

Pattern Naming Patterns

Symbolizing the content and value by expressions to facilitate intuitive comprehension

SHIORI SHIBATA, Faculty of Environment and Information studies, Keio University

SAKURAKO KOGURE, Faculty of Environment and Information studies, Keio University

HITOMI SHIMIZU, Faculty of Policy Management, Keio University

TAKASHI IBA, Faculty of Policy Management, Keio University

In this paper, we present *Pattern Naming Patterns*, which is a pattern language to create a pattern name that expresses the pattern symbolically, so that the readers will become eager to put into practice. This pattern language was created as part of *Pattern Symbolizing Patterns*. *Pattern Symbolizing Patterns* has 121 patterns, which improve expressions: pattern name, pattern illustrations and presenting of the pattern language, to facilitate intuitive comprehension. The experiences, which are the sources of the patterns, are extracted from members of Iba Laboratory, whom have been making many pattern languages based on human action. Here, we introduce these six patterns: *Gulp the Pattern*, *List of Pattern Names*, *Synonym Search*, *Image Search Check*, *New Viewpoint*, *Words of the Future*, from how to make a pattern name that shows the content and value of the pattern.

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1. INTRODUCTION

Pattern language puts the practice of the experienced into words in the form of patterns, making it sharable to others. People can also practice it in daily life, compare your experience and make a reflection, or use it as a vocabulary when communicating (Iba, 2015). Therefore, it is needed to make it something the reader will think valuable and put into practice. So, it is important to show the contents and value of the pattern by not only the long sentences structured by Context, Problem, Solution and such, but also by expressions facilitating intuitive comprehension.

For expressions to facilitate intuitive comprehension, there are things such as pattern names, pattern illustrations that visually expresses the pattern (Iba and Iba Laboratory, 2015), layouts of the booklet. Among them, the pattern name is a tool to intuitively introduce the patterns' meaning or value to the reader, additionally functioning as a vocabulary in daily life. Therefore, it can be said as a very important element among the pattern.

So far, in papers that share the experience of pattern writing, some patterns to make an useful and memorable pattern name has been put into words: *Meaningful Metaphor Name*, *Noun Phrase Name* for example (Meszaros and Doble, 1997). On the other hand, keys to making pattern names that grasp the accurate essence of the pattern and enthruses the reader had not yet been put into words thoroughly. So, we once again expose the keys to naming thoroughly, and tried shaped it in forty patterns.

Furthermore, *Pattern Naming Patterns* was created as part of the creating process of *Pattern Symbolizing Patterns*. *Pattern Symbolizing Patterns* are 121 keys put together to symbolically show the pattern. In this pattern language, intuitions of not only the naming, but also pattern illustrating, or making the editing and layouts of the booklet better are verbalized.

Author's address: Shiori Shibata, Endo 5322, Fujisawa, Kanagawa, Japan, 252-0882; email: t13455ss@sfc.keio.ac.jp; Sakurako Kogure, Endo 5322, Fujisawa, Kanagawa, Japan, 252-0882; email: t13363sk@sfc.keio.ac.jp; Hitomi Shimizu, Endo 5322, Fujisawa, Kanagawa, Japan, 252-0882; email: s15417hs@sfc.keio.ac.jp; Takashi Iba, Endo 5322, Fujisawa, Kanagawa, Japan, 252-0882; email: iba@sfc.keio.ac.jp.

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The following first states the importance of intuitively expressing the contents and value of the pattern. Then, we explain the overview of *Pattern Naming Patterns*, and introduce the creating processes. Finally, we introduce six specific patterns.

2. PATTERN NAMING PATTERNS

This chapter states the importance of intuitively expressing the contents and value of the pattern, as well as clarifying the structure of *Pattern Naming Patterns*.

2.1 The Importance to Show the Content And Value by Pattern Name

As noted above, patterns are for practicing experiences in daily life, and to share during conversations. However, it is difficult to have the readers actually use the patterns by only sharing the sentences composed by Context, Problem, Solution, Consequence and such.

