

**VISUALIZATION  
AND  
FEEDBACK  
OF  
STUDENTS' CONCEPTS**

**Examples from Lectures at Nagasaki University, April to July, 1995**

Presentation Material at Educational Workshop  
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The aim of this presentation is to report how medical students can gain positive study interests not only for high-tech medical science but also for health related issues in everyday life. For this purpose, the author switched his educational strategy from lecturing on information to asking students about their unique life experience related to health and disease. This transformation of educational view was obtained during the author's stay in Illinois 1991-1992. After coming back to Japan, the author started various trials to externalize students' hidden concepts and images. In order to reveal the students' unique perspective of health, which is embedded in their everyday life, students were asked to visualize and express their images related to a variety of daily situations.

This presentation material is based on the author's lectures at Nagasaki University (from April to July, 1995), and accompanying students' written responses.

For the present trials, the author developed various visual frameworks to think, reflect and externalize. As the result, in addition to students' individual unique responses, two different aspects of Japanese medical students were also revealed, such as 'rather naive and/or immature' aspect and 'logical and creative' aspect. These two different aspects are impressive not only for the author but also for students, because in the traditional way of Japanese medical education, students are not permitted to express their personal feelings, and students' unique perspectives are also suppressed. As the result, students do not have enough chances to reflect oneself and interact with other students. However, such lack of inner and/or mutual reflection is not good for sound professional growth. Further encouragement and realization of both of these aspects would help students to attain more balanced emotional growth toward matured medical professionals.

Key words; health related image, health related behavior, participatory leaning, medical student, process of cognition, health promotion, health education, environmental education

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# Series 1

## The food image of Illinois students and the Japanese students' understanding of it

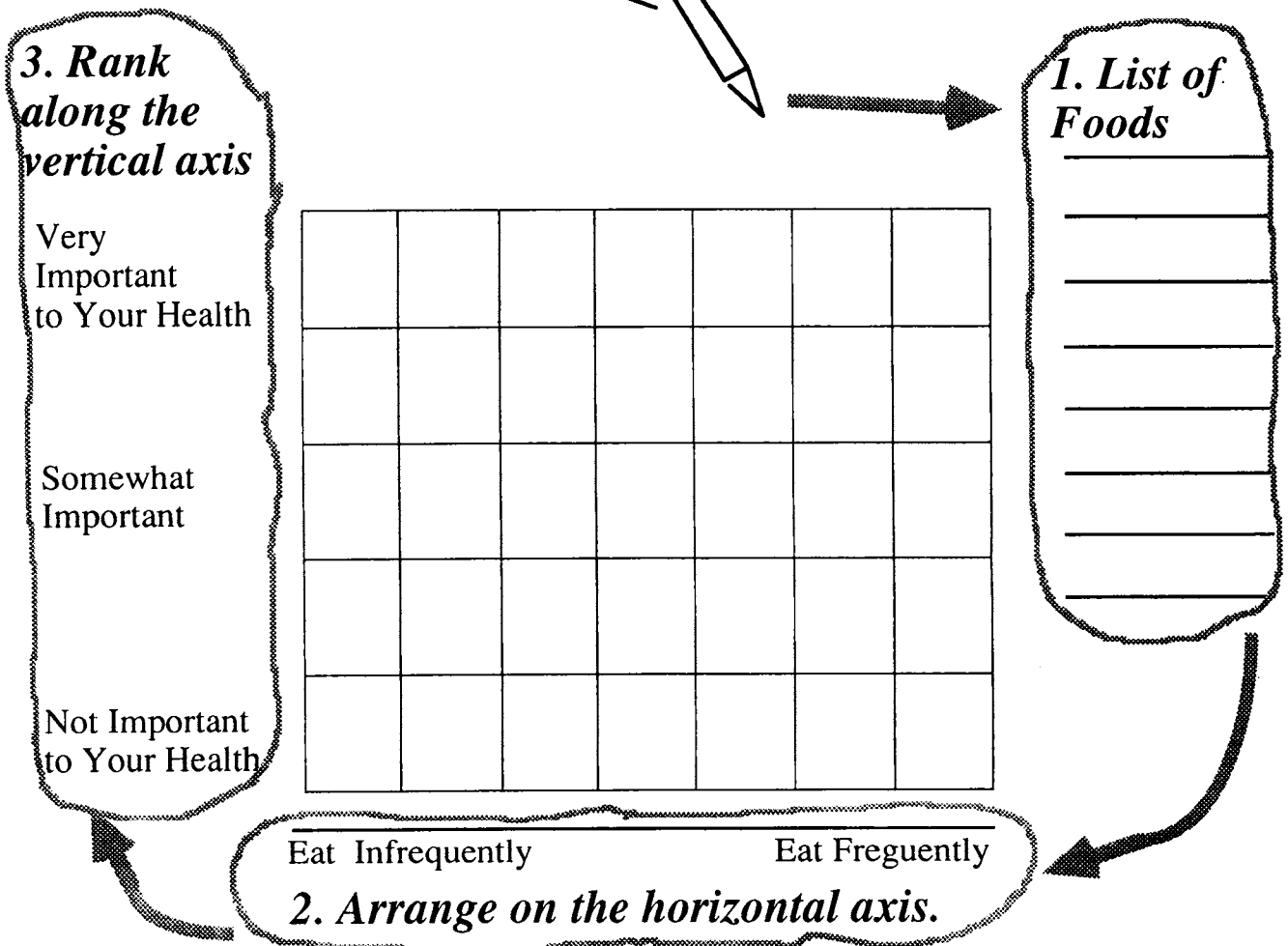
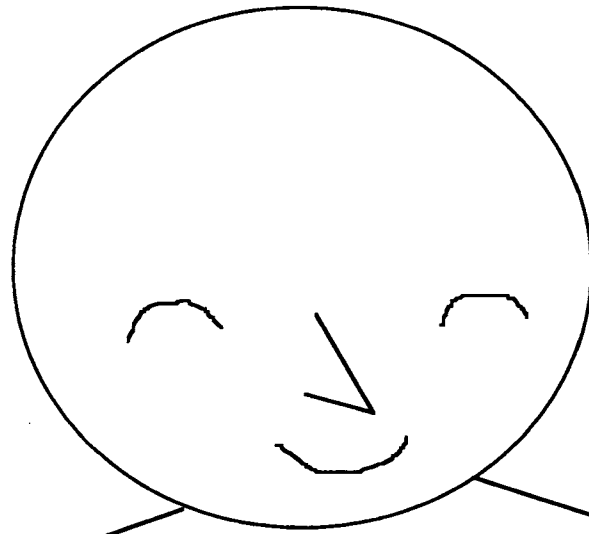
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# Phase 1

