World**

Level 2	Level 3
<p data-bbox="203 436 243 462">WC</p> <p data-bbox="284 468 714 499"><b>Building a View of the World</b></p>  <p data-bbox="203 777 771 850">Create new words of the future that would move people and bring social change by breathing life into not only the individual patterns, but also to the language as a whole.</p>	<p data-bbox="828 436 876 462">WC1</p> <p data-bbox="998 468 1242 499"><b>Weaving the Whole</b></p>  <p data-bbox="828 724 1356 766">Build a pattern language by weaving the patterns into a coherent whole.</p>
	<p data-bbox="828 844 876 869">WC2</p> <p data-bbox="1015 875 1226 907"><b>A Different World</b></p>  <p data-bbox="828 1165 1404 1207">Create a new ecosystem of characters and settings, and use words and illustrations that match that image.</p>
	<p data-bbox="828 1302 876 1327">WC3</p> <p data-bbox="950 1333 1291 1365"><b>Media to Create the Future</b></p>  <p data-bbox="828 1617 1404 1690">Think of pattern languages as a new common language that would show people a hint of the future and give them something to think and talk about to make it happen.</p>

**W: Pattern Writing**

**WC: Building a View of the World**

**WC1: Weaving the Whole**

Level 3	Level 4	Level 5	
<p>WC1</p> <p><b>Weaving the Whole</b></p>  <p>Build a pattern language by weaving the patterns into a coherent whole.</p>	<p>WC1.1</p> <p><b>Creating Coherence</b></p>  <p>Create the coherence as a whole by grasping the message of each of the patterns and subgroups.</p>	<p>WC1.1.1</p> <p>Essence of the Pattern</p>	<p>Understand the essence of the patterns by capturing what the pattern really wants to say.</p>
		<p>WC1.1.2</p> <p>Binding Three</p>	<p>Form groups of three by bringing patterns that are semantically close together.</p>
		<p>WC1.1.3</p> <p>Umbrella Pattern</p>	<p>Create an "umbrella pattern" that extracts the common essence among the three patterns in the <i>Group of 3</i>.</p>
	<p>WC1.2</p> <p><b>Top-Down Gazing</b></p>  <p>Always have the structure of the whole in mind, and brush up the patterns based on a top-down view.</p>	<p>WC1.2.1</p> <p>Grasping the Whole</p>	<p>Briefly read through each of the pattern, and get a grasp of the core essence of the whole pattern language you are creating.</p>
		<p>WC1.2.2</p> <p>Position within the Whole</p>	<p>Do not think of the meanings of the patterns as just the individual pattern itself, but consider its position within the whole and derive its role from there.</p>
		<p>WC1.2.3</p> <p>Gap Filling</p>	<p>Add new patterns that would fill in the missing gaps, or shift the meanings of existing patterns so that they can cover up for the missing parts.</p>
	<p>WC1.3</p> <p><b>Making Connections</b></p>  <p>Look at the relationship between the individual patterns and enforce the structure by finding local connections. Think of the <i>Natural Order</i> that the patterns can be read in.</p>	<p>WC1.3.1</p> <p>Natural Order</p>	<p>Decide on the order that the patterns should be read in based on the relationship with other patterns and its relative position within the whole.</p>
		<p>WC1.3.2</p> <p>Messaging Separation</p>	<p>Carefully separate out the semantic areas that each pattern covers, and if needed, make some changes to its contents.</p>
		<p>WC1.3.3</p> <p>Emergent Meaning</p>	<p>Find relationships between patterns where when two patterns are adjacent to one another their meanings are mutually enforced. If no such relations exist, think of what kind of relation could exist, and portray it to the audience.</p>

**W: Pattern Writing**

**WC: Building a View of the World**

**WC2: A Different World**

Level 3	Level 4	Level 5	
<p>WC2</p> <p><b>A Different World</b></p>  <p>Create a new ecosystem of characters and settings, and use words and illustrations that match that image.</p>	<p>WC2.1</p> <p><b>Drawing an Ideal</b></p>  <p>Make the goal of the pattern language clear, by capturing it with words and going back and forth between the ideal and the individual episodes.</p>	<p>WC2.1.1</p> <p>Live Atmosphere</p>	<p>Imagine an actual person who is actually doing a good job at around you, and reflect their positive energy onto the pattern.</p>
		<p>WC2.1.2</p> <p>Reachable Future</p>	<p>Imagine what kind of a ideal future would be waiting if the solution was applied, and explain it as a seamless future from the present.</p>
		<p>WC2.1.3</p> <p>Pattern Leverage</p>	<p>Think how each of the pattern would contribute to the future that the pattern language is trying to achieve as a whole.</p>
	<p>WC2.2</p> <p><b>Trustable Vision</b></p>  <p>Be the fist testers of the patterns to check to see if the patterns really are trustworthy and useful.</p>	<p>WC2.2.1</p> <p>User View</p>	<p>Check to see how the patterns would be viewed by those who are trying to enter this field that the pattern language is trying to support.</p>
		<p>WC2.2.2</p> <p>Scene of the Advice</p>	<p>If you find someone facing one of the problems described in the pattern language, use the pattern to give alive to them, and check to see if it really is useful.</p>
		<p>WC2.2.3</p> <p>Creating Precedence</p>	<p>Practice the patterns yourself and as a team to give feedback to the patterns based on the experience.</p>
	<p>WC2.3</p> <p><b>Author's Sense</b></p>  <p>Trust your own since and go after what you feel is the good quality.</p>	<p>WC2.3.1</p> <p>Word Choice</p>	<p>Choose words that are natural and understandable to you.</p>
		<p>WC2.3.2</p> <p>Personal Style</p>	<p>Trust your senses and make the patterns reflect you and your team's beliefs.</p>
		<p>WC2.3.3</p> <p>The Art of Pattern Writing</p>	<p>Think of the pattern language as a piece of artwork, and work on the details so that it attracts fans.</p>