There are three reasons for the difficulty. First of all, understanding the patterns' contents by reading long sentences for the first time disables readers to discover the value of the pattern, which increases no motivation. Also, long sentences are difficult to memorize the contents, leading to drawing a blank when recalling the patterns in daily life. The second is when sharing the patterns during the conversation, it becomes difficult to communicate by using it because we have to explain the pattern from the beginning. Moreover, to make the patterns usable to readers in daily life, we need to cause readers to want to put the patterns into practice. But with only sentences, patterns may not be able to cause readers to want to put into practice since they have difficulty imagining the good future clearly.

A pattern name is a word that expresses the content of the pattern in one word. Therefore, a pattern name makes the pattern sharable in the conversation (Wellhausen and Fiesser, 2011). Also, it helps the reader to recall the content of the pattern in daily life. A pattern name that has words with a positive image and can be used familiarly will allow the reader to be more enthusiastic in practicing the pattern. As seen above, it is very important to show the content and value of the pattern by the pattern name for the pattern to be put into practice.

2.2 The Structure of Pattern Naming Patterns

Pattern Naming Patterns is made up from four layered structures based on the abstraction level, and the upper patterns are more high abstraction leveled, while the lower the patterns are more specific and easier to put into practice.

For example, there is A1, and an one level understandable pattern is A11, A12, A13, and the pattern of the level below that is A111, A112, A113: the shape of the dangling three pattern (Figure 1).

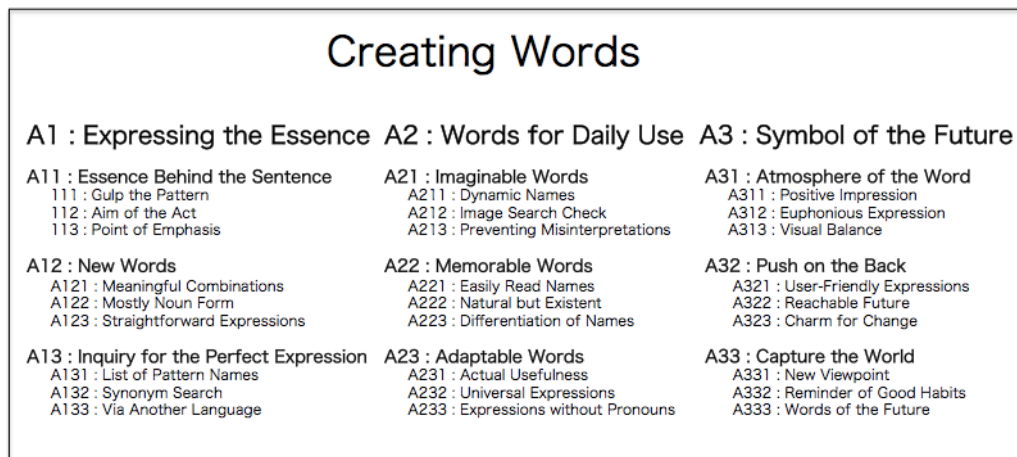


Fig.1.Overview of Pattern Naming Patterns

Furthermore, *Pattern Naming Patterns* is a part of *Pattern Symbolizing Patterns* shown below. *Pattern Symbolizing Patterns* is made up from 121 patterns for keys to better express intuitive comprehension. In *Pattern Symbolizing Patterns*, it shows *Pattern Naming Patterns* as an expression to facilitate intuitive comprehension, as well as pattern illustration, and presenting of the pattern language.

A pattern illustration as with the pattern name, expresses the essence of the pattern (Iba and Iba Laboratory, 2015). A pattern illustration, which expresses the pattern with one illustration, is something that facilitates the readers' intuitive understanding. Thus, it not only expresses the content of the pattern, but also expresses the good future that the practice of the pattern brings about. Based on this factor, the reader can imagine the feeling when putting the pattern into practice, and can also imagine the good future that the pattern brings about more clearly. Drawing a lively pattern illustration can motivate the reader to practice the pattern.