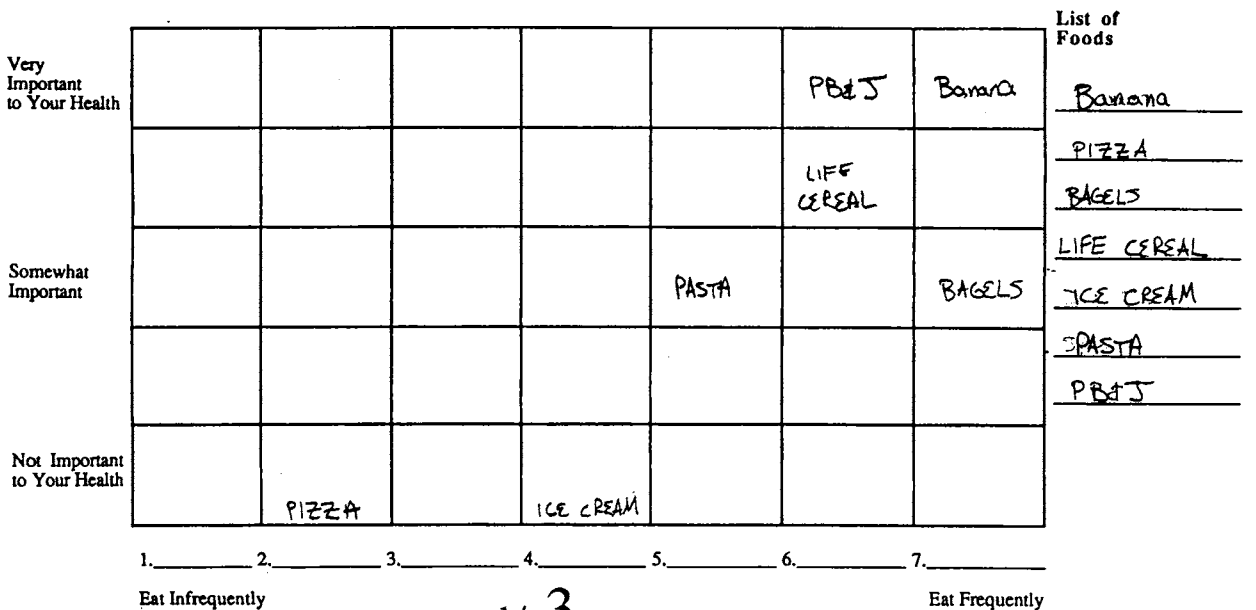
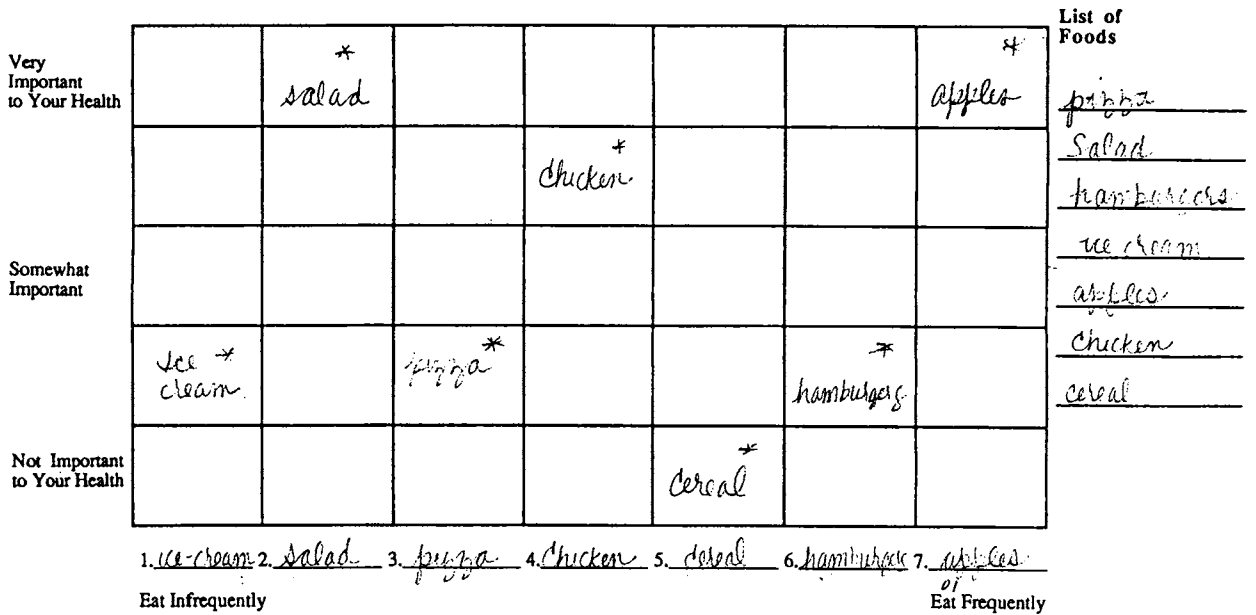
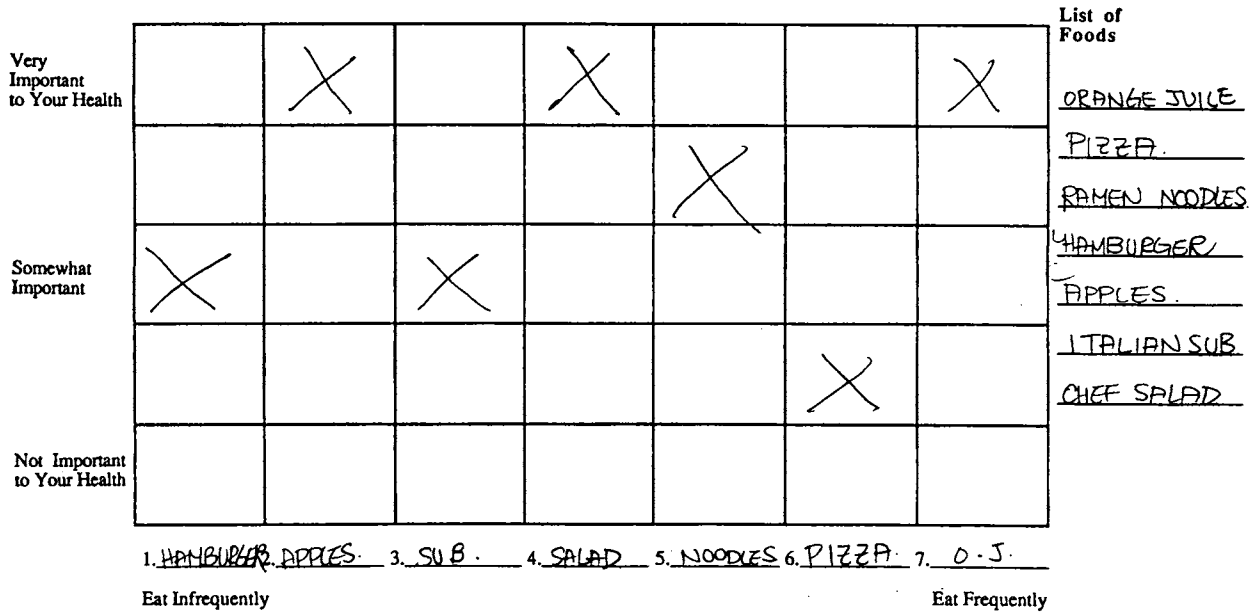
*American students' mapping of food images.*

Students of Illinois revealed and expressed their food images by two-dimensional mapping.

Oct 11, 1991



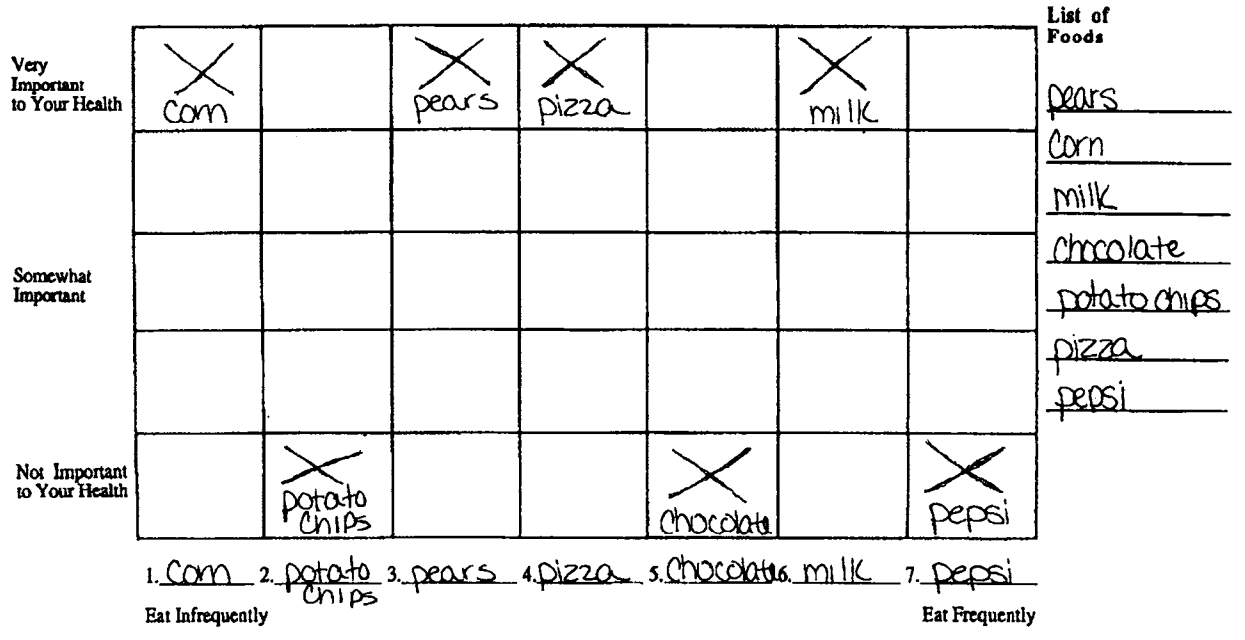
# Examples of Phase 1 Oct. 11, 1991



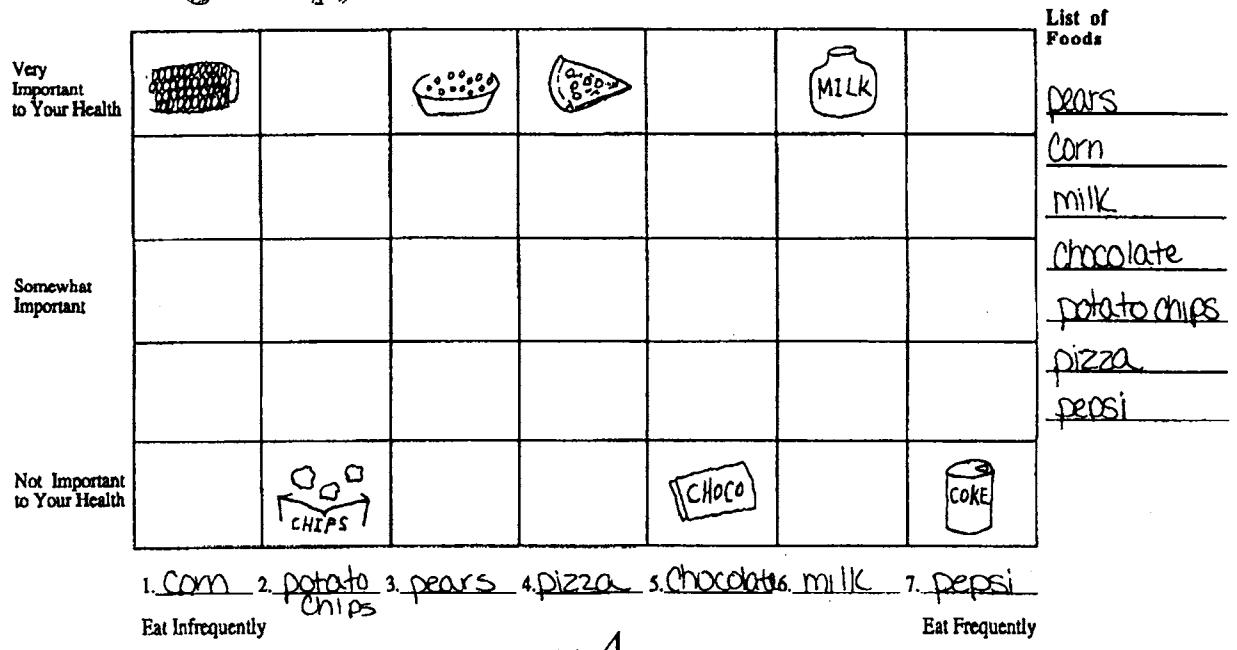
# Phase 2 *Conversion of verbal images into their visual equivalents.*

Some parts of verbal images are converted to visual equivalents to assist communication.