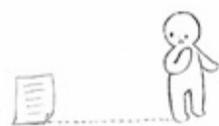
**W: Pattern Writing**

**WC: Building a View of the World**

**WC3: Media to Create the Future**

Level 3	Level 4	Level 5	
<p>WC3</p> <p><b>Media to Create the Future</b></p>  <p>Think of pattern languages as a new common language that would show people a hint of the future and give them something to think and talk about to make it happen.</p>	<p>WC3.1</p> <p><b>Making Change</b></p>  <p>Make the pattern language something that would change the society by first changing the view and actions of the readers.</p>	<p>WC3.1.1</p> <p>Hints for Actions</p>	<p>Make the pattern language something helpful for the readers to gain ideas from it and by combining patterns, they can actively think and act.</p>
	<p>WC3.2</p> <p><b>Common Language</b></p>  <p>Make the pattern language with the mindset of creating a common language that would connect people and create new communications.</p>	<p>WC3.1.2</p> <p>Push on the Back</p>	<p>Make the pattern language attractive enough to make people want to practice it, and provide an push on the back to change their actions.</p>
	<p>WC3.3</p> <p><b>Proposing new Aesthetics</b></p>  <p>Create a pattern language that would touch the deepest parts of people's hearts, and at the same time would excite them of the coming future.</p>	<p>WC3.1.3</p> <p>Recognition Device</p>	<p>Make the pattern language something that would provide them with a way to recognize the ways they could act to make the ideal future become reality.</p>
	<p>WC3.2.1</p> <p>Experience Bridging</p>	<p>Make a pattern language that would connect people with a diverse set of experiences to work together towards a common ideal future.</p>	
	<p>WC3.2.2</p> <p>Helping Tool</p>	<p>Imagine a scene where you are using the patterns to give advice to someone to check if the patterns are really useful in daily occasions.</p>	
	<p>WC3.2.3</p> <p>Seeds of Ideas</p>	<p>Write patterns that would be used in conversations to give new ideas to people.</p>	
	<p>WC3.3.1</p> <p>Showing the Hidden Values</p>	<p>Check to see if the patterns capture "something that everyone is implicitly feeling but has not been put into words yet," and provides help to make this become reality.</p>	
	<p>WC3.3.2</p> <p>New Standards</p>	<p>Make patterns that would become new standards for society to become more lively.</p>	
	<p>WC3.3.3</p> <p>Paradigm Shift</p>	<p>Set yourself in a new paradigm that is beyond the borders of the current one, and check to see if this new paradigm that the pattern language is trying to actualize is really practical and functional than the current paradigm.</p>	

# Pattern Symbolizing

Level 1	Level 2
<p>S</p> <p><b>Pattern Symbolizing</b></p>	<p>SA</p> <p><b>Creating Words</b></p>  <p>Create new words and expressions that are symbolic of the pattern's contents.</p>
	<p>SB</p> <p><b>Image Drawing</b></p>  <p>Express the essence of the pattern in one piece of illustration.</p>
	<p>SC</p> <p><b>Editing Literature</b></p>  <p>Design the booklet of the pattern language by considering how you want the readers to meet and read the patterns.</p>

**S: Pattern Symbolizing**

**SA: Creating Words**

Level 2	Level 3
<p>SA</p> <p><b>Creating Words</b></p>  <p>Create new words and expressions that are symbolic of the pattern's contents.</p>	<p>SA1</p> <p><b>Expressing the Essence</b></p>  <p>Get a grasp of the pattern's main message, and explore words that would perfectly express its meaning.</p>
	<p>SA2</p> <p><b>Words for Daily Use</b></p>  <p>Always keep in mind that the pattern names will be used as a part of speech on a daily basis to make them easily understood and used.</p>
	<p>SA3</p> <p><b>Symbol of the Future</b></p>  <p>Make the pattern names so that it gives a positive impression expressive of the future that the pattern language is aiming for.</p>

