

The NM Method of Creative Thinking

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1. Brainstorming

In 1941, Alex Osborn, found that conventional business meetings were inhibiting the creation of new ideas. To escape this, he proposed some rules. In that time he was looking for rules that would give people the freedom of mind and action to spark off and reveal new ideas. To "think up" was originally the term he used to describe the process he developed, and that in turn come to be known as "brainstorming".

He described brainstorming as a conference technique by which a group attempts to find a solution for a specific problem by assessing all the ideas spontaneous by its members".

The rules came up with the following four:

- a) No criticism of ideas
- b) Go for large quantities of ideas
- c) Build each other's ideas
- d) Encourage wild and exaggerated ideas

He found that when these rules were followed, a lot of more ideas were created and that a greater quantity of original ideas gave rise to a greater quantity of useful ideas. Quantity produced quality. [Cited from HP of Brainstorming Co.]

2. Inefficiency of Brainstorming

Brainstorming is a wonderful tool to enlarge people's creativity. However, it is not so profitable to Japanese people. Dr. NAKAYAMA Masakazu(NM) criticized the method in 2 points.

a) Japanese people are liable to think something emotionally, not logically. So they need some thinking tools to solve the problem logically using hypothesis. NM methods are rules of setting hypothesis.

b) In Brainstorming, the stormers are recommended that to think up many ideas as possible. And they are asked to output a lot of ideas. However, Brainstorming never says that "how to think up these ideas". In the NM method, thinking is not proceeds randomly, but proceeds rather systematically. When a thinker attain an image of "airplane" using by a Key Word "light", he searches suitable ideas in/near of airplane. This way of thinking lead to effective production of ideas.

3. NM Methods

Dr. Nakayama proposed several thinking methods to develop creativity. They are NM Method H(Hardware)-Type, T(Takahashi)-Type, A(Area)-Type, S(Serial)-Type, D(Discover)-Type. T-Type is popular. So, in this workshop, I introduce T-Type.

NM method T-Type is executed as follows. **We have to write QA, QB, and QC into small cards.**

Original Problem: “Usage of light and strong cloth”.

Step 1: Decide Key Words

To solve the problem we have to search (decide) Key Words. In this case, "light " and "strong" may become Key Words.

KW ----- “light” "strong”

How to choose (decide) key words. We choose intuitively the
Key Words [usually it is a adjective or a verb]

Step 2: Search Analogy

Using Key Word (light), imagine something
“light” like ____.

Example: light like an airplane

Never think --- Jumbo Jet cannot be light

Not think "Real Jumbo Jet"

But think "Image of Airplane"

The way of asking in this manner ----- Question Analogy (QA)

KW ---- “light” -- -- QA “Airplane”

Step 3: Imagine the Background of the Analogy

In this case, relating to the "Airplane" Analogy,

We could consider,

- 1) What is an airplane (shape, function, color, etc.)?
- 2) How the airplane (or peripheral equipments of it) is?
- 3) What happens in/near airplanes?

Etc.

The way of asking the background ----- Question Background (QB)

In this example:

QA; Airplane

QB: When the airplane is light,
it might be occurred.

- 1) A crazy pilot might be handled it.

2) So, the wings are covered with the cloth.

This is a solution

When we imagine this kind of scene, we could move next step.

Step 4: Is QB in step 3 available to solve Original Problem?

The way of asking real availability of the idea (Conception)

---- Question Conception (QC)

Example

QB; Wings may be covered with cloth -> QC; cover the wings with cloth.

In this manner we can think up many ideas of "light" thing.