Food Image Map, verbal version



Food Image Map, visual version



# Examples of Phase 2

**A1**


List of Foods  
 Chicken (bata)  
 Milk (bata)  
 Water  
 Ground beef  
 Vegetables  
 Juice  
 fruit  
 016

ミルク 水 野菜 (bata) ソース (bata) 牛肉

**A6**


List of Foods  
 Milk  
 Orange juice  
 bread  
 Apples  
 string beans  
 corn  
 cereal  
 020

ミルク 豆 コーン

**A2**


List of Foods  
 sand  
 bread  
 fruit  
 milk  
 chicken  
 orange juice  
 cereal  
 078

りんご 果物 ミルク パン シリアル

**A7**


List of Foods  
 cereal  
 milk  
 Apples  
 pizza  
 salad  
 turkey  
 081

肉(チキ) ピザ

**A3**


List of Foods  
 Rice  
 Milk  
 Orange Juice  
 Bread  
 Salad  
 Captain Crunch  
 Cereals  
 077

ミルク サラダ シリアルライス

**A8**


List of Foods  
 hamburgers  
 fish  
 mineral water  
 chips  
 fruit  
 milk  
 milk  
 031

フルーツ 肉(チキ) チーズ パン

**A4**


List of Foods  
 chicken  
 pasta  
 vegetables  
 fruit  
 milk  
 juice  
 tuna  
 pasta  
 049

パン 野菜 ツナ

**A9**


List of Foods  
 vegetables  
 fruits  
 poultry  
 fish  
 milk (calcium)  
 proteins  
 bread  
 064

魚 フruit プロテイン

**A5**


List of Foods  
 Bananas  
 chicken  
 milk  
 Bread  
 spaghetti  
 rice  
 Pinckes  
 028

ライス パン 卵 チーズ

**A10**


List of Foods  
 Banana  
 PIZZA  
 BREAD  
 LIFE CEREAL  
 ICE CREAM  
 PASTA  
 PASTA  
 001

ピザ アイスクリーム



List of Foods

Chicken									
Whiskies/Cheese									
Eggs									
Fish									
Beef									
Bread									
Sausage									

012

A11

3-7-11

List of Foods

Milk									
Juice									
Eggs									
Milk									
Vegetables									
Fruit									
Cereal									

091

A16

3-7-11

List of Foods

Beef									
Vegetables									
Fruit									
Beef									
Vegetables									
Fruit									
Beef									

042

A12

3-7-11

List of Foods

Soda									
Milk									
Ice Cream									
Pop									
Meat									
Vegetables									

085

A17

3-7-11

List of Foods

Chocolate									
Cereal									
Milk									
Juice									
Pizza									
Fruit									
Meat									

035

A13

3-7-11

List of Foods

Meat									
Vegetables									
Pasta									
Ice Cream									
Pop									
Meat									
Soda									

037

A18

3-7-11

List of Foods

Meat									
Corn									
Milk									
Chocolate									
Pasta									
Pizza									
Pop									

019

A14

3-7-11

List of Foods

Meat									
Corn									
Milk									
Chocolate									
Pasta									
Pizza									
Pop									

002

A19

3-7-11

List of Foods

Meat									
Corn									
Milk									
Chocolate									
Pasta									
Pizza									
Pop									

029

A15

3-7-11

List of Foods

Meat									
Corn									
Milk									
Chocolate									
Pasta									
Pizza									
Pop									

045

A20

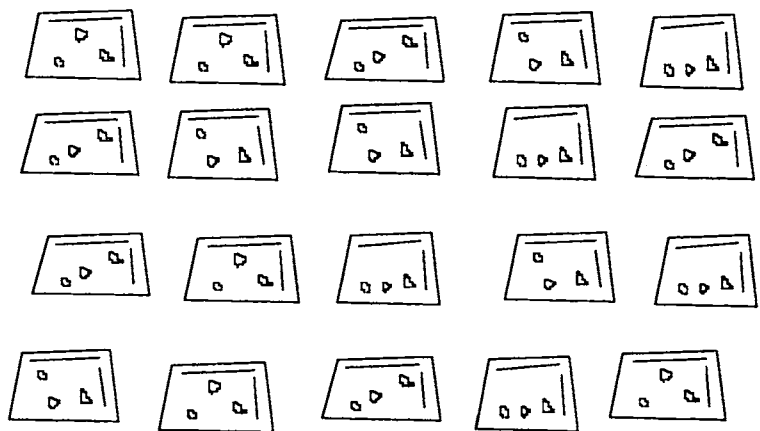
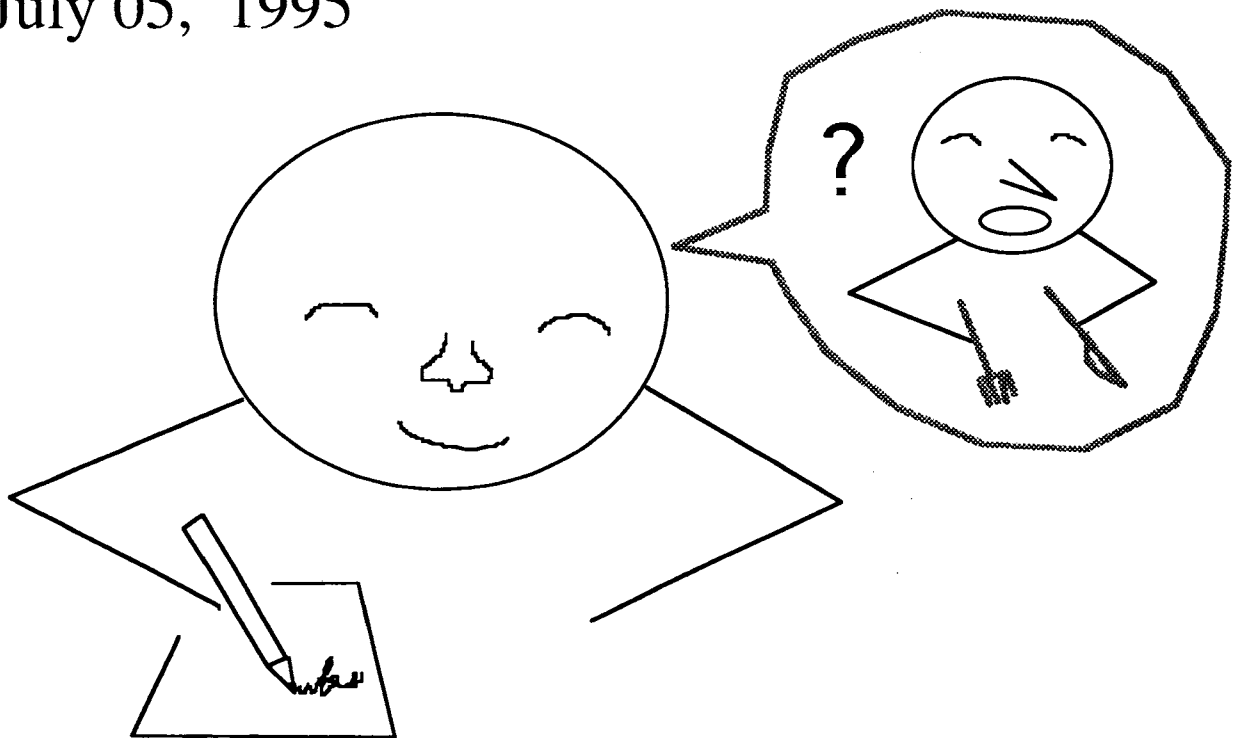
3-7-11

# Phase 3 *Japanese students' understanding of American students' images*

Intending to understand food images under different socio-cultural settings, students of Nagasaki scanned 20 food-image-maps (visual version) of Illinois students.

Then, students wrote down their findings.

July 05, 1995







# Series 2

The food image of Japanese students'.

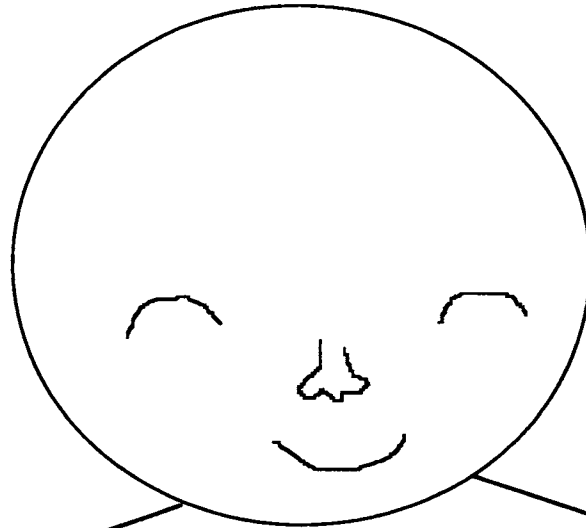
Recognition of self  
and  
recognition of others.

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# Phase 1

*Japanese students' mapping of food images.*

Students of Nagasaki, Japan revealed and expressed their food images by two-dimensional mapping.



July 05, 1995

縦軸方向への展開  
**3. Rank along the vertical axis**  
Very Important to Your Health  
Somewhat Important  
Not Important to Your Health


自分にとって大切な食べ物  
**1. List of Foods**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Eat Infrequently                      Eat Frequently  
横軸上でのキーワードの配列  
**2. Arrange on the horizontal axis.**

