### Creative Management and Education in Japan

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Global TRIZ Conference 2013 | www.koreatrizcon.kr Seoul Trade Exhibition & Convention, Seoul, Korea | July 09–11, 2013

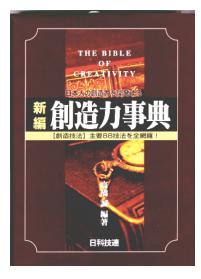
### Makoto Takahashi, Ph.D. (Education)

- Chairman, SOKEN Research Institute
  Professor, Japan Professional Graduate School of Education
- •President, (NPO) Japan Association of Career Education for Youth
- •President, (NPO) Eco Literacy Association for Children
- •Ex- Chairman / Ex-President, Japan Creativity Society





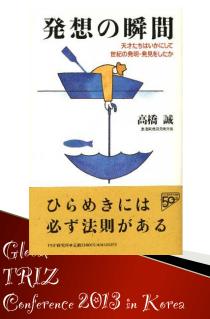
### Publications (Japan) 70books











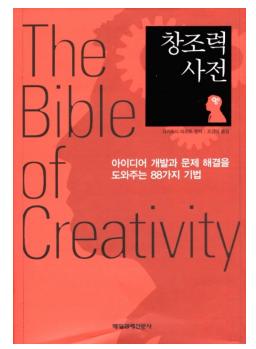






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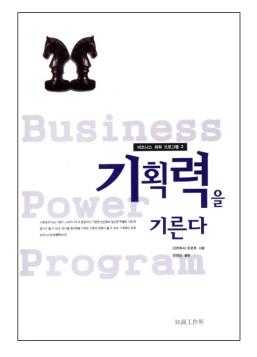
#### **Publications (Korea) 8books**



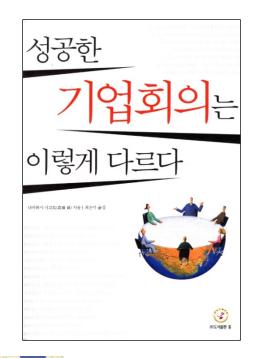
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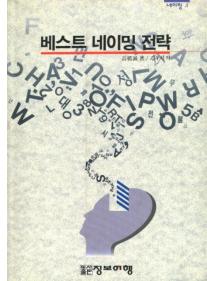
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### < Creative Education >

- 1. NISSAN
- 2. NEC
- 3. Fuji Xerox
- 4. Panasonic
- 5. Dentsu

6. Nippon TV

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### **Creation-Oriented Country**

My hope is that Japan will become

- a Creation-oriented Country.
- So, Nikkei Business Daily and Japan Creativity
- Society have promoted
- **Creation Projects**
- (Creation Committee, panels on Creative firms/ persons, etc).

#### Nikkei articles on Company Creation < Chairman of Committee: Dr. Ezaki Reona(Novel Prize) >



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#### **(Creative Life Campaign)**–2013.4. 30 Nikkei Business Daily-



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### WKF: **WORLD KNOWLEDGE FORUM**



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Keynote Speaker : Bull Gates Jack Welch etc

I speeched At 2001 year 2005year

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### Former Chairman of China Creativity Association China minister of Science & Technology