**S: Pattern Symbolizing**

**SA: Creating Words**

**SA1: Expressing the Essence**

Level 3	Level 4	Level 5	
<p>SA1</p> <p><b>Expressing the Essence</b></p>  <p>Get a grasp of the pattern's main message, and explore words that would perfectly express its meaning.</p>	<p>SA1.1</p> <p><b>Essence Behind the Sentence</b></p>  <p>Do not be too framed by the expressions used in the pattern, and think of the pattern name by first understanding the essence of its message.</p>	<p>SA1.1.1</p> <p>Gulp the Pattern</p>	<p>Read the pattern and gulp down its contents first, and then get away from its sentences and try to understand the main message of the pattern.</p>
	<p>SA1.2</p> <p><b>New Words</b></p>  <p>Express the <i>Essence Behind the Sentence</i> with new expressions that are useable in daily conversations.</p>	<p>SA1.1.2</p> <p>Aim of the Act</p>	<p>Name not the actual action done in the pattern but think what the actual intent or aim of the act is, and think of the pattern name from there.</p>
		<p>SA1.1.3</p> <p>Point of Emphasis</p>	<p>Find the point in the pattern where the most emphasis is put, and reflect that message onto the pattern name.</p>
		<p>SA1.2.1</p> <p>Meaningful Combinations</p>	<p>Collect words that are related to the <i>Aim of the Act</i> and the <i>Point of Emphasis</i>, and express the <i>Essence Behind the Sentence</i> by meaningfully combining those words.</p>
	<p>SA1.2.2</p> <p>Mostly Noun Form</p>	<p>Become aware that you are naming the "set of experiences" made abstract and useable by others, and not necessarily the action itself: the pattern names should be in the noun form as much as possible.</p>	
	<p>SA1.2.3</p> <p>Straightforward Expressions</p>	<p>Try to keep the pattern name short: if the meaning of the pattern can be conveyed without a certain word in the pattern name, drop the word.</p>	
	<p>SA1.3</p> <p><b>Inquiry for the Perfect Expression</b></p>  <p>Polish the pattern name as its own thing and something separate from the actual contents of the pattern.</p>	<p>SA1.3.1</p> <p>List of Pattern Names</p>	<p>Make a list of pattern names only so you can gaze over the whole list at once to think of better names.</p>
		<p>SA1.3.2</p> <p>Synonym Search</p>	<p>Search for synonyms and similar expressions for the words that you are trying to use, and choose the best one through comparison.</p>
		<p>SA1.3.3</p> <p>Via Another Language</p>	<p>Before deciding on a pattern name, check to see if the name won't have problems when expressed in other languages.</p>

**S: Pattern Symbolizing**

**SA: Creating Words**

**SA2: Words for Daily Use**

Level 3	Level 4	Level 5	
<p>SA2</p> <p><b>Words for Daily Use</b></p>  <p>Always keep in mind that the pattern names will be used as a part of speech on a daily basis to make them easily understood and used.</p>	<p>SA2.1</p> <p><b>Imaginable Words</b></p>  <p>Name the patterns so that readers would be able to understand the pattern's message even if they have not read the actual pattern yet.</p>	<p>SA2.1.1</p> <p>Action Evoking Names</p>	<p>Name the patterns so that the readers can imagine the actual actions done in the pattern.</p>
		<p>SA2.1.2</p> <p>Image Search Check</p>	<p>Do a image search on the words used in the patterns to make sure that its generic image matches the one you want for your pattern.</p>
		<p>SA2.1.3</p> <p>Uniquely Specified Meanings</p>	<p>Purposely try to read the pattern name in a way that is totally different from its intention to check to see if it doesn't cause any misunderstandings.</p>
	<p>SA2.2</p> <p><b>Memorable Words</b></p>  <p>Make the pattern names memorable on its first sight to assure that the actual usage of the pattern.</p>	<p>SA2.2.1</p> <p>Easily Read Names</p>	<p>Once you have an idea for the pattern name, say it out aloud a couple of times to check if it is easily said and pronounced.</p>
		<p>SA2.2.2</p> <p>Natural but Existent</p>	<p>Make the pattern names natural enough that they can be used in daily situations, but also make it so that it has a different presence than the other expressions used in daily conversations.</p>
		<p>SA2.2.3</p> <p>Differentiation of Names</p>	<p>Look through the <i>List of Pattern Names</i> and make sure that the pattern names are distinct enough that they can be naturally distinguished form one another.</p>
	<p>SA2.3</p> <p><b>Adaptable Words</b></p>  <p>Make the pattern names natural enough so that everyone can adapt it as a part of their daily vocabulary.</p>	<p>SA2.3.1</p> <p>Actual Usefulness</p>	<p>Simulate actual situations where the pattern would be used, and check to see if the pattern names are useable in natural conversations.</p>
		<p>SA2.3.2</p> <p>Universal Expressions</p>	<p>Make the pattern names indiscriminant of age, gender, or positions, and make it usable by anyone.</p>
		<p>SA2.3.3</p> <p>Expressions without Pronouns</p>	<p>Make the pattern names an expression that does not include 1st, 2nd, or 3rd person pronouns.</p>