Also, presenting of the pattern language is to elaborate the editing of the book and booklet that records the pattern so as to improve the value and attractiveness of the pattern language. For example, *Presentation Patterns* (Iba and Iba Laboratory, 2014b) is a rather short sentence with a simple format that has quite a blank space: presented differently from the format of the software patterns (Figure 2). The pattern names in the Presentation Patterns used a font that made the overall look of the pattern attractive to readers. Also, by inserting cases and quotes to make it more persuasive adds value to the pattern. Furthermore, the layout of the pattern is designed with the intent of making it easily readable. For instance, important parts are emphasized by bold or large words, making it recognizable for readers.

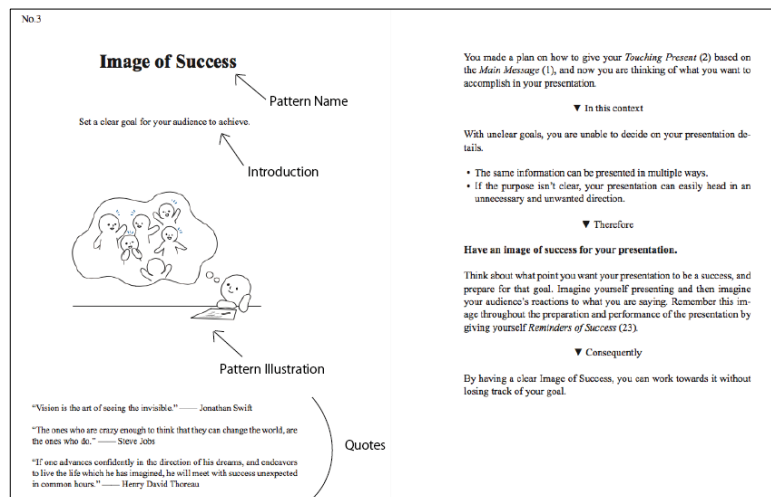


Fig.2. The Pattern Format of *Presentation Patterns*

As you can see in Figure 3, *Pattern Symbolizing Patterns* are composed of five structures based on the abstraction level of tips, and on the top of the structure, there is a pattern that embodies the central idea. And the structure below is split into three groups of A, B, C, based on the types of patterns. Each section is made up of forty patterns. A is *Pattern Naming Patterns*, B puts together patterns of drawing a pattern illustration, by taking in a part of *Pattern Illustrating Patterns* (Iba and Iba Laboratory, 2015). And the patterns of C help polishing up the pattern language to an attractive piece of work. Also, B, C group is split into four structure layers in the same way as A's *Pattern Naming Patterns*.

Therefore, *Pattern Naming Patterns* is a part of *Pattern Symbolizing Patterns*, and is incorporated with Group B, made up from keys for drawing pattern illustration, And Group C, made up from keys to present the pattern attractive (Appendix A).

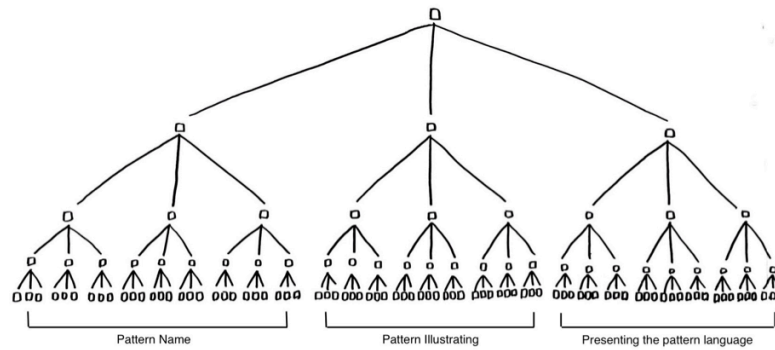


Fig.3. The Structure of Pattern Symbolizing Patterns

3. CREATING THE PATTERNS

We created the *Pattern Naming Patterns* by mining the experiences of members in the Iba Laboratory, who have made pattern languages of human actions like *Learning Patterns* (Iba and Iba Laboratory, 2014a), *Presentation Patterns* (Iba and Iba Laboratory, 2014b), *Collaboration Patterns* (Iba and Iba Laboratory, 2014c), *Generative Beauty Patterns* (Arao, et al., 2012), *Personal Culture Patterns* (Nakada, et al., 2013), and *Pattern Language for the Art of Being with Dementia* (Iba et al, 2015). Among them, we created it from Iba: the most long experienced in making patterns, and the members who created *Pattern Illustrating Patterns* (Iba and Iba Laboratory, 2015) (Harasawa, et al., 2015), and the members who were involved in creating *Student Build Campus Patterns* (Iba, et al., 2015), and *Cooking Patterns* (Akado et al., 2015).