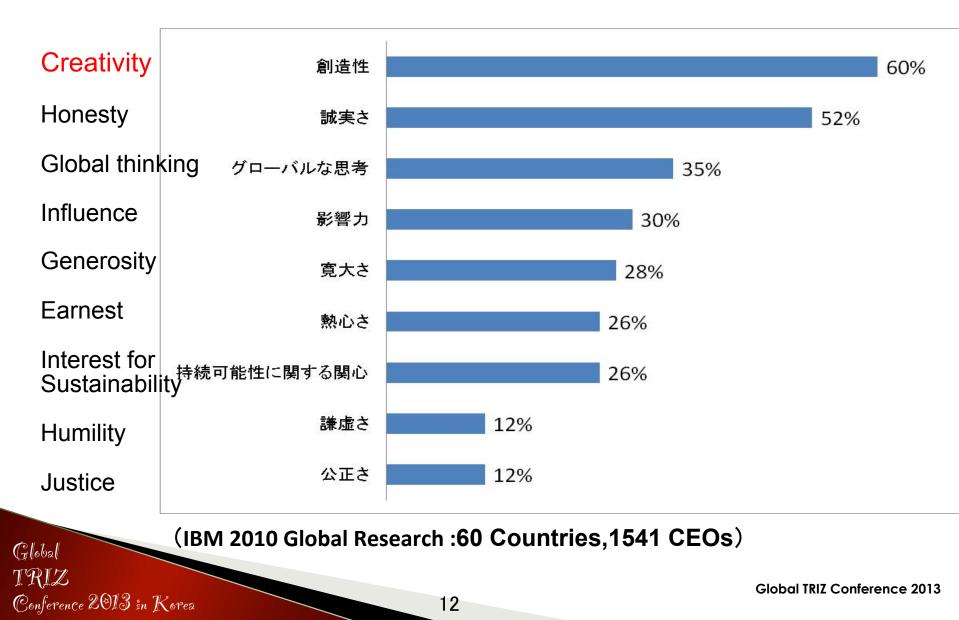


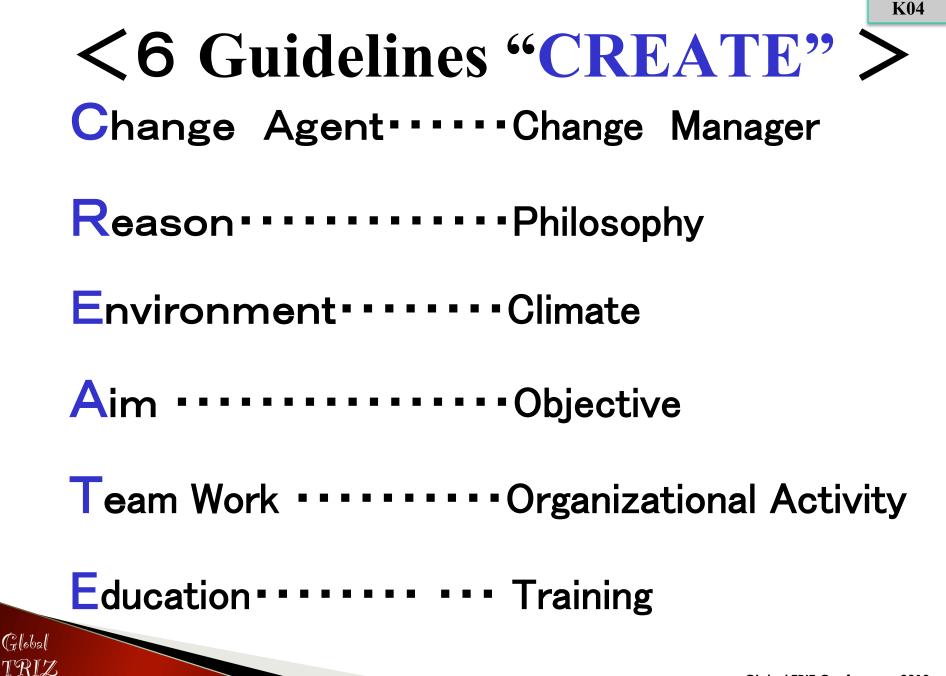
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### **〈Creativity : Top Ability for a Leader〉**





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# **"The Declaration of the Principle of Creation"**

- Principle of Creation
- 2. Principle of Co-operation
- **3**. Principle of Creative

### Development

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### **1. Principle of Creation**

### Structuring

### a creative organization with

### the philosophy of creation

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### **2.Principle of Co-operation**

A whole organization co-operates

with other companies

to implement creation.

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# **3. Principle of Creative Development**

Special zone

### for creative employees

### •Creativity training

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# **<3** Approaches to Creation Management**>**

1. Organizational Approach

**2**. Small Group Approach

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3. Individual-Employee Approach

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# **Creativity**<br/>**Education**

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### < History of Creativity Development>

[U.S.A.]