**S: Pattern Symbolizing**

**SA: Creating Words**

**SA3: Symbol of the Future**

Level 3	Level 4	Level 5	
<p>SA3</p> <p><b>Symbol of the Future</b></p>  <p>Make the pattern names so that it gives a positive impression expressive of the future that the pattern language is aiming for.</p>	<p>SA3.1</p> <p><b>Atmosphere of the Word</b></p>  <p>Pay attention to not just the actual meanings of the word, but also the impressions that it gives to the reader, and choose words that are prospective of the future.</p>	<p>SA3.1.1</p> <p>Positive Impression</p>	<p>When choosing from a set of words, choose the one that gives the most positive impression to the reader.</p>
	<p>SA3.2</p> <p><b>Easy First Step</b></p>  <p>Make the pattern names so that readers can easily put the pattern into action.</p>	<p>SA3.1.2</p> <p>Euphonious Expression</p>	<p>Make the pattern names so that it is harmonious and comfortable to say when spoken out loud.</p>
	<p>SA3.2.1</p> <p>User-Friendly Expressions</p>	<p>SA3.1.3</p> <p>Visual Balance</p>	<p>Pay attention to the visual impression of the word when printed on paper, and choose the expression that is visually balanced.</p>
	<p>SA3.2.2</p> <p>Reachable Future</p>	<p>SA3.2.1</p> <p>User-Friendly Expressions</p>	<p>Make the pattern names not too sophisticated and friendly to the readers to make them want to put the patterns into practice.</p>
	<p>SA3.2.3</p> <p>Charm for Change</p>	<p>SA3.2.2</p> <p>Reachable Future</p>	<p>Make the pattern expressions something in the reach of the readers if they put enough effort into it.</p>
	<p>SA3.3</p> <p><b>Capture the World</b></p>  <p>Patterns names are something that gives people a new way of looking at the world: <i>Create Words</i> that would create new viewpoints.</p>	<p>SA3.2.3</p> <p>Charm for Change</p>	<p>Make the pattern name so that it becomes a "good-luck charm" for someone who is about to practice the pattern.</p>
	<p>SA3.3.1</p> <p>New Viewpoint</p>	<p>SA3.3.1</p> <p>New Viewpoint</p>	<p>Provide new viewpoints that would change the perspectives of people to look at the world around them.</p>
	<p>SA3.3.2</p> <p>Reminder of Good Habits</p>	<p>SA3.3.2</p> <p>Reminder of Good Habits</p>	<p>If a pattern is already commonly said but is something that is hard to put into action, make the pattern name something that reminds people of its importance.</p>
	<p>SA3.3.3</p> <p>Words of the Future</p>	<p>SA3.3.3</p> <p>Words of the Future</p>	<p>Choose pattern names with the vision of the words being naturally used in the future world that the pattern language is trying to achieve.</p>

**S: Pattern Symbolizing**

**SB: Image Drawing**

Level 2	Level 3
<p>SB</p> <p><b>Image Drawing</b></p>  <p>Express the essence of the pattern in one piece of illustration.</p>	<p>SB1</p> <p><b>A Symbolic Piece</b></p>  <p>Precisely extract the essence of the pattern, and draw the illustration so that the audience can understand its meaning at a glance.</p>
	<p>SB2</p> <p><b>Paint a World</b></p>  <p>Create the atmosphere that you want to show the audience by expanding your imagination of the realistic situation.</p>
	<p>SB3</p> <p><b>Breathe Life</b></p>  <p>Create an elaborate piece of art as if you are going to breathe life into the characters.</p>

**S: Pattern Symbolizing**

**SB: Image Drawing**

**SB1: A Symbolic Piece**

Level 3	Level 4	Level 5	
<p>SB1</p> <p><b>A Symbolic Piece</b></p>  <p>Precisely extract the essence of the pattern, and draw the illustration so that the audience can understand its meaning at a glance.</p>	<p>SB1.1</p> <p><b>From the Whole to the Parts</b></p>  <p>Don't draw an additive illustration that are the sum of required elements, but draw the general image first and then fill in the details</p>	<p>SB1.1.1</p> <p>Center Words</p>	<p>Look for key words and expressions within the pattern that portray the essence of the pattern.</p>
		<p>SB1.1.2</p> <p>Image Overview</p>	<p>Imagine how the <i>Center Words</i> interrelated within the whole.</p>
		<p>SB1.1.3</p> <p>Starting Rough Sketch</p>	<p>Start by moving your hand and drawing a couple of rough sketches to warm up your creative mind.</p>
	<p>SB1.2</p> <p><b>Line of Expression</b></p>  <p>After extracting the essence, think of the best expression to convey the message to the audience</p>	<p>SB1.2.1</p> <p>Metaphoric Representation</p>	<p>Think of a metaphor that can be expressed visually of the actual action being done.</p>
		<p>SB1.2.2</p> <p>Visualizing Motions</p>	<p>Imagine the movement of the pattern from the words in the pattern, and express it with simple lines and shapes.</p>
		<p>SB1.2.3</p> <p>Associative Images</p>	<p>If a word is hard to express visually, do a game of association to think of words and ideas that have a similar image that can be drawn.</p>
	<p>SB1.3</p> <p><b>Intuitive Comprehension</b></p>  <p>Draw the illustration so that it draws attention to its most important part and gives an intuitive understanding to the audience.</p>	<p>SB1.3.1</p> <p>Focal Point</p>	<p>Draw the illustration so that it draws attention to the part that expresses the essence of the pattern.</p>
		<p>SB1.3.2</p> <p>Simple Illustrations</p>	<p>Keep the illustration simple and lean by removing any parts of it that are unnecessary to convey the information.</p>
		<p>SB1.3.3</p> <p>Composition Differentiating</p>	<p>Change the angle which the illustrations are drawn so that each of the illustrations can be differentiated from one another.</p>