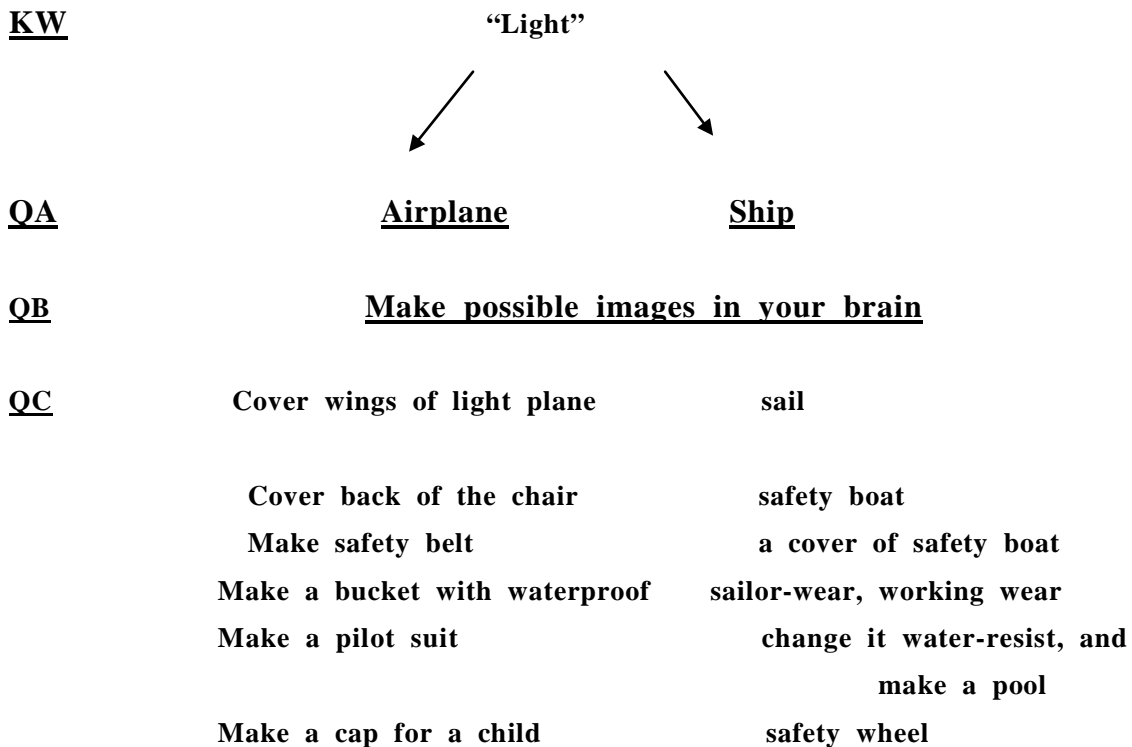
Step-3 and -4 are connected. Depicted an images in your brain using '

QB (Wings may be covered with cloth), you should evaluate the possibility of it (Cover the wings with the cloth) . When the rating is relatively high, the idea (QC) becomes one of real solutions.

Step 5: Evaluation all of the ideas

The ideas that might be think up from Keyword "light" are shown in Fig. 1.

Fig 1. Think Up from KEYWORD "Light"



Make shoes with waterproof	safety jacket
Make belt	hammock
Make underwear	pajama
Make bag for tools	slipper
Make parachute	make Tatami (mat less) in Judo
Make a bag for parachute	foldable fishing bag
.	.
.	.

We can use NM Method T-Type in daily Problem Solving such as “How to persuade your boss?” In the case, we have to decide key words. What kinds of key words are available? “Persuade” may occur in some place, or some situation. When we think such conditions, “tell”, “show” or “play” may become Key Words.

When we decided the key words, we can image many things, events, and behaviors, etc. In the case of “tell”, we can guess who is a professional of telling. In Japan, we have such storyteller. “Tell like a comic story teller” become hints to solve the original problem. We can research into the characteristics of storyteller. How he tells? Where live? How he behaves? How he dresses? How he finishes the story? ... Such characteristics become hints to persuade the boss.

“Tell like a parrot”, “Show like a stripper”, “Show like a peacock”, “Play golf”, “Play mahjong” also become hints to solve the problem.

Let’s explore around “Show like a stripper”. In this case, QA is “Stripper”.

QA: **Stripper**

Search: Search many things, atmosphere, responses of spectators, program, dancing manner of dancer, music, facilities of the theatre, etc.

QB: Find **QB**

- EX.**
- QB1. There are many spectators.
 - QB2. Music is on air.
 - QB3. It is little shameful to enter the theatre.
 - QB4. A strange person is calling on near the entrance.

QC: How to make **QC**

- 1) We need 3 kinds of hint.
 - a) Hints that are available immediately.
 - b) Hints that seems to be peripheral to solve the problem.

c) Hints that are not directly connected the solution of the problem.