- 1936 GE started CEP(Creative Engineering Program)
- 1941 Alex.F.Osborn developed Brainstorming.
- 1944 W.J.Gordon developed Synectics.
- 1948 MIT started CEC (Creative Engineering Course).
- 1955 "Uta Creativity Meeting" was held
- 1955 CEF(Creative Education Foundation) started CPSI(Creative Problem Solving Institute )

1989 ACA(American Creativity Association)start

GIBIOO5 50year's Anniversary of CPSI

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### KO4 KO4

#### [Japan]

- 1944 Kikuya Ichikawa developed "Ichikawa Method"
- **1955** Sanno University started CTC(Creative Thinking Course)
- **1958** Alex.F.Osborn's "Applied Imagination" (Diamond Publishing) was translated to Japanese
- **1965** Jiro Kawakita developed KJ method
- **1969** Japan Creativity Academic Society was established
- **1990** Proposal of "Importance of Creative Education" (Ministry of Education)
- 1996 Proposal of "Importance of Creative Person" (Japan Business Foundation )
- 2008 Creative Education Project Start (Tokyo Metropolitan Government)

### < History of Creativity Development >

#### (Europe / Asia)

- 1960 Creativity Research start in Europe
- 1984 China Creativity Society start (Shanghai)
- 1985 Korea Creativity Research Society start (Pusan)
- 1987 Conference of Creativity & Innovation was held (England)
- 1987 International Creativity Meeting (No.1) was held (Shanghai)
- 1994 China Creativity Association start (Shanghai)
- 1996 Korea Creativity Development Society start (Seoul)
- 2006 International Creativity & Innovation Conference(Peking)

### < Definition of CREATION>

[Definition] (Field) For Problem Solving ..... Building up the problem Problem

clarification

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Creative method

**Different types of Information** ..... Information & Intelligence Information arrangement

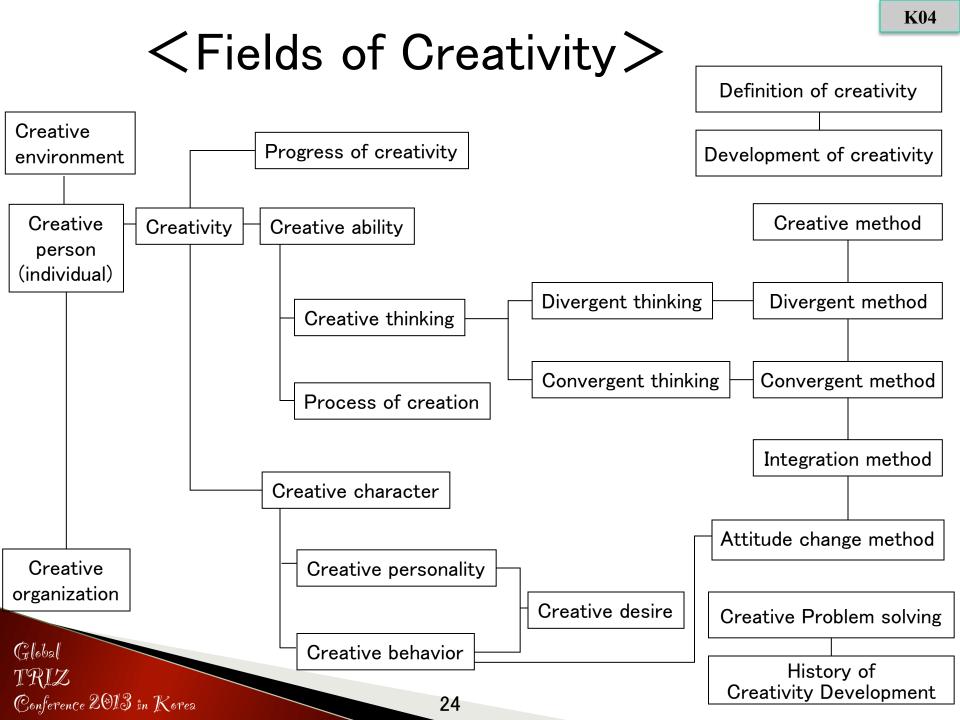
and create a New Value ······ Evaluation