**S: Pattern Symbolizing**

**SB: Image Drawing**

**SB2: Paint a World**

Level 3	Level 4	Level 5	
<p>SB2</p> <p><b>Paint a World</b></p>  <p>Create the atmosphere that you want to show the audience by expanding your imagination of the realistic situation.</p>	<p>SB2.1</p> <p><b>Image Depth</b></p>  <p>Make the illustration have some depth so that the audience can better imagine the situation.</p>	<p>SB2.1.1</p> <p>Three-Dimensional Elements</p>	<p>Start by drawing a three-dimensional image of all the elements that exists in the atmosphere you want to draw.</p>
		<p>SB2.1.2</p> <p>Camera Angle</p>	<p>Imagine the situation of the illustration from a 360 angle, and choose the best angle that would highlight the important parts.</p>
		<p>SB2.1.3</p> <p>Size in Relation to Depth</p>	<p>Draw objects are up front larger, and those in the back smaller.</p>
	<p>SB2.2</p> <p><b>Stand in the Scene</b></p>  <p>Put yourself in the shoes of one of the characters, and imagine the natural scene that would be happening.</p>	<p>SB2.2.1</p> <p>Facing Direction and Posture</p>	<p>Check to see if the natural direction that the characters are facing matches their posture.</p>
		<p>SB2.2.2</p> <p>Relationship with Objects</p>	<p>Understand the natural relationship between the character and the objects that they are using when drawing them.</p>
		<p>SB2.2.3</p> <p>Consistent Story</p>	<p>Set a consistent motif present throughout all the illustration that matches the theme of the pattern language, so that the audience can imagine a story out from the illustrations.</p>
	<p>SB2.3</p> <p><b>Natural Expressions</b></p>  <p>Pay attention to the details such as the shapes of small objects and adjust their balance.</p>	<p>SB2.3.1</p> <p>Lack of Unnaturalness</p>	<p>Capture the natural movements of people and the characteristics of objects, and work to diminish all unnatural points in the illustration.</p>
		<p>SB2.3.2</p> <p>Balanced Placement</p>	<p>Adjust the positions of characters and objects in the illustration so it has a natural arrangement.</p>
		<p>SB2.3.3</p> <p>Meaningful Directions</p>	<p>Think of the composition and the direction of the illustration so that it matches the natural bodily sense of people.</p>

**S: Pattern Symbolizing**

**SB: Image Drawing**

**SB3: Breathe Life**

Level 3	Level 4	Level 5	
<p>SB3</p> <p><b>Breathe Life</b></p>  <p>Create an elaborate piece of art as if you are going to breathe life into the characters.</p>	<p>SB3.1</p> <p><b>Natural Cuteness</b></p>  <p>Draw the illustrations so that it portrays the natural and internal charm that the characters have.</p>	<p>SB3.1.1</p> <p>Simple Characters</p>	<p>Make the characters simple so that anyone can sympathize with them regardless of age or gender.</p>
		<p>SB3.1.2</p> <p>Subtle Gestures</p>	<p>Illustrate the charm of the characters not by their physical traits, but by their gestures as lively characters.</p>
		<p>SB3.1.3</p> <p>Stationary and Affectionate</p>	<p>There is no need to always make the characters move dynamically, but at times their static positions become sources for their charm.</p>
	<p>SB3.2</p> <p><b>Be in their Shoes</b></p>  <p>Put yourself in the shoes of each character in the scene, and build the atmosphere of the scene by creating variations in their expressions and movements.</p>	<p>SB3.2.1</p> <p>Empathetic Drawing</p>	<p>Determine what kind of a background each character has, and think of what they would be feeling in the situation.</p>
		<p>SB3.2.2</p> <p>Emotional Actions</p>	<p>Trace the emotions of the characters found through the <i>Empathetic Drawing</i> and reflect their feelings onto the illustrations.</p>
		<p>SB3.2.3</p> <p>Drawing while Smiling</p>	<p>When drawing the expressions of the characters, make the same expressions yourself as you draw them.</p>
	<p>SB3.3</p> <p><b>Creating Excitement</b></p>  <p>Go the extra mile by adding some ideas to amplify the positivity of the illustration.</p>	<p>SB3.3.1</p> <p>Positive Image</p>	<p>As a whole, make the illustrations have a positive image.</p>
		<p>SB3.3.2</p> <p>Spice of Playfulness</p>	<p>Add some Easter eggs into the illustrations that could possibly create some fans, even if it does not directly contribute to the conveying of the pattern's message.</p>
		<p>SB3.3.3</p> <p>Best Shot</p>	<p>Think that the world of pattern illustrations have a time axis, and draw the best moment that captures the movement of the scene.</p>

**S: Pattern Symbolizing**

**SC: Editing Literature**

Level 2	Level 3
<p data-bbox="204 436 237 462">SC</p> <h3 data-bbox="365 470 630 499">Editing Literature</h3>  <p data-bbox="204 669 748 718">Design the booklet of the pattern language by considering how you want the readers to meet and read the patterns.</p>	<p data-bbox="831 436 873 462">SC1</p> <h3 data-bbox="1027 470 1219 499">Grabbing Hook</h3>  <p data-bbox="831 722 1360 770">Add an attractive introductory sentence after the Pattern name to grab the attention of the readers.</p>
	<p data-bbox="831 844 878 869">SC 2</p> <h3 data-bbox="1013 877 1234 907">Qualitative Depth</h3>  <p data-bbox="826 1146 1406 1220">Collect and place quotes or cases that are essentially close to the pattern's message, and convey the quality that the pattern is trying to present.</p>
	<p data-bbox="831 1327 878 1352">SC 3</p> <h3 data-bbox="992 1360 1256 1390">User-Friendly Layout</h3>  <p data-bbox="831 1619 1411 1667">Make the layout of the booklet so that it is easy for the user to read and the message is best conveyed.</p>