# Examples of Phase 1 July 05, 1995

提出 長大・医・3年次・健康認識学 95.07.05 食事と健康に関する認識の二次元マッピング 番号 51 氏名 柴田 淳子

健康に  
として  
とても大切  
C 2

大切でない  
C 1

					○		○
							○
	○		○	○			
		○					

A欄
牛乳
卵
野菜
海藻
魚
果物
豆腐

1. 魚 2. 海藻 3. 豆腐 4. 果物 5. 野菜 6. 卵 7. 牛乳 B欄

それほど重要でない  
B1

B2 最も良く食べる

提出 長大・医・3年次・健康認識学 95.07.05 食事と健康に関する認識の二次元マッピング 番号 52 氏名 清水 早希子

健康に  
として  
とても大切  
C 2

大切でない  
C 1

○	○	○	○	○	○	○	○

A欄
牛乳
豆腐(トウモロコシ)
肉・魚
米(穀物)
青物野菜 (小松菜、小松菜)
緑黄野菜 (カリフラワー、ブロッコリー)
果物

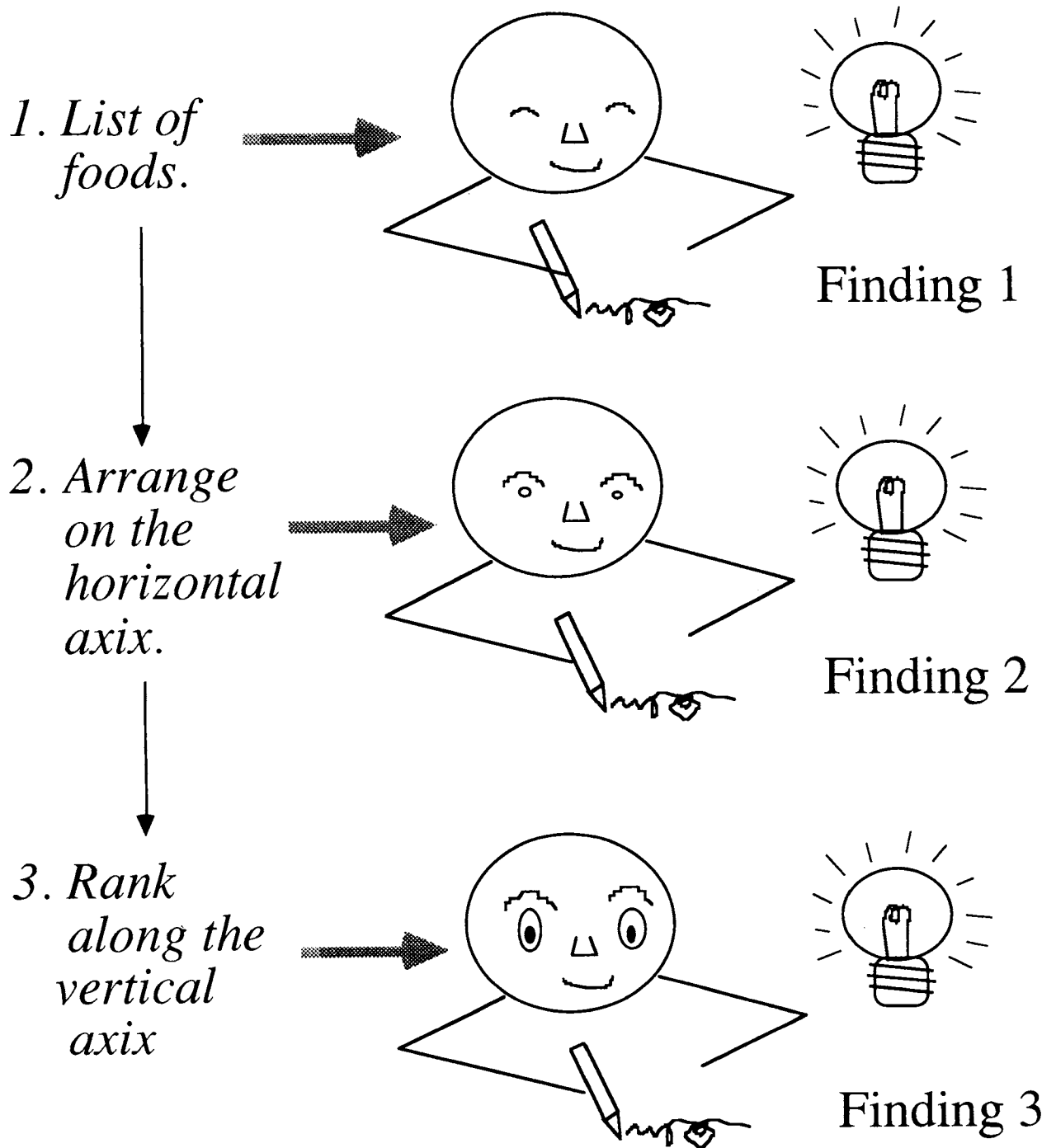
1. 緑黄野菜 2. 果物 3. 青物野菜 4. 豆腐 5. 肉・魚 6. 牛乳 7. 米 B欄

B1  
それほど重要でない

B2 最も良く食べる

# Phase 2 *Student's progressive focusing toward their self image of food*

Through step by step imaging, students focused toward their unique conception of foods and health. Students wrote down their findings and notices at each step.





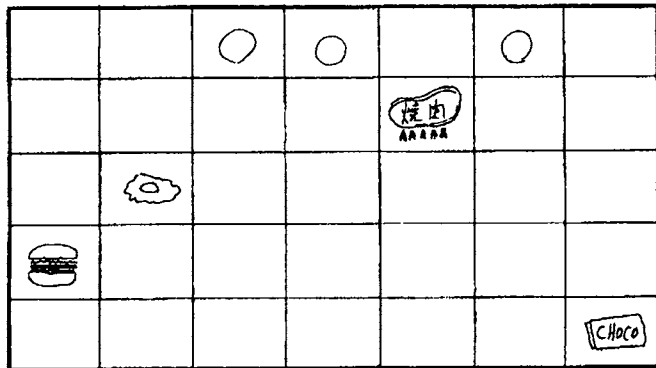
# Examples of phase 2

id Individual food image map of Japanese students



Each of Japanese student's comment to one's own map (English translation)

1



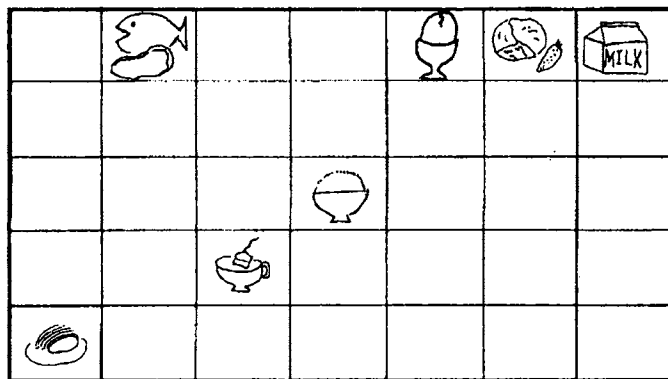
1. ハンバーガー 2. 卵焼き 3. 野菜炒め 4. 野菜カレー 5. 焼肉定食 6. 赤飯 7. チョコ  
burger / fried egg / fried vege. / vege. curry / baked meat / oden

F(finding)1; I eat much protein. I put much muscle on my body. I am a typical fat eater.

F(finding)2; My most favorite is chocolate. I eat chocolate at least once a day. Looks like a kid's meal.

F(finding)3; Vegetable is important for my help. Oden is important to keep my psychological fitness. (A master of the Oden restaurant is my friend)

2



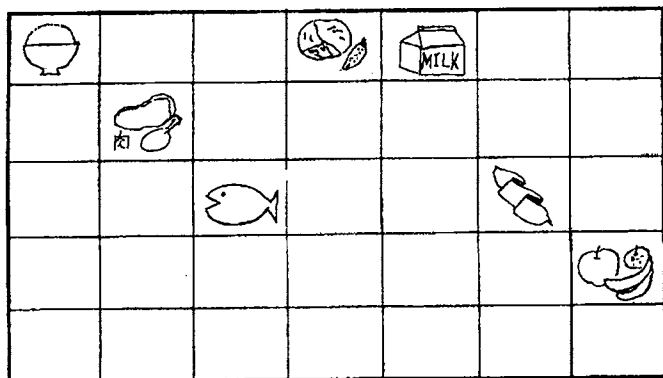
1. 漬物 2. 肉 3. 紅茶 4. 米 5. 卵 6. 野菜 7. 牛乳  
pickles / meat / fish / black tea / rice / egg / vegetable / milk

F1; I am taking enough nutrition necessary for a day. (I eat other foods in addition to the map)

F2; I used to prefer rice most of anything. However, I prefer low-fat milk more.

F3; The usual milk (3.5% of fat) is too heavy for me, and when I come home, I do not take milk. The lowest of my selection. The usual milk contains too much fat.

3



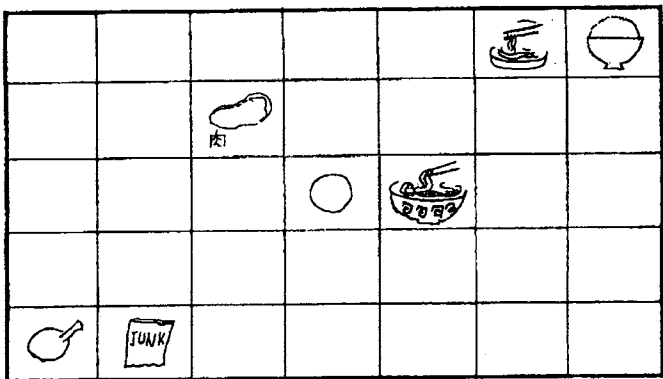
1. 米 2. 肉 3. 魚 4. 野菜 5. 牛乳 6. 海藻 7. 果物  
rice / meat / fish / vegetable / milk / sea weed / fruits

F1; I prefer to sit at the dining table on which these varieties of foods are there.

F2; As I used to cook by myself, I do not eat enough kinds of food.

F3; Considering the foods I usually eat in my daily life, there is no clear relationship between the frequency of consumption and its relationship to health.

4



1. フライドポテト 2. ジャンクフード 3. ステーキ(肉) 4. 和菓子 5. ラーメン 6. うどん 7. 御飯  
fries / junk food / steak / Japanese cake / ramen / udon, soba / rice

F1; I can survive at least about a month by these foods.

F2; The essential food for Japanese is rise.

F3; Considering my favorite food items, I am not so conscious about my health. It is dangerous.

id Individual food image map  
of Japanese students



Each of Japanese student's comment to  
one's own map (English translation)

5


魚、酒、卵、野菜、肉類、牛乳、米  
fish / alcohol / egg / vegetable / meat / milk / rice

F1; I would like to add ice-cream to these food items, but the mapping space was already occupied.

F2; If I have more money, I will drink beer instead of eating rice at dinner. At that situation, the label of fish and vegetable will take higher positions along Y axis.

F3; I take limited amounts of food items which is not important for health. My food selection might be healthy.

6


葡萄園、魚、緑の野菜、じゃがいも、果物、牛乳、米  
vineyard / fish / green vege. / potato / fruits / milk / rice

F1; I wish I could take as much as these food items with nice balance. I would like to do so without considering money.

F2; I am a lazy person, and I do not cook by myself. Usually, I eat daily fixed menu at some food shop. I would like to eat fish and something with vinegar taste.

F3; I am lazy, but I always prefer to be healthy. I refrain from eating items that are not good for my health.

7


肉類、ご飯、卵、野菜、肉類、果物、菓子類  
fish / rice, bread / egg / vegetable / meats / fruits / sweets

F1; I am concentrated on the three major food items, such as meat, vegetable and rice, and other tasty foods. Especially, meat and cake!