Theory of Value

at the Public or Personal level ······Creative education Theory of genius

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### Creativity and Intelligence>

| Î               | <b>Intelligent type</b><br>(cI type) | Creative &<br>Intelligent type<br>(CI type) |
|-----------------|--------------------------------------|---|
| Intelligence    | <b>Developing type</b><br>(ci type)  | <b>Creative type</b><br>(Ci type)           |
| (flobal<br>TRI2 | Creativity —                         |   |

C

#### [Characteristic features of Creativity and Intelligence]

- 1. The older a child becomes, the lower the degree of correlation between creativity and intelligence.
- 2. The degree of correlation between academic ability and creativity is high in their childhood.
- 3. Growth of child's creativity is not constant.
- 4. Creative and Intelligent type (CI type) shows good achievement and desirable.
- 5. Though intelligence starts decline when nearing 45, but creativity keeps growing.

### **Five stages of Problem solving**-Takahashi model-

### 1. Problem Defining

### 2. Problem Grasping

### 3. Goal Deciding

### 4. Solution Finding



### **5. Solution Evaluating**

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### **<Structure of Intellect>**

-J.P.Guilford model-

- 1. Cognition
- 2. Memory

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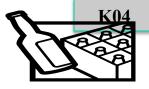
- 3. Divergent thinking
- 4. Convergent thinking5. Evaluation

Information Collection

Information Processing

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#### **Verbal Creativity Test-Fluency (Beer Bottle)**



Q) 맥주병을 본래의 목적 이외에 어떻게 활용할 수 있을까?

Glob

TR

|                 | 1              |              |       |
|-----------------|----------------|--------------|-------|
|                 | 2              |              |       |
|                 | 3              |              |       |
|                 | 4              |              |       |
|                 | 5              |              |       |
|                 | 6              |              |       |
|                 | 7              |              |       |
|                 | 8              |              |       |
|                 | 9              |              |       |
|                 | 10             |              |       |
|                 | 11             |              |       |
|                 | 12             |              |       |
|                 | 13             |              |       |
|                 | 14             |              |       |
|                 | 15             |              |       |
|                 | 16             |              |       |
| Global          | 17             |              |       |
| TRIZ<br>Confere | 18<br>18<br>19 | in Norrea 28 | Globa |

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### Visual Creativity Test-Fluency 문 세 주어진 선 [ | ] 을 이용하여 순서에 입각하여 가능한 여러 가지 그림을 그리세요. (3분간)

문 제

| 1.                     | 2.  |     | 3.  |     | 4.            |                        |
|------------------------|-----|-----|-----|-----|---------------|------------------------|
|                        |     |     |     |     |               |                        |
| 5.                     | 6.  |     | 7.  |     | 8.            |                        |
|                        | 0.  |     | 7.  | 1 1 | 0.            |                        |
|                        |     | 1 1 |     |     |               |                        |
| 9.                     | 10. |     | 11. |     | 12.           |                        |
|                        |     |     |     |     |               |                        |
| 13.                    | 14. |     | 15. |     | 16.           |                        |
|                        |     | I I |     |     |               |                        |
| 17.                    | 18. |     | 19. |     | 20.           |                        |
|                        |     |     |     |     |               |                        |
| 21.                    | 22. |     | 23. |     | 24.           |                        |
| lebal                  |     |     |     |     |               |                        |
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| onference 2013 in Kore | ea  | 2   | 9   | ©S  | OKEN RESEARCH |                        |

### Classification of Creativity Techniques>

### 1. Divergent Thinking Techniques

Free association Techniques (Brainstorming (BS) • Card BS • Card Brain Writing etc.) Forcing association Techniques (Check List Method • Morphological Analysis Method • Matrix Method etc.)

Analogy thinking Techniques (Gordon Method • Synectics • NM Method etc.)