**S: Pattern Symbolizing**

**SC: Editing Literature**

**SC1: Grabbing Hook**

Level 3	Level 4	Level 5	
<p>SC1</p> <p><b>Grabbing Hook</b></p>  <p>Add an attractive introductory sentence after the Pattern name to grab the attention of the readers.</p>	<p>SC1.1</p> <p><b>Meaning Refinement</b></p>  <p>Start with writing an introduction that would provide readers with supplementary information that the pattern name itself does not convey.</p>	<p>SC1.1.1</p> <p>Interpretation Narrowing</p>	<p>Express the specific quality described in the pattern, and with it narrow the scope of interpreting the pattern for the readers.</p>
	<p>SC1.1.2</p> <p>Complementing Restatement</p>		<p>Make the introductory sentence explanatory by providing specific information that complements the pattern name.</p>
	<p>SC1.1.3</p> <p>Added Action</p>		<p>Describe a motion or action in the introductory sentence so that the readers can get a grasp of what they should do in the pattern.</p>
	<p>SC1.2</p> <p><b>Emotional Pull-in</b></p>  <p>Make the introductory sentence so that it is not just explanatory, but also grabs the hearts of the readers and pulls them in.</p>	<p>SC1.2.1</p> <p>Hint of Success</p>	<p>Describe the potential future that can be achieved by practicing the pattern.</p>
	<p>SC1.2.2</p> <p>Attention-Grabbing Question</p>		<p>Express the importance of the pattern by pitching a question to the readers that asks them about it.</p>
	<p>SC1.2.3</p> <p>Lead to the Illustration</p>		<p>Write an introduction that would could connect and lead into the pattern illustration.</p>
	<p>SC1.3</p> <p><b>Poetic Softness</b></p>  <p>Make the voice of the introductory sentence poetic as if you are writing lyrics to a song.</p>	<p>SC1.3.1</p> <p>Interesting Voice</p>	<p>Make the introductory sentence emotional as if it is a tag line of a product.</p>
	<p>SC1.3.2</p> <p>Grandness Mitigation</p>	<p>If the pattern name seems too grand and intimidating, add an introductory sentence that would mitigate its grandness and make it seem more feasible.</p>	
	<p>SC1.3.3</p> <p>Pleasant Rhythm</p>	<p>Make the introductory sentence have a steady flow that readers can read through with good rhythm.</p>	

**S: Pattern Symbolizing**

**SC: Editing Literature**

**SC2: Qualitative Depth**

Level 3	Level 4	Level 5	
<p>SC2</p> <p><b>Qualitative Depth</b></p>  <p>Collect and place quotes or cases that are essentially close to the pattern's message, and convey the quality that the pattern is trying to present.</p>	<p>SC2.1</p> <p><b>Wide Range</b></p>  <p>Look for quotes and cases from a wide range of areas to collect elements from a diverse set of people and fields.</p>	<p>SC2.1.1</p> <p>Quantities Search</p>	<p>Start looking for quotes and cases by first going through numerous amounts of books and web pages to collect quantities amounts.</p>
		<p>SC2.1.2</p> <p>Plenty of Candidates</p>	<p>Let each pattern have several quotes and cases, and select them so that they together create a good balanced message.</p>
		<p>SC2.1.3</p> <p>Balanced Selection</p>	<p>Use quotes and cases from a diverse set of people.</p>
	<p>SC2.2</p> <p><b>Order of Development</b></p>  <p>Arrange the quotes so that their order each introduces a new aspect of the pattern to the reader, each step deepening their understanding.</p>	<p>SC2.2.1</p> <p>Straightforward Fundamentals</p>	<p>For the first quote, choose one that is straightforward and gives the reader a deeper understanding of the pattern.</p>
		<p>SC2.2.2</p> <p>Meaning Shift</p>	<p>Include a quote that is slightly shifted from what is said in the pattern itself, to evoke a new interpretation of the pattern.</p>
		<p>SC2.2.3</p> <p>Takeoff Quote</p>	<p>End off with a quote that may not seem directly related to the pattern at first, but when read in order after the other quotes, it brings great impact and meaning as a coherent whole.</p>
	<p>SC2.3</p> <p><b>Borrowing Quality</b></p>  <p>Enhance the quality of the pattern by using quotes by outstanding people.</p>	<p>SC2.3.1</p> <p>Representative Figure</p>	<p>Use quotes by people who are acknowledged in a diverse range of fields to make the pattern more sympathetic and persuasive.</p>
		<p>SC2.3.2</p> <p>Elegant Quote</p>	<p>Trust your own senses and choose quotes that you find attractive.</p>
		<p>SC2.3.3</p> <p>Everyday Stock</p>	<p>Have an antenna open for good quotes in your everyday life, and make a repository that you can reference when you actually start to look for quotes.</p>