The process stated from mining, writing down the character of good pattern names on sticky notes (Figure 4). During the mining process, we approached by comparing the final pattern name to the pattern name before revising. We also compared pattern names created by beginners taking the pattern language class to the pattern names created in Iba laboratory, and mined the essence of good pattern names from examining the difference of the two. The characteristics of good pattern names mined as above were “It precisely grasps the content of the pattern”, “A word that can be used daily”, “You can sense the good future the pattern is aiming” and so on. Then, finally after listing the characteristics of the good pattern names, we wrote out the practices for creating those patterns.

Pattern Naming Patterns is divided into four stages based on the abstraction level. The mining process went on by applying the experimental rule to this structure. For example, we first put out the highest abstract of the experimental rule, and then think of three experimental rules hanging from it, extracting rules so that the abstraction level is completed naturally. When specific experimental rules are extracted first, we extract keys that have an abstraction level covering it, and put out forty pattern seeds from both top-down and bottom-up.



Fig.4. Pattern Mining with Some Completed Pattern Booklet

After mining in this way, we wrote out each experimental rule in the format of pattern name, Context, Problem, and Solution. At this stage, Iba overlooked it entirely and brushed up the structure and pattern name. Then, we wrote out the full patterns, and the group members revised it repeatedly. While revising, the illustrating members drew the pattern illustrations (Figure 5).

As is the pattern name, we also created the pattern of pattern illustration, and the group of presenting the pattern language, and put together forty patterns in each group.

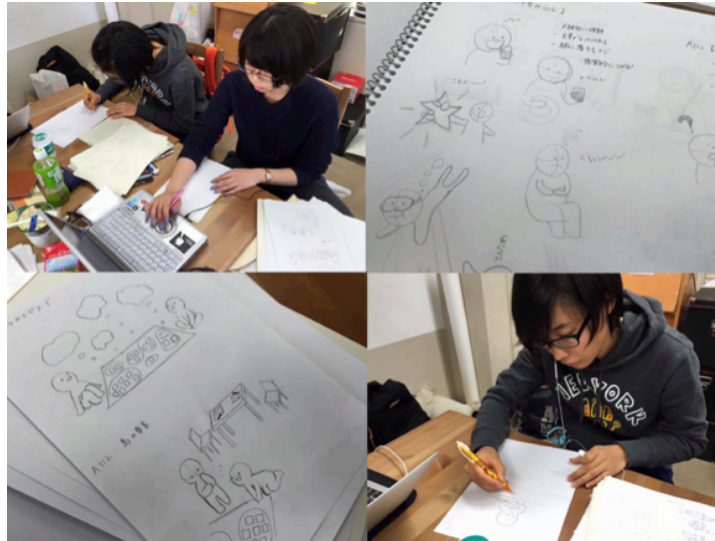


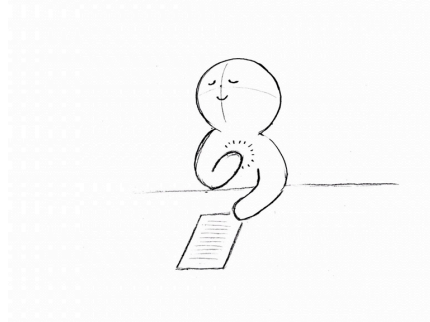
Fig.5. Drawing the Pattern Illustration

4. THE SIX PATTERNS OF PATTERN NAMING PATTERNS

This chapter introduces six patterns from the structured forty patterns of *Pattern Naming Patterns* below: A111 *Gulp the Pattern*, A131 *List of Pattern Names*, A132 *Synonym Search*, A212 *Image Search Check*, A331 *New Viewpoint*, A333 *Words of the Future*. These patterns are especially easy to put into practice, and are especially heuristic among the *Pattern Naming Patterns*.