F2; As I already have noticed, my eating pattern is distorted. Herein Nagasaki, it is near the sea and agriculture is popular. I should eat much more fish and vegetable.

F3; This trial of mapping foods on the two dimensional frame is an interesting trial. It is good to visualize eating pattern. Anyway, my eating pattern is not healthy.

8


魚、豆腐、肉、米、パン、アイスcream、キャベツ、コーヒー  
fish / tofu / meat / rice, bread / ice-cream / cabbage / coffee

F1; I cannot live without ice-cream and coffee.

F2; I should eat more food items which are necessary for my health.

F3; Coffee is indispensable for my meal. But it is not necessary for my survival.

Individual food image map of Japanese students



Each of Japanese student's comment to one's own map (English translation)

id

9


1. 毎朝のランチ 2. 果物 3. 野菜 4. 味噌 5. 肉 6. 揚げ物 7. カレーライス 8. 牛乳  
daily lunch / curry / vegetable / mabo / tofu / fried rice / beef & rice / curry

F1; In these days, I do not cook by myself! I am surprised that I have not eaten vegetables enough.

F2; As a result of this mapping, my typical weekly eating pattern has appeared.

F3; I usually take these food items not because they are good for my health. I only select these because they are tasty.

10


牛乳 魚 肉 果物 野菜 米 パン  
milk / fish / meat / fruits / vegetables / rice / bread

F1; I eat much more bread than rice. My favorite is fast-food. Would my life span be rather short?

F2; I am willing to eat all kinds of vegetables, and I love them. However, I do not have enough chance to eat enough vegetables.

F3; I do not like milk and fish. I can eat meat to a certain extent. This eating pattern is not good. I expect something bad for my health.

11


果物 牛乳 野菜 牛肉 豚肉 鶏肉 米  
fruits / milk / vegetable / beef / pork / chicken / rice

F1; I practice swimming every day. I will eat meat as much as I can, and I would like to increase my muscle. I also would like to eat enough vegetables and be careful for my health.

F2; Actually, my meat consumption is not enough. The amount of vegetable is less enough.

F3; I would like to take all food items in a good balance.

12


トマト 鶏肉 バナナ にんじん 納豆 米 牛乳  
tomato / chicken / banana / carrots / natto / rice / milk

F1; I put food items which I consume most in my daily life.

F2; My limited financial status explains these food selection patterns. Because I bring rice from my parents' home.








F3; I think milk is the best, and I drink a lot of milk. My pattern of label distribution along the diagonal line probably indicates that the pattern is healthy.

id Individual food image map  
of Japanese students



Each of Japanese student's comment to  
one's own map (English translation)

13








味噌、魚、野菜、牛乳、カレー、肉、白米  
miso-soup / fish / vegetable / milk / curry / meats / rice

F1; I put a variety of food items which includes fish and miso-soup. Usually, I cannot eat miso-soup which is good for health. I eat easy-made curry.

F2; I think I eat rice best of all. Except my parents' home, I usually do not eat miso-soup.

F3; This mapping pattern shows that the more I eat, the less I think the importance of it to health.

14

果物、魚、肉、野菜、乳製品、米、穀物  
fruits / fish / meat / sweets / dairy / vegetables / grains

F1; I think the pattern reveals my actual situation. However, I have difficulty in ordering foods without hesitation.

F2; In considering the order of foods in N1, the balance of foods is not so distorted.

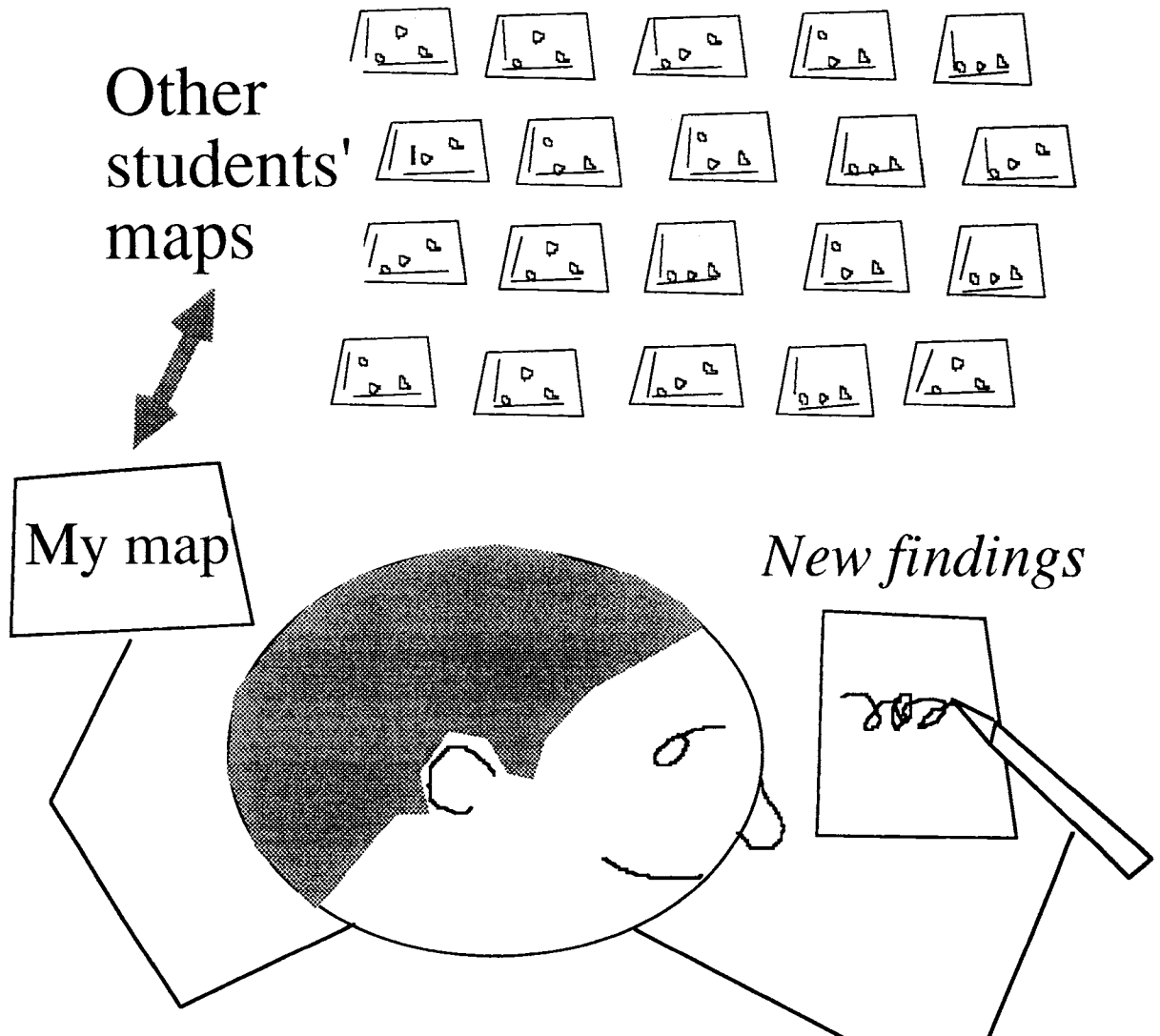
F3; I think it important. I am not eating enough fish and meat. The reason is that the fish is difficult to cook, and the meat is expensive.

# Phase 3 Further understanding of food related health image by recognizing others.

Students scanned and recognized other students' maps and comments in addition to their own.

This procedure guided students toward deeper understanding of food related health images, and motivated students to continue their further inquiry.

Then, students wrote down their new findings.



### Examples of phase 3

Students' handwritings are translated and typed in English.

Student's

No

Each of student's findings after experiencing others' responses

75

*Many people think the importance of fish and vegetables to their health. However, at the same time, these people do not want to eat them frequently. For example, the person of no.01, 03, and 08 named chocolate, fruit and coffee respectively as their most favorite food, although they understood the unhealthy effect of these foods. I felt sympathy to these people about the pattern. I was surprised that many people preferred milk and put high value of health. Preference of rice will be described by its feeling of fullness and other factors.*

88

*Some people eat chocolate and ice cream frequently. I think these eating patterns are not so good. These foods are only acceptable as the infrequent desserts. I agree for the person who prefers low fat milk. The calcium content of low fat milk is same as the usual milk, and its caloric content is low. When it necessary to cook by myself, I prepare restricted number of dishes. The most serious problem is the lack of vegetable. I wonder why so few people named Miso-soup as their favorite food, including myself.*

90

*After I scanned all of notes, I was impressed by the messy eating pattern in general. In the traditional meal situation, the family always exists. In the meal without family, it is difficult to consume Miso-soup and Tukemono (Japanese pickles). I felt that many of these notes were taken by females. It is interesting to concentrate on differences between males and females. Some male's meal may be totally a mess. I am also interested in the difference of meal contents between 'with' and 'without' family.*

101

*Some people concern much about their health. Some other people eat only their favorite foods and do not concern health. There are varieties of people. However, even the people with problematic eating pattern seem to understand correctly the different health-related values of each food item. Many people put high value for foods such as fish, meat, vegetables, and put low value for sweets. These people do understand but their behavior is not necessarily controlled by their understanding.*

110

*Considering the characteristics of Japanese foods, it is reasonable for rice to be placed high priority. The higher priority of meats than the fish seem to reflect that our society's trend of westernization have already reached at the stable phase. Many people named milk, and put high priority for it. From now on, I will also take much more milk.*

## Series 3

### Environmental problems in the world

(case-based observations of  
Japanese medical students' images)

### Recognition of self and recognition of others.

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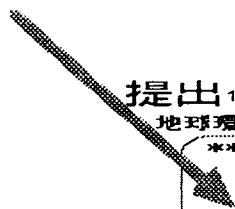
# Phase 1 (of series 3) Recognition of self

Students already know much about today's environmental problems, but how do they know?

Students were asked to externalize and express their understanding of environmental problems in the world by the use of this visual framework.