Transform QB to QC: Transform QB to executable procedure (QC).

QB1 ----- QC1: Persuade the boss in front of much people.

QB2 ----- QC2: Tell with the boss in a good music.

QB3 ----- QC3: Enter the theatre with boss.

QB4 ----- QC4: Call the boss to own room.

Solution 1:

Choose 2 QC cards in the table.

Ex.

Repeat many times > -- < Aims at boss's busy time
 ↑
 Contradiction

To solve the problem is to cancel the contradiction.

Send (Give) a memo concerning the problem to the boss.

Repeat many times

Some day, on a moody place (party, bar or café)

A solver suggest indirectly him an idea (or hint)

Next,

Aims at boss's busy time

Just when he finished a job, ask him to permit the idea.

Get OK.

4. Theory (Yumino proposed, 2002)

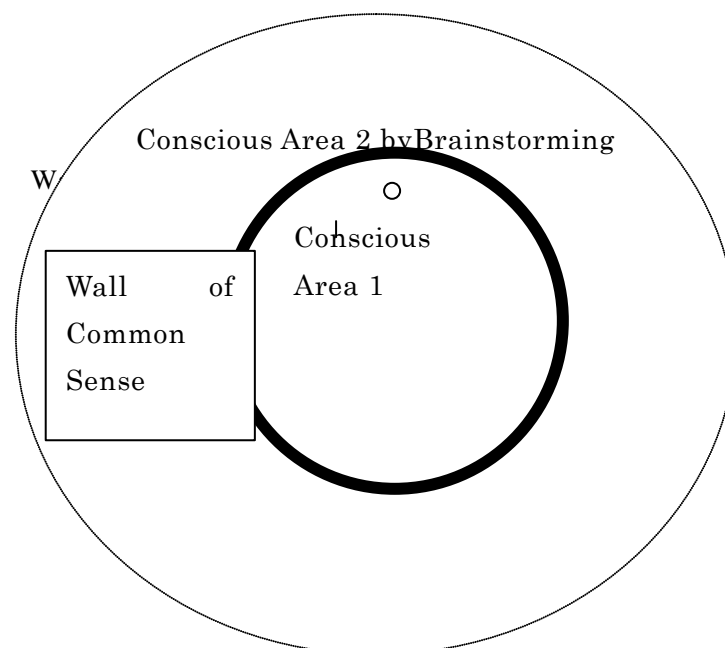
There is some data in which the effectiveness of the NM method is shown (Nakayama, 1967, Kaminishi & Yumino, 2002). Nakayama showed the effectiveness of it by the increments of patents in real business world. Kaminishi & Yumino confirmed it by creativity tests.

Why can the NM method develop creativity? Many theories will explain the reason. "The expansion theory of consciousness" described here is one of such the theories.

Before describing this theory, I will guess about the state of the consciousness of a stormer who is performing brainstorming. In the ordinary state, it is very difficult for the stormer to invent creative ideas and solutions over the "Wall of the Common Sense" in Fig. 2a. It is because that the ideas and solutions beyond the Wall are usually foolish and unreasonable ones. So, the stormer hesitates or restrains to surpass the Wall. By introducing four principles of brainstorming, the Wall of this Common Sense is torn inside and considered that many ideas and solutions will be appear in conscious. The stormer may output many ideas and solutions. Unfortunately, most of them are destine to discard on last stage. In such reason, brainstorming is not so efficient method to output precious ideas for a short time.

In contrast with it, the NM method examines systematically the possibility about main and peripheral things and the concepts and objects imagined by the keyword. The thinker forgets the original problem, while developing images from a keyword. Therefore, a lot of images can be developed freely. However, the relation among all the ideas produced by an image is connected organically rather than is existed in independently. Domain of the outside of the circle of figure 2b is the domain of the ideas that newly come into consciousness of the thinker. The NM method is the technique of developing creativity that makes it possible to produce many creative ideas for a short time.

Fig. 2a. The Wall of Common Sense and Conscious Area 2 by Brainstorming.



□

**Fig. 2b. The Wall of Common Sense and
Consciousness Area 2 by NM method.**