### 2. Convergent Thinking Techniques

Grouping Techniques (KJ Method • Block Method • Cross Method etc.) Flow Style Techniques (PERT Method • Story Method • Flow Chart etc.) Evaluation Techniques (Idea Evaluation Method etc)

### 3. Combined Techniques

High Bridge Method • Work Design etc.

### 4. Attitudinal Techniques

Meditation Techniques (Meditation • Autogenic Training etc.) Interaction Techniques (TA(Transactional Analysis) • Encounter Group etc.) Drama Techniques (Psychodrama • Role Playing • Creative Dramatics etc.)

#### 

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#### < Characteristic feature >

Alex F. Osborn, a pioneer of creative thinking, developed. Since its birth, it has spread throughout the world.

#### <Procedure>

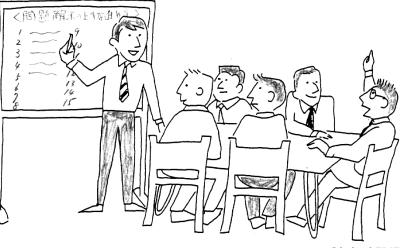
(1) One leader and about 5-8

members

② It makes the theme concrete and being small

(3) The reader records all remarks

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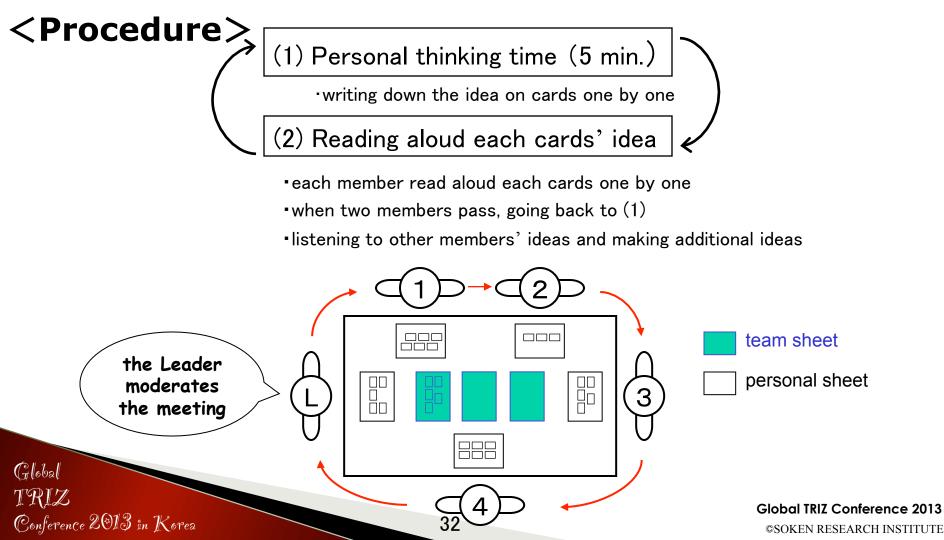
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#### <Free Association Technique> Card BS method: Japan < Characteristic feature >

(by Takahashi)

K04

This method use silence time and speaking time, and using cards.



## <Free Association Technique> Brain Writing Method:Germany

1.Holiger (Germany) Create

#### 2.6 • 3 • 5 Methds

- 6 Attendants
- 3 Ideas at 1 Session
- 5Minutes

#### 3. Procedure

- 1 All members have A4 CBS sheet
- 2 Writes the theme in the top of them A4 sheet
- 3 All members write 3 ideas in the 1st line 3 blocks within 3 minutes
- ④ If finishing writing, it hands a A4 sheet to the left person (Hereinafter, it repeats)

memocic write 3 ideas in the 2nd line 3 blocks within 3 minutes

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(by Holiger)



### **BW Method Sheet's Example**

|  |       | A                   | В                   | С                     |
|--|-------|---------------------|---------------------|-----------------------|
|  | I     | 馬車場 E<br>広くする       | 駅前で割引券を<br>面で布する    | 田舍の日朝の末E<br>再現する      |
|  | п     | バイキンクスタイルで<br>食いられる | 天井から星空か"<br>見える。    | 雑誌に取り上げ<br>られるモクにPRする |
|  | ш     | 大きな風船を<br>屋根1:つける   | 目前1ごコックか<br>料理してくれる | 車椅子ごも柴に<br>入れる5ウにする   |
| Global<br>TRIZ<br>Conference 2013 in K | (orea | 豪華なテーブッレと           | 建物抵车易电<br>34        | 200種以上の               |

erence 2013

### {Free Association Technique} Card BW method:Japan

#### < Characteristic feature >

(by Takahashi)

Using cards, Brainwriting becomes easier to handle.