*How do you think about the varieties of environmental problems related to pollution of water, air and land, thinning of the ozone layer and so on?*

*Write down your understanding as a diagram in this box.*



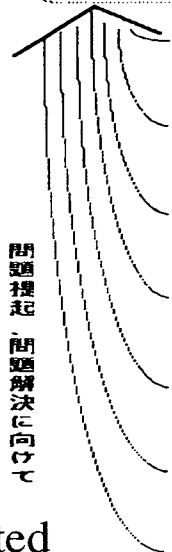
提出 1995.5.18. 番号 \_\_\_\_\_ 氏名 \_\_\_\_\_

長大・医・3年次  
健康認識字95

A 2-4

地球環境を考える

水質汚染、地球温暖化、オゾン層破壊、生物種減少、酸性雨、森林減少、-----



問題提起  
問題解決に向けて

Related  
problems

Eight horizontal rounded rectangular boxes for writing related problems.



# Examples of phase 1; filled format

地球環境を考える

●●汚染、地球温暖化、オゾン層破壊、生物種減少、酸性雨、熱帯林減少、.....

フロンガス使用 → オゾン層破壊

酸性雨 → 熱帯林減少 → 地球温暖化

森林の伐採 → 地球温暖化

排気ガスによる大気汚染 → 地球温暖化

サイレント・スプリング

人間が出す公害において、生物が死んでいくことを記した本の名

環境基本法

1993年公布。リオ宣言の影響を受けた、我が国初の地球環境についての法律

環境と開発に関する国連会議

国際社会が開発を行う過程で生じた環境問題に正しく対処するための戦略

リオデジャネイロ宣言

21世紀を目指す、人と国家にとっての行動規範

アジェンダ21

社会経済的要素に関するもの

開発の資源のための保全、管理

気候変動枠組条約

気候変動問題について、南北問題をふまえた上で対処するもの

生物多様性条約

1992年に制定された、地球上の生態系を守る(特に南北問題から)ための条約

地球環境を考える

●●汚染、地球温暖化、オゾン層破壊、生物種減少、酸性雨、熱帯林減少、.....

生物種減少、酸性雨、熱帯林減少、オゾン層破壊、地球温暖化

人工物 → 自然破壊 → 産業の発展 → 地球規模の環境破壊

自然破壊 → 地球規模の環境破壊

サイレント・スプリング

沈黙の春 アメリカの町で起きたことと地球環境問題を訴える

環境基本法

日本の地球環境問題に対する公害対策法

環境と開発に関する国連会議

地球サミット

リオデジャネイロ宣言

南米途上国から見る環境

アジェンダ21

環境問題に対する提言

気候変動枠組条約

地球の温暖化に対する具体的な国際的条約

生物多様性条約

野生生物の保護に関する包括的で根本的国際規約

地球環境を考える

●●汚染、地球温暖化、オゾン層破壊、生物種減少、酸性雨、熱帯林減少、.....

オゾン層破壊 ← 環境汚染 → 酸性雨 → 熱帯林減少

熱帯林減少 → 地球温暖化 → 生物種減少

地球温暖化 → 生物種減少

サイレント・スプリング

最初の地球環境問題への警告

環境基本法

地域的環境問題から地球環境問題へlevel upした環境対策

環境と開発に関する国連会議

国際社会が開発を行う過程で生じた環境問題に正しく対処する方策を協議した

リオデジャネイロ宣言

環境保全は持続可能な開発のprocessである

アジェンダ21

環境悪化要因の削減と管理

気候変動枠組条約

大気中の温室効果ガスを気候大気汚染の影響を及ぼすように一定水準に削減せよ

生物多様性条約

野生生物の保護をするための地球環境問題は生態系を維持・回復させること

地球環境を考える

●●汚染、地球温暖化、オゾン層破壊、生物種減少、酸性雨、熱帯林減少、.....

文明の発展 → 汚染 → 酸性雨

文明の発展 → 熱帯林減少 → 生物種減少 (オゾン層破壊による)

文明の発展 → オゾン層破壊 → 地球温暖化

文明の発展 → オゾン層破壊 → 紫外線増加

サイレント・スプリング

Rachel Carson 作。アメリカのある町で起きたことと地球環境問題を訴える

環境基本法

日本の国と地球環境に取組むという法律

前身として「公害対策基本法」がある

環境と開発に関する国連会議

国際社会が開発を行う過程で生じた環境問題に正しく対処する方策あるいは方策についての協議

リオデジャネイロ宣言

前文の原則。上述の国連会議の理念である「環境保全を持続可能な開発を促進し、一方が国家資源上の開発指図の並進を妨げないことを旨とする」

アジェンダ21

貿易と環境、国際経済、貧困問題、人口問題、人口居住問題、意思決定における環境と開発の統合

気候変動枠組条約

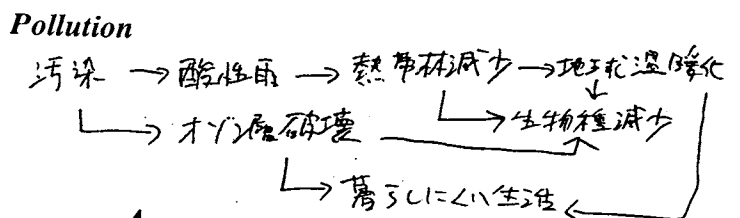
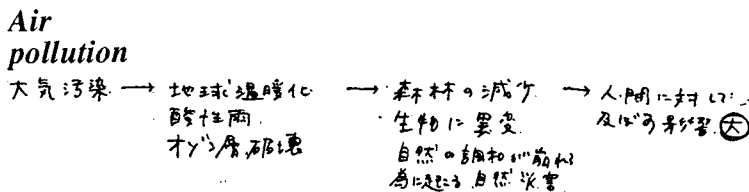
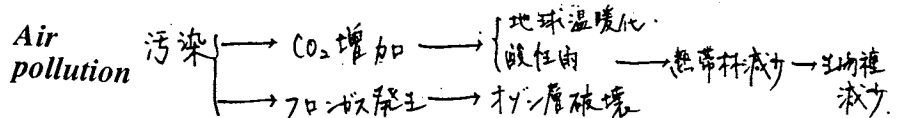
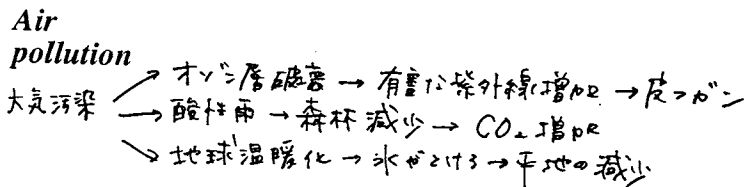
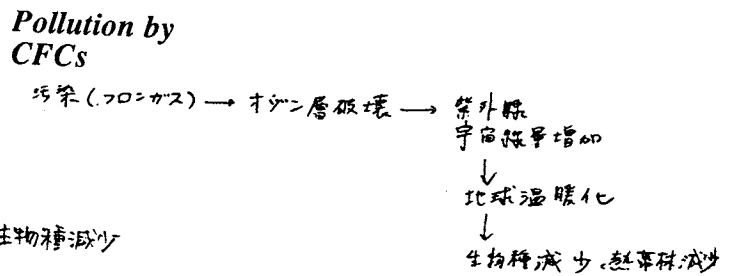
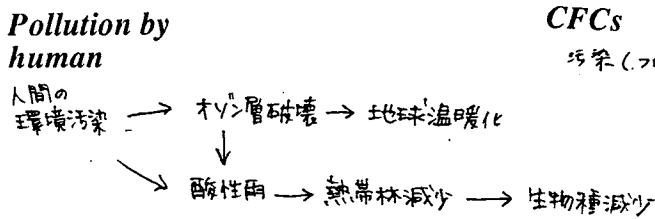
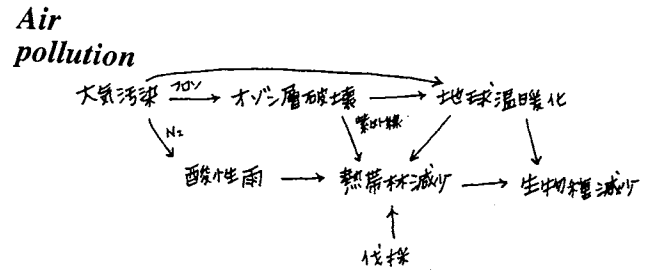
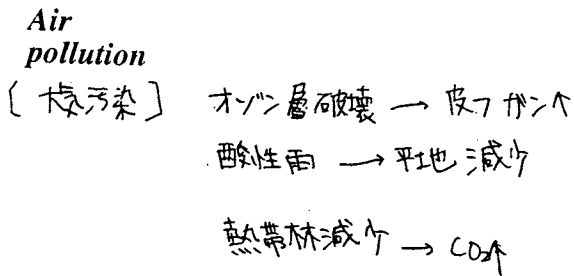
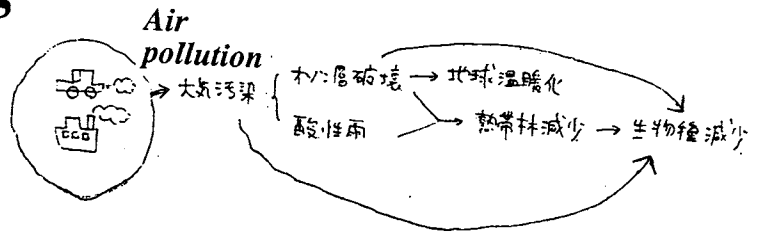
気候変動対策に99の国の協力と参加の必要性

生物多様性条約

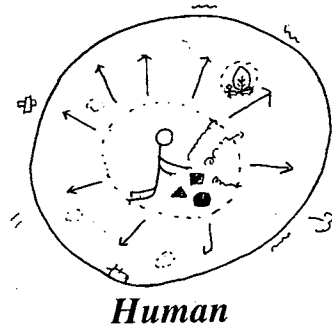
野生生物の保護に関する包括的で根本的国際規約

Examples of phase 1; Students' conceptual models are classified into groups.