Gulp the Patterns

Sensitively grasp the essence of the pattern with your intuition



You want to grasp the essence of the pattern name.

▼In this context

If you name patterns by words used in the solution, we might not fully understand the meaning of the pattern in detail, or may misunderstand the outlook. As a result, the substance of the pattern may be left out of the pattern name. When naming the patterns, it seems reasonable to just pick out keywords from the description of the solution. However, since one word does not describe the entire substance of the document, the pattern name chosen in this way will not cover the whole meaning of the pattern.

▼Therefore

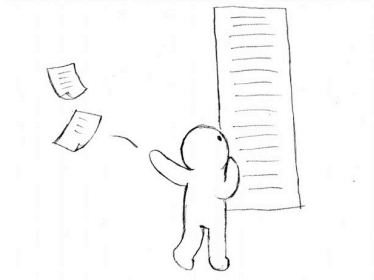
Deepen your understandings until you feel comfortable with what the pattern really means. First, flip through the pattern to roughly understand the meaning. Then, gradually sense the patterns' meaning without being caught by the sentence itself. It's important to keep distance from the sentence and *List of Pattern Names*. Also, you should understand as deeply so you can explain the pattern with your own words.

▼Consequently

By seeking the patterns' meaning until you fully understand it, you have a foundation for making a pattern name that covers all the essential concepts of the pattern. Also, fully comprehending the pattern helps with more ideas for illustration.

List of Pattern Names

Focus on the pattern name by only looking at the pattern name list.



You are looking at the patterns' sentences for clues of the pattern name.

▼In this context

If you're thinking of the pattern name within the sentences of the pattern, it becomes a superficial pattern name that misses the pattern's essential core. When naming the patterns, we tend to look at the sentence to put every single essence into it. However, we tend to get caught in the words and phrases in the sentence when thinking by paper and computers in front of us. Therefore, we become inflexible and may think only from the words in the sentence.

▼Therefore

Make a list of only the pattern names so you can gaze over the whole list separated from the sentences and think of better names. First, make a list of all the pattern names. By *Gulp the Pattern*, try not to look at the sentence itself and think of the pattern name among the list. You may look back at the pattern's sentences when the pattern name is completed to some extent, but at first, concentrate on making the names inside the world of pattern names.

▼Consequently

By thinking away from the sentences, it broadens our ideas and views, which enables you to freely express a pattern name. Also, by making brand new words without using words from sentences, revising the sentence itself much better will become possible and the quality of the pattern all together can be raised.

Synonym Search

Have wide knowledge from the Internet and dictionaries on your team.



You're on the stage of brushing up the pattern name, trying to find a better expression.

▼In this context

You are unable to raise the quality due to limitations in your ideas and knowledge. A pattern name represents a pattern, and must be understandable from others by just the name itself. The pattern name will be the part that is used for communication, so you must check the ease of use and the wording of the name in detail. However, the expression is narrowed by thinking in one's limited ideas and vocabularies, which makes it difficult to make words in high quality.

▼Therefore

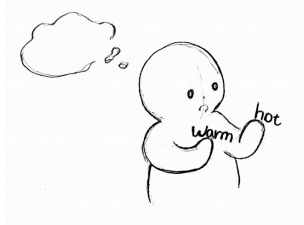
Search for synonyms and similar expressions for the words that you are trying to use, and choose the best one through comparison. For example, search thoroughly for synonyms on the Internet for the best word by comparing conditions like pronounceable, memorable, appearance, suitable, and such. You may as well look at books referring to the theme of the pattern language to find not only synonyms but also words.

▼Consequently

By searching for words above your knowledge, it approaches to a symbolic pattern name that is more usable and seizes the essence. In this way the pattern name will be brushed up carefully and become an extremely precise one that will be agreed and used by many people.

Image Search Check

Touch of the word by image.



You want your pattern name to reflect the meaning of the pattern precisely.