#### <Procedure>

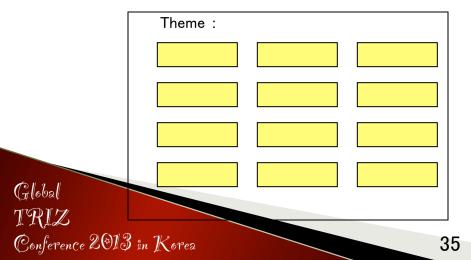
1 All members pastes postits to them A4 sheet

2 Writes the theme in the top of them A4 sheet

3 All members write 3 ideas in the 1st line postits within 3 minutes

④ If finishing writing, it hands a A4 sheet to the left person (Hereinafter, it repeats)

(5) All members write 3 ideas in the 2nd line postits within 3 minutes



#### < Card BW sheet >



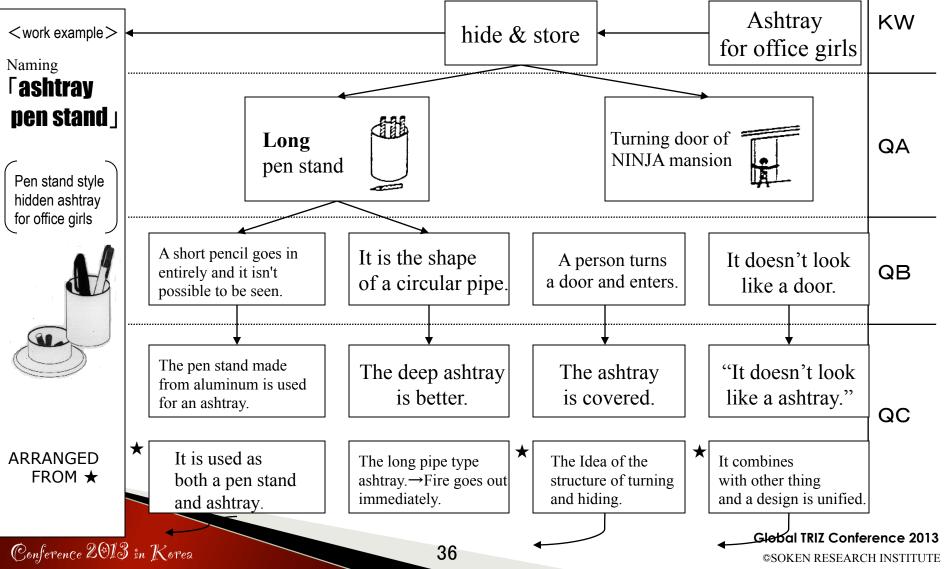
### (Analogy Thinking Technique—NM method) Japan (by Masakazu Nakayama)

<Thema>

#### 1.Characteristic Feature

This analogy idea method which comes from Japan was contrived by Masakazu Nakayama. It is easy to understand the step.

#### **2.** The Idea Step of The hidden ashtray



#### (Grouping Technique) Block Method: Japan

(by Takahashi)

#### < Characteristic feature >

This is a speedy convergent method that each member takes partial charge of organizing the cards.

**<Procedure>** 1.Each member takes the same numbers of card.

2.Assort the cards and make some groups of similar idea.