# 1. Models starting from air pollution

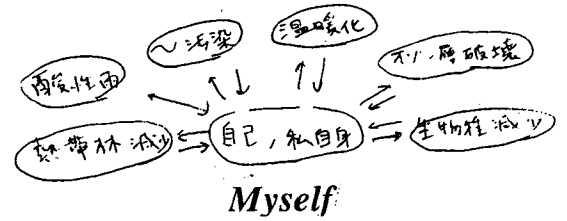


# 2-1. Models starting from human factor



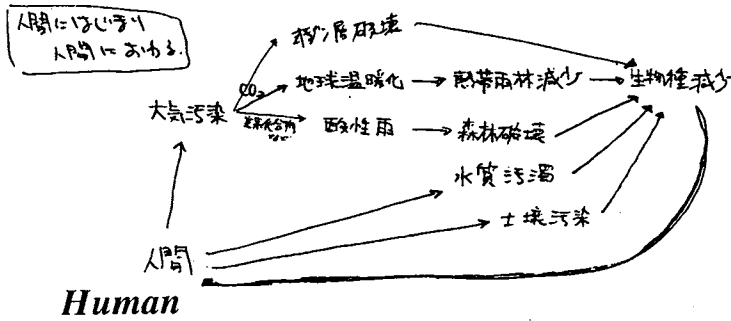
人間は地球環境の中にいるが、おりにて大気汚染や、社会秩序の中で目か(に)おしては、自分のいるこの環境への影響がわかる。

Human

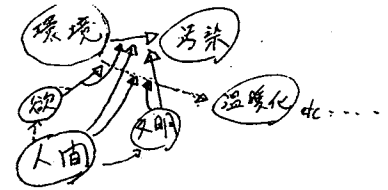


Myself

自分の環境に個人が責任があり、環境は個人に影響する。

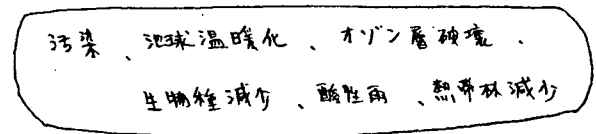
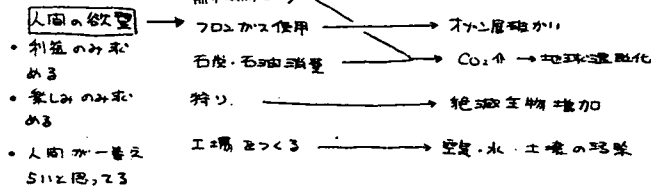


Human



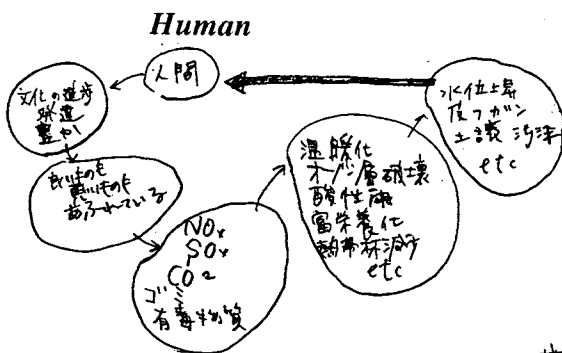
Human

## Human desire

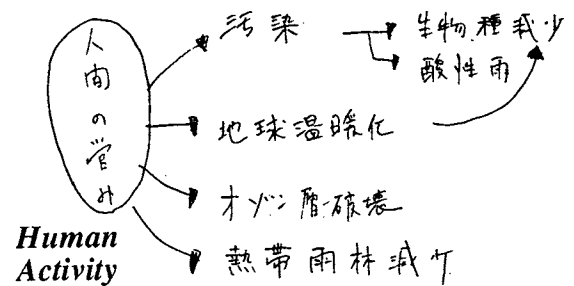


全ての環境問題は人間由来!

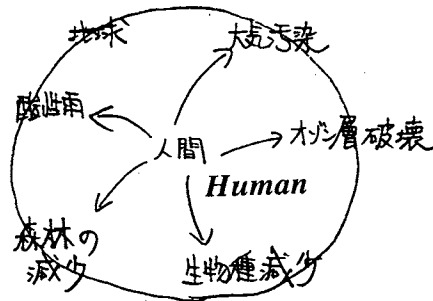
Human/ Human/ Human



Human

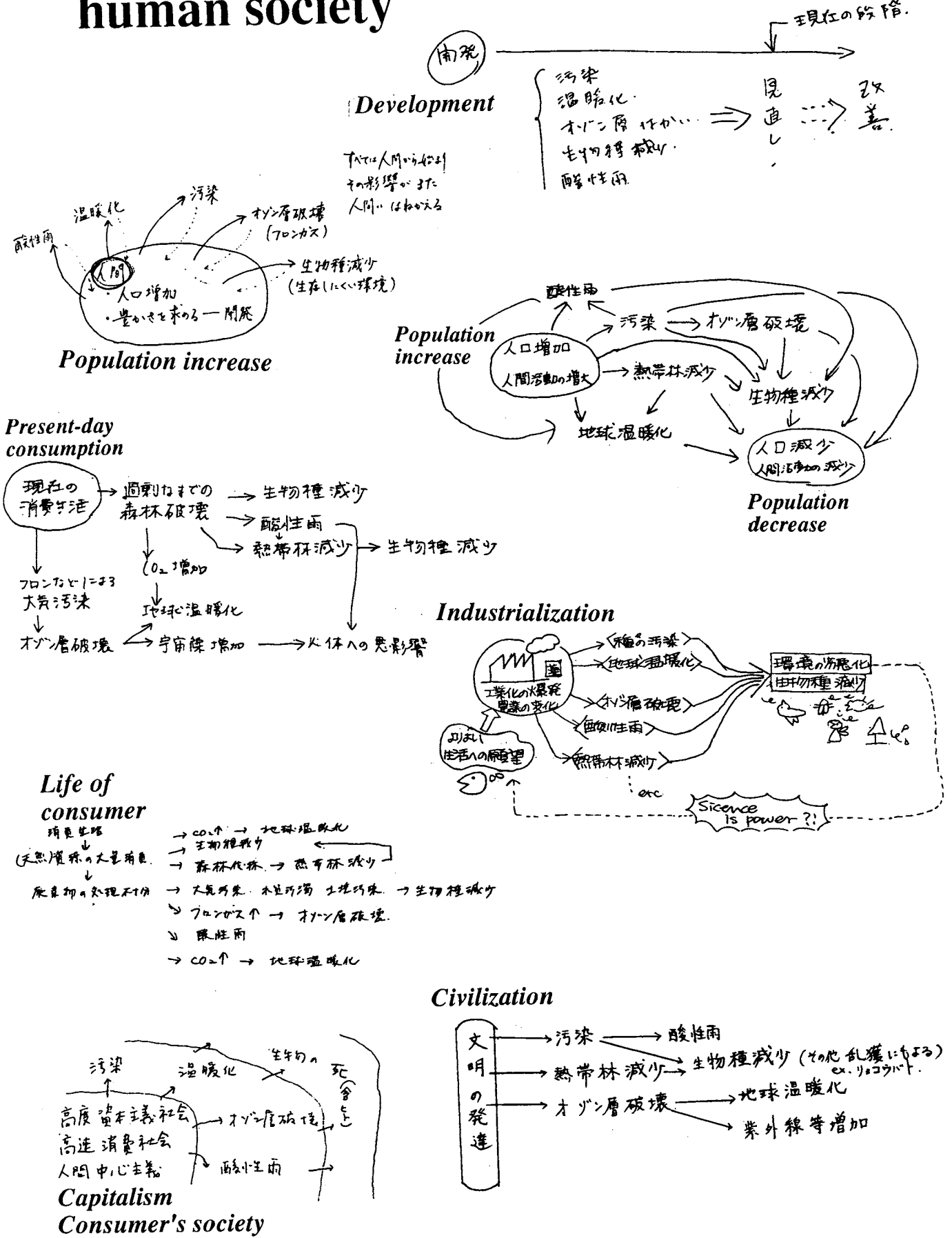


Human Activity



人間が原因で環境が乱れ起きているが、人間はその乱れを気づいていない、もしくは気づいていてもやめない。

# 2-2. Models starting from human society





## Phase 2 Recognition of others.

Students scanned and recognized other students' responses in addition to their own.

This procedure guided students toward deeper understanding of the issue.

Then, students wrote down their new findings.

*Take your handout and scan other students' responses in addition to yours.*

*Write down any of your comments and findings regarding the issue.*

地球環境問題理解のモデル

環境汚染、大気汚染から、様々な害をたらすということも皆は感じているようだ。また、その汚染にも、公害などの原因をもつ。

汚染により、熱帯林減少などの問題が生じると、生物種減少となるとともに、オゾン層破壊にもつながる。そのオゾン層破壊も汚染から生じているという悪循環が生じている。

地球環境問題理解のモデル

大気汚染と、環境破壊の first stage にもってくる人が多い。自分もそうであった。

生物、特に人間が生きるのに必要なのは、空気、水。

これらを汚染してしまえば、人間としての生命体を根本からこわしていくことになる。

## Examples of phase 2

Students' handwritings are translated and typed in English.

Student's

No

Each of student's findings after experiencing others' responses

03

*Many people put 'air pollution' at the first stage of the relationship model describing the world wide environment. I also put air pollution first.*

*Living creatures, especially human being, need air and water as essential elements. The pollution of air and water will destroy human being as the creature to its roots.*

06

*Every one seem to anticipate that environmental pollution, especially air pollution bring various kinds of harmful effects. The pollution is resulted from public activity. Because of the pollution, tropical forests decline and results the decrease of number of species. The situation also results the thinning of ozone layer. That thinning of ozone layer is resulted from pollution and it finally results the vicious cycle.*

08

*As I examined the other peoples' models, I began to realize that the depth of my thinking is rather shallow. However, I felt something common regarding the root of understanding among my class mates.*

10

*Some models start from air pollution. Other models start from the human being and/or human society. Despite these differences, the causal chains result similar effects at the end. This might mean that within our living world, all factors are interrelated in some aspects, and they retain the overall environment of this planet.*

*The relationship also fluctuate and that fluctuation results the overall changes.*

12

*Last week, when I constituted my model, I put human and social factor at the root of environmental problems. However, I did not noticed the final feedback effect of the environmental problems which will relate to the deterioration of our planet. The final feedback will be fallen upon human and its civilization.*

## Series 4

### Environment at the personal level

(case-based observations of  
Japanese medical students' images)

Recognition of self  
and  
recognition of others.