▼In this context

There is an uncomfortable feeling when reading it through because the touch of the pattern name and the sentence does not relate to each other. Since each word has a unique touch, even if the meaning is roughly grasped, how you choose the words may cause the touch you want to express to be slightly different. For example, the word “warm” and “hot” is very similar, but “warm” has a soft touch, and “hot” has a very strong and urgent touch. In this way, when the nuance of the words used in the pattern name does not match, you cannot give the correct image to the reader.

▼Therefore

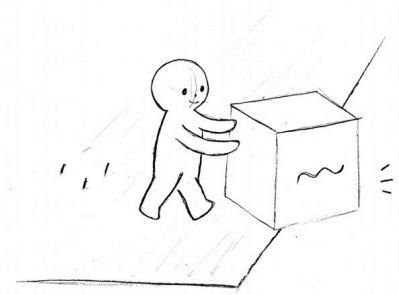
Do image search on the words used in the patterns to make sure that its generic image matches the one you want for your pattern. For example, to see the nuance and the touch that the abstract word “search” has, look the image up on the Internet. You can see what kind of image the reader has by the number of the similar images on the word “search”, and imagine what kind of image the reader has. Check the view that the reader has, and see if the word to make the pattern name fits the image.

▼Consequently

By not only thinking of the meaning from the word itself but by thinking via visual images, the idea widens and will become easier to choose the more accurate word despite the slightly different nuances. Also, sense of unity will be produced if you can name the pattern that matches the touch of the pattern as a whole, which leads the reader to be imaginable and memorable of it.

New Viewpoint

Change the readers' stereotype in a good way.



You want to widen the vision of the reader by pattern language.

▼In this context

Even if the detail of the pattern produces a heuristic vision, the word becomes very plain and cannot change the readers' recognition. Since pattern names are a short word, furthermore will fit in your daily life, it tends to become an ordinary word. In this case, readers cannot discover a new point of view and cannot be motivated to read the pattern. This disables readers to widen their views, which means the pattern language cannot play the role of conveying the feeling of a better future.

▼Therefore

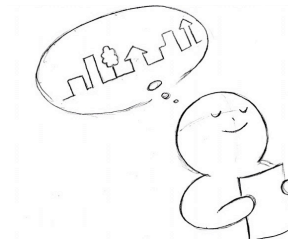
Provide new viewpoints that would change the perspectives of people to look at the world around them. We can provide a new point of view to the reader by a combination of words used in our daily life. For example, there is a pattern name called *Small Accomplishment*, sounds like you "accomplished" something really big, but by combining the word "small", we can soften the impression.

▼Consequently

It will become a heuristic pattern name that changes a bit of the readers' point of view. The reader can think over the problem they are holding at present in a new viewpoint, and will be able to proceed to a good future that the pattern produces.

Words of the Future

The pattern name you made will become a common language used in the future you head for.



You are thinking of a pattern name that covers the identity of the pattern language.

▼In this context

You don't know the standard of how much you can push out “identity”, making the pattern name something with no unity in the touch all together. Pattern language is not just an instruction on tips, but a piece of work to suggest a better world. For that reason, as every pattern language aims a different world, the “identity” of the touch should be different too. However, if you start wording without knowing how much you can push out “identity”, the unity all together will become one-sided with the writers’ words.

▼Therefore

Choose pattern names with the vision of the words being naturally used in the future world that the pattern language is trying to achieve. Every pattern language has its own ideal future. We must first make it clear, and choose words that fit into the world. For instance, *Generative Beauty Patterns*, which leads you to live lively and beautifully, chooses sparkling words like *Make Magic!* and *Cinderella Makeover*. Also, in the *Pattern Language for the Art of Being with Dementia*, warm words such as *Going together*, and *The Amusement Committee* are chosen.

▼Consequently

The wording will become united, and the identity of the pattern language will appear. As a result, pattern language made this way can widen the readers’ world because it has a firmly world view as a piece of work, and can show the reader the world it aims.

5. CONCLUSION

In this paper, we proposed *Pattern Naming Patterns*, which puts together keys of naming the pattern name to intuitively introduce the content and value of the pattern to readers.