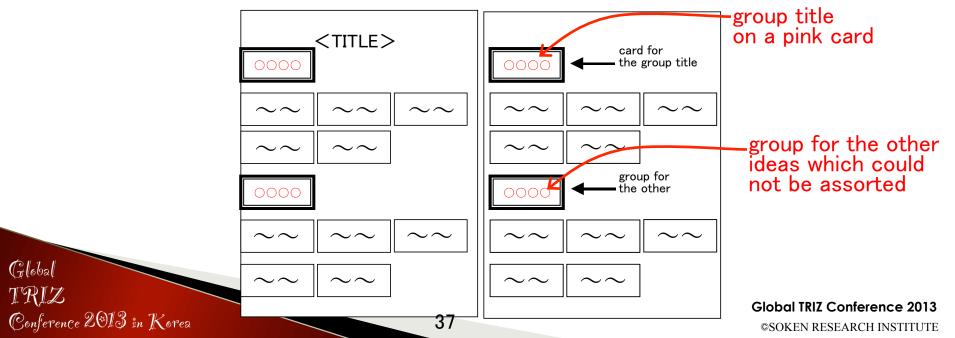
3.A member shows a group to other members.

4. If there is a similar idea, other members add their cards to the group.

5. The member who showed the group writes the title card for the group

on a pink card.

6.Next member shows a new group and repeat the procedure above.



### (Flow Style Technique) Story Method : Japan

(by Takahashi)

#### < Characteristic feature >

Writing data on cards and organizing the cards as a story. This method has a beneficial effect on writing, especially for speech draft.

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#### <Procedure>

- 1. Write down one data or idea on each card.
- 2. Spread out all cards on the table.
- 3. Layout the cards on a sheet.
- 4. Making additional cards.
- 5. Finish the card layout.

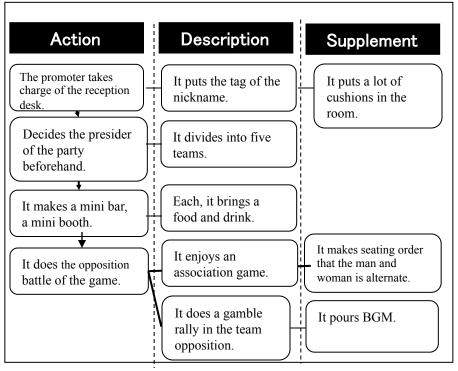
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The plan of a Home Party

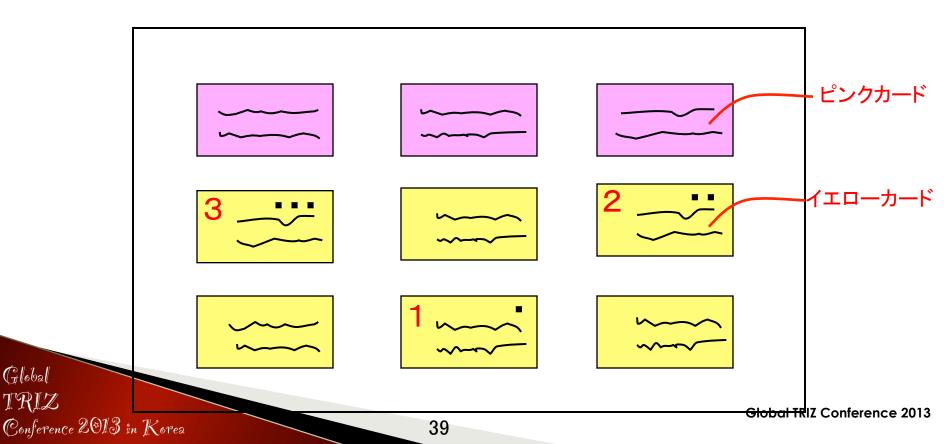
 $\langle Example \rangle$ 



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### **(Idea Evaluation Method)**Japan

- 1. Select good idea cards
- 2. Dot to cards (6 points have every person)
- 3. Targets is every yellow cards (Lemited 3 point to 1 card)
- 4. Write Points to cards(Red )



# <Techniques and Ideas for Creative thinking support system> (total)

- 1. Support system for divergent thinking
- 2. Support system for convergent thinking
- 3. Support system for creative behavior
- 4. Support system for creative environment