**S: Pattern Symbolizing**

**SC: Editing Literature**

**SC3: User-Friendly Layout**

Level 3	Level 4	Level 5	
<p>SC3</p> <p><b>User-Friendly Layout</b></p>  <p>Make the layout of the booklet so that it is easy for the user to read and the message is best conveyed.</p>	<p>SC3.1</p> <p><b>Layout with Contrast</b></p>  <p>Employ contrast in the layout so that it visually appeals.</p>	<p>SC3.1.1</p> <p>Separation of Logic and Intuition</p>	<p>Include in the format of the pattern two separate areas where the readers can intuitively get a grasp of the pattern, and logically read through and understand it.</p>
		<p>SC3.1.2</p> <p>Attractive Words</p>	<p>Make the sentences with the most important message of the pattern in bold so that it is easy for the readers to find.</p>
		<p>SC3.1.3</p> <p>Guiding Marks</p>	<p>Use marks and words that would guide the readers through the pattern so they can understand its contents better.</p>
	<p>SC3.2</p> <p><b>Cushion Space</b></p>  <p>Provide some extra whitespace in the layout so that readers can read through the pattern language without any resistance.</p>	<p>SC3.2.1</p> <p>Placing it There</p>	<p>Place the pattern sentences in the center of the paper, and provide some blank space around it, as if you are placing the pattern there for the readers to come get it.</p>
		<p>SC3.2.2</p> <p>Framing Whitespace</p>	<p>Provide whitespace around the pattern illustration as if you are framing the piece of artwork.</p>
		<p>SC3.2.3</p> <p>Blank to Rest</p>	<p>Provide a blank page in the pattern booklet so that readers can take a moment to catch their breaths when reading through the patterns.</p>
	<p>SC3.3</p> <p><b>Natural Flow</b></p>  <p>Commit to removing all unnaturalness in the pattern so that readers can read through the pattern in ease.</p>	<p>SC3.3.1</p> <p>Modest Illustrations</p>	<p>Make the illustration small enough so that it balances the font size, and readers can easily look at both the illustration and the sentences alternately.</p>
		<p>SC3.3.2</p> <p>Smooth Eye Movement</p>	<p>Make the layout so that the eye movement of the readers flow in a natural manner.</p>
		<p>SC3.3.3</p> <p>Prototype Check</p>	<p>Making booklets and cards of the patterns are one type of creation: print them out and make an actual-size prototype to check its quality.</p>

## B. PROJECT MEMBERS AND THEIR BACKGROUNDS

The three sublanguages of the pattern language in this paper was each created through independent projects. We first started the Pattern Writing Project from 3 projects since April 2015, finished in January 2016. The members of Pattern Writing Project are Arisa Kamada, Nao Tamaki, Rika Sakuraba, Natsumi Miyazaki, Masafumi Nagai, Kosuke Suzuki, and Takashi Iba. We interviewed with Aya Matsumoto, Taichi Isaku, Takuya Honda, Kaori Harasawa, and Megumi Kadotani in our lab. Table B1 shows pattern languages that project members and interviewees created, and the contents of Pattern Writing Patterns are reflected by these experiences.

Table B1: Members and Interviewees for Pattern Writing Patterns

Role	Name	Years of studying pattern language, before this project	Project of creating pattern languages in which they participated * represents "supervised project"
Project member	A. Kamada	3	Collaboration Patterns, Generative Beauty Patterns, Personal Culture Patterns, Words for a Journey, Natural Living Patterns, and some more projects
	N. Tamaki	2	Global Life Patterns, Words for a Journey, Creative Life Patterns
	R. Sakuraba	2	Creative Education Patterns, Pattern Illustrating Patterns, Creative Life Patterns, Cooking Patterns*
	N. Miyazaki	2	Global Life Patterns, Pattern Illustrating Patterns, Creative Life Patterns
	M. Nagai	2	Creative Life Patterns, Generator Patterns, and some more projects
	K. Suzuki	1.5	Creative Life Patterns
	T. Iba	13	Project Patterns*, Research Patterns*, Learning Patterns, Presentation Patterns, Collaboration Patterns, Generative Beauty Patterns, Pedagogical Patterns for Creative Learning, Survival Language*, Change Making Patterns*, Entrepreneurship & Management Patterns, Policy Language, good old future patterns, CoCooking Patterns*, Words for a Journey, Creative Society Patterns*, Project Design Patterns, Cooking Patterns, Cooking Life Patterns*, Parenting Patterns*, Generator Patterns*, Creative Life Patterns*, Pattern Illustrating Patterns, Holistic Mining Patterns, Mining Interview Patterns, Mining Workshop Patterns, Dialogue Workshop Patterns, SBC (Student Build Campus) Patterns*
Interviewee	A. Matsumoto	3.5	Presentation Patterns, Collaboration Patterns, Generative Beauty Patterns, Entrepreneurship & Management Patterns, good old future patterns, Words for a Journey
	T. Isaku	3	Collaboration Patterns, Global Life Patterns, CoCooking Patterns, Generative Cooking Patterns, Creative Life Patterns, Parenting Patterns, Generator Patterns
	T. Honda	3	Collaboration Patterns, Creative Life Patterns, SBC (Student Build Campus) Patterns, and some more projects
	K. Harasawa	3	Presentation Patterns, Collaboration Patterns, Generative Beauty Patterns, omotenashi patterns, Creative Life Patterns, Pattern Illustrating Patterns
	M. Kadotani	3	good old future patterns