In Iba laboratory and in classes of Faculty of Policy Management, and Faculty of Environment and Information in Keio University, *Pattern Naming Patterns* are already used to schedule making pattern languages, and to look back over experiences. In this way, we hope people writing pattern languages will use *Pattern Naming Patterns*, and by doing so, the reader will come to want to read more, and want to share the pattern language to others during conversation. We also want pattern languages to actually be used by the readers, and as a result, make the tips sharable and practicable between people to enhance liveliness in human action.

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APPENDIX

A. List of All 121 Pattern Mining Patterns

A : Creating Words		
A1 : Expressing the Essence	A2 : Words for Daily Use	A3 : Symbol of the Future
A11 : Essence Behind the Sentence A111 : Gulp the Pattern A112 : Aim of the Act A113 : Point of Emphasis	A21 : Imaginable Words A211 : Dynamic Names A212 : Image Search Check A213 : Preventing Misinterpretations	A31 : Atmosphere of the Word A311 : Positive Impression A312 : Euphonious Expression A313 : Visual Balance
A12 : New Words A121 : Meaningful Combinations A122 : Mostly Noun Form A123 : Straightforward Expressions	A22 : Memorable Words A221 : Easily Read Names A222 : Natural but Existent A223 : Differentiation of Names	A32 : Push on the Back A321 : User-Friendly Expressions A322 : Reachable Future A323 : Charm for Change
A13 : Inquiry for the Perfect Expression A131 : List of Pattern Names A132 : Synonym Search A133 : Via Another Language	A23 : Adaptable Words A231 : Actual Usefulness A232 : Universal Expressions A233 : Expressions without Pronouns	A33 : Capture the World A331 : New Viewpoint A332 : Reminder of Good Habits A333 : Words of the Future

B : Image Drawing

B1 : A Symbolic Piece

B11 : From the Whole to the Parts

B111 : Center Words
B112 : Image Overview
B113 : Starting Rough Sketch

B12 : Line of Expression

B121 : Metaphoric Representation
B122 : Visualizing Motions
B123 : Associative Images

B13 : Intuitive Comprehension

B131 : Focal Point
B132 : Simple Illustrations
B133 : Composition Differentiating

B2 : Paint a World

B21 : Image Depth

B211 : Three-Dimensional Elements
B212 : Camera Angle
B213 : Size in Relation to Depth

B22 : Stand in the Scene

B221 : Facing Direction and Posture
B222 : Relationship with Objects
B223 : Comprehensive Story

B23 : Natural Expressions

B231 : Lack of Unnaturalness
B232 : Balanced Placement
B233 : Meaningful Directions

B3 : Breathe Life

B31 : Natural Cuteness

B311 : Simple Characters
B312 : Subtle Gestures
B313 : Static Affection

B32 : Be in their Shoes

B321 : Sympathetic Drawing
B322 : Emotional Actions
B323 : Drawing while Smiling

B33 : Creating Excitement

B331 : Positive Image
B332 : Spice of Playfulness
B333 : Perfect Moment

C : Editing Literature

C1 : Grabbing Hook

C11 : Meaning Refinement

C111 : Interpretation Narrowing
C112 : Complementing Restatement
C113 : Added Action

C12 : Emotional Pull-in

C121 : Hint of Success
C122 : Attention-Grabbing Question
C123 : Lead to the Illustration

C13 : Poetic Softness

C131 : Interesting Voice
C132 : Grandness Mitigation
C133 : Pleasant Rhythm

C2 : Quality Expansion

C21 : Wide Range

C211 : Quantity brings Quality
C212 : Plenty of Candidates
C213 : Balanced Selection

C22 : Order of Development

C221 : Straightforward Fundamentals
C222 : Meaning Shift
C223 : Takeoff Quote

C23 : Borrowing Quality

C231 : Representative Figure
C232 : Elegant Quote
C233 : Everyday Stock

C3 : User-Friendly Layout

C31 : Layout with Contrast

C311 : Separation of Logic and Intuition
C312 : Attractive Words
C313 : Guiding Marks

C32 : Cushion Space

C321 : Placing it There
C322 : Framing Whitespace
C323 : Blank to Rest

C33 : Natural Flow

C331 : Modest Illustrations
C332 : Smooth Eye Movement
C333 : Prototype Check

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