Then, we started the Pattern Mining Project and the Pattern Symbolizing Project in September 2015, which finished in March 2016. The members of Pattern Mining Project are Nao Tamaki, Kosuke Suzuki, Alice Sasabe, Tomoki Kaneko, Kaho Takahashi, and Takashi Iba. We interviewed with Takuya Honda, Taichi Isaku, Masafumi Nagai, Yuma Akado, Sakurako Kogure, and Satomi Oi in our lab. Table B2 shows pattern languages that project members and interviewees created, and the contents of Pattern Mining Patterns are reflected by these experiences.

Table B2: Members and Interviewees for Pattern Mining Patterns

Role	Name	Years of studying pattern language, before this project	Project of creating pattern languages in which they participated * represents "participation for supervising"
Project member	N. Tamaki	2.5	Global Life Patterns, Words for a Journey, Creative Life Patterns, Pattern Writing Patterns
	K. Suzuki	2	Creative Life Patterns, Pattern Writing Patterns
	A. Sasabe	1.5	Mining Workshop Patterns, Parenting Patterns
	T. Kaneko	1.5	Words for a Journey, Parenting Patterns
	K. Takahashi	0	
	T. Iba	13.5	Project Patterns*, Research Patterns*, Learning Patterns, Presentation Patterns, Collaboration Patterns, Generative Beauty Patterns, Pedagogical Patterns for Creative Learning, Survival Language*, Change Making Patterns*, Entrepreneurship & Management Patterns, Policy Language, good old future patterns, CoCooking Patterns*, Words for a Journey, Creative Society Patterns*, Project Design Patterns, Cooking Patterns, Cooking Life Patterns*, Parenting Patterns*, Generator Patterns*, Creative Life Patterns*, Pattern Illustrating Patterns, Holistic Mining Patterns, Mining Interview Patterns, Mining Workshop Patterns, Dialogue Workshop Patterns, SBC (Student Build Campus) Patterns*, Pattern Writing Patterns
Interviewee	T. Honda	3.5	Collaboration Patterns, Creative Life Patterns, SBC (Student Build Campus) Patterns, and some more projects
	T. Isaku	3.5	Collaboration Patterns, Global Life Patterns, CoCooking Patterns, Generative Cooking Patterns, Creative Life Patterns, Parenting Patterns, Generator Patterns
	M. Nagai	2.5	Creative Life Patterns, Generator Patterns, Pattern Writing Patterns, and some more projects
	Y. Akado	1.5	Mining Workshop Patterns, Cooking Patterns, Cooking Life Patterns, Generator Patterns, and some more projects
	S. Kogure	1.5	Creative Life Patterns, Mining Workshop Patterns, SBC (Student Build Campus) Patterns
	S. Oi	4.5	Creative Society Patterns, SFC Culture Language

The members of Pattern Symbolizing Project are Natsumi Miyazaki, Rika Sakuraba, Shiori Shibata, Sakurako Kogure, Reiko Asano, Yosuke Aiba, and Takashi Iba. Kaori Harasawa is member of Pattern Illustrating Project, so her experience much influenced in our patterns. Table B3 shows pattern languages that project members and interviewees created, and the contents of Pattern Symbolizing Patterns are reflected by these experiences.

Table B3: Members and Interviewees for Pattern Symbolizing Patterns

Role	Name	Years of studying pattern language, before this project	Project of creating pattern languages in which they participated * represents "only supervising"
Project member	R. Sakuraba	2.5	Creative Education Patterns, Pattern Illustrating Patterns, Creative Life Patterns, Cooking Patterns*, SFC Culture Language*, Pattern Writing Patterns
	N. Miyazaki	2.5	Global Life Patterns, Pattern Illustrating Patterns, Creative Life Patterns, Pattern Writing Patterns
	S. Kogure	1.5	Creative Life Patterns, Mining Workshop Patterns, SBC (Student Build Campus) Patterns
	S. Shibata	0.5	Cooking Patterns, Cooking Life Patterns
	R. Asano	0	
	Y. Aiba	0	
	T. Iba	13.5	Project Patterns*, Research Patterns*, Learning Patterns, Presentation Patterns, Collaboration Patterns, Generative Beauty Patterns, Pedagogical Patterns for Creative Learning, Survival Language*, Change Making Patterns*, Entrepreneurship & Management Patterns, Policy Language, good old future patterns, CoCooking Patterns*, Words for a Journey, Creative Society Patterns*, Project Design Patterns, Cooking Patterns, Cooking Life Patterns*, Parenting Patterns*, Generator Patterns*, Creative Life Patterns*, Pattern Illustrating Patterns, Holistic Mining Patterns, Mining Interview Patterns, Mining Workshop Patterns, Dialogue Workshop Patterns, SBC (Student Build Campus) Patterns*, Pattern Writing Patterns
Member of former project	K. Harasawa	3.5	Presentation Patterns, Collaboration Patterns, Generative Beauty Patterns, omotenashi patterns, Creative Life Patterns, Pattern Illustrating Patterns

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