	Page
Phase 1; Recognition of self; about environmental perception at the personal level.....	s4/2
Examples of phase 1; filled format .....	s4/3
Examples of phase 1; factors listed by each student.....	s4/4



# Phase 1 (of series 4) Recognition of self

Students already conceive their environment by their own view points, but how?

Students were asked to externalize and express their unique understanding of environment on the personal basis by the use of this visual framework.

1. Express your visual image of total environment.
2. Write down your image of environment.
3. Express your image of your personal environment by using the following visual framework.

提出 1995.4.19. 番号 \_\_\_\_\_ 氏名 \_\_\_\_\_ 長大・医・3年次  
健康認識学95 A 2-1

環境について持っているイメージ、その1

ビジュアルなイメージ

1

文章によるイメージ

2

環境について持っているイメージ、その2

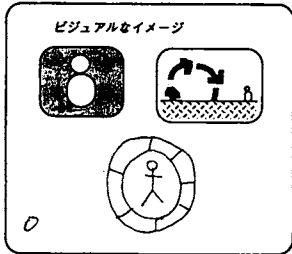
3

# Examples of phase 1; filled format

提出 1995.4.19. 番号 75 氏名 高畑 友一 長大・医・3年次 健康保健学95 A 2-1

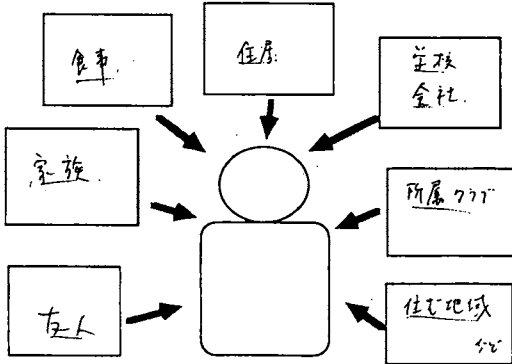
環境について持っているイメージ、その1

突然に環境と置かれても具体的なイメージが湧きにくい。顔脚、人体、顔脚などのイメージと比較しても捉えにくい。どのようにして、環境という考え方を生き生きとした具体的なものにできるだろうか？



文章によるイメージ  
 金銭、住居、友人、学校、会社  
 所属???, 住む地域???.  
 =木にあり個人に及ぶ  
 変化が起るから。  
 木に付着するもへとして  
 道徳があると思ふ。  
 ...と捉えがす。

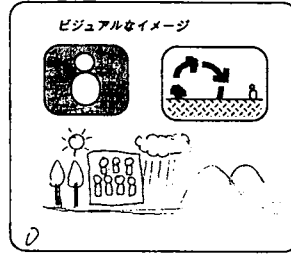
環境について持っているイメージ、その2



提出 1995.4.19. 番号 70 氏名 千々巻 郁子 長大・医・3年次 健康保健学95 A 2-1

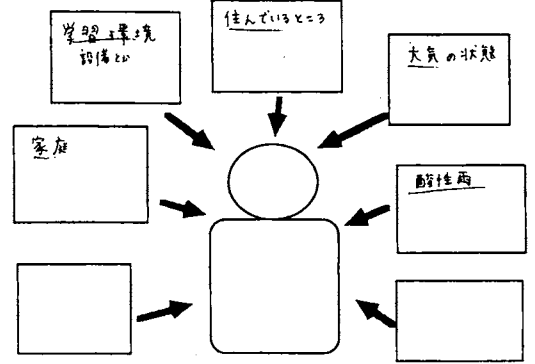
環境について持っているイメージ、その1

突然に環境と置かれても具体的なイメージが湧きにくい。顔脚、人体、顔脚などのイメージと比較しても捉えにくい。どのようにして、環境という考え方を生き生きとした具体的なものにできるだろうか？



文章によるイメージ  
 自分の周りに、同じ年代  
 の学生がいて、学校、あちこ  
 に木があって、近くに山があ  
 る...というよりは、自分の周囲  
 のことを環境だにイメージが  
 わかりやすい捉えがす。

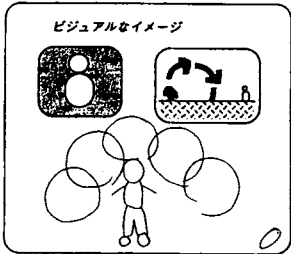
環境について持っているイメージ、その2



提出 1995.4.19. 番号 74 氏名 中島 明子 長大・医・3年次 健康保健学95 A 2-1

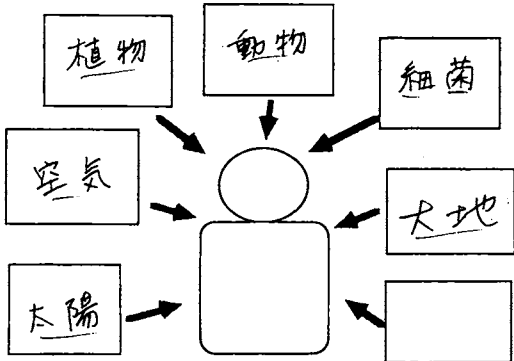
環境について持っているイメージ、その1

突然に環境と置かれても具体的なイメージが湧きにくい。顔脚、人体、顔脚などのイメージと比較しても捉えにくい。どのようにして、環境という考え方を生き生きとした具体的なものにできるだろうか？



文章によるイメージ  
 私たちをとりまく私  
 たち自身も念及するもの。  
 相互に影響しあっている。  
 ...と捉えがす。

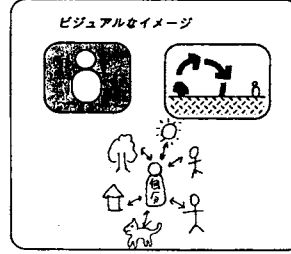
環境について持っているイメージ、その2



提出 1995.4.19. 番号 70 氏名 山崎 明彦 長大・医・3年次 健康保健学95 A 2-1

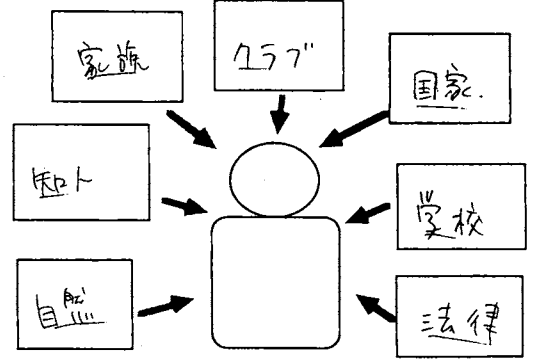
環境について持っているイメージ、その1

突然に環境と置かれても具体的なイメージが湧きにくい。顔脚、人体、顔脚などのイメージと比較しても捉えにくい。どのようにして、環境という考え方を生き生きとした具体的なものにできるだろうか？



文章によるイメージ  
 人間の健康と  
 人格は左右する  
 ような自分の周囲  
 の状態  
 ...と捉えがす。

環境について持っているイメージ、その2



Examples of phase 1; Students' handwritings are translated and typed in English.

April 19, 1995

Student No.



Envornmmntal image as a whole

*Major factors which constitute the personal environment*

Fact.1      Fact.2      Fact.3      Fact.4      Fact.5      Fact.6      Fact.7

01	All of the space and the world except myself. It includes human beings, animals, plants and substances.	Human relationship	Substance in the air	Characteristics of substance	Sound, wave	Temperature		
02	I am used to think environment from my personal aspect rather than the big (global) aspect.	Other human	Housing	Food	Water	Air	Social status	Money
03	Human beings, other creatures, and surrounding things that are harmful, non-harmful, beneficial, non-beneficial and every thing.	The thing that occupies much space	The thing that can be seen	The thing deep in my mind	The thing that smells	The thing that can be touched		
04	The world surrounding the person. Human relationship to many people. Relationship with the intimates. I want these aspects nice.	Non-experienced	Experienced	Friend	Lover	Family	Teacher	Community people
05	All materials and its characteristics surrounding myself. Economical and social position. Relationship with others, materialistic, social, economical and spiritual.	Dwelling, area	Economical status	Nature (sky, land, sea)	Other people and family	Social status, obligation, job	Eating and drinking food	Politics

s4/4

April 19, 1995

Student No.

*Major factors which constitute the personal environment*



Envornmmntal image as a whole

Fact.1      Fact.2      Fact.3      Fact.4      Fact.5      Fact.6      Fact.7

06	Name of various spaces in which human live. For example, school, house, traffic condition, and other large factors, such as temperature, humidity, nations, nature.	Leisure	Job	Family	Climate	Living time, schedule	food and diet	schooling
07	Situations surrounding my self which influence human health and character.	Nature	Friends	Family	Club	Nation	School	Law
08	Situations surrounding myself. It influences health status indirectly and directly	Other people	The thing and effect from others	Artificial thing	Something in the space (air, radiation)	Something that I emit	Something that I take and consume	
09	Natural conditions (air, water) of my living. Sanitary and social conditions (various districts of residential, commercial and industrial)	Reliable government	Accessible culture	Fit to living calmly	Abundance of green. Blue sky.	Tasty water and air.	Available job.	Organized educational system
10	Air comes first. Following water, house, climate and human beings. I am locating at the center of circles with different diameter. I imagine from the center and ends at the periphery.	Water, food, air (necessary to maintain life)	Clothes, house	Family, friend (relationship)	School, job site	Nation, area (air of the living society)	Physical condition of myself	

s4/5

## Series 5

### Risk factors related to chronic disease

(case-based observations of  
Japanese medical students' image)

### Recognition of self and recognition of others.

	Page
Phase 1; Recognition of self; risk factors related to chronic disease .....	s5/2
Examples of phase 1; filled format .....	s5/3
Examples of phase 1; factors listed by each student.....	s5/4
Phase 2; Recognition of others; risk factors related to chronic disease .....	s5/6
Examples of phase 2; .....	s5/7

# Phase 1 (of series 5) Recognition of self

Students have already formed their own view toward risk factors related to chronic disease, but how?

Students were asked to externalize and express their unique view of risk factors by the use of this visual framework.

- 1. Imagine an outbreak of a certain possible chronic disease in the future, and write it.*
- 2. Imagine at least seven risk factors related to your everyday life.*

提出

1995.6.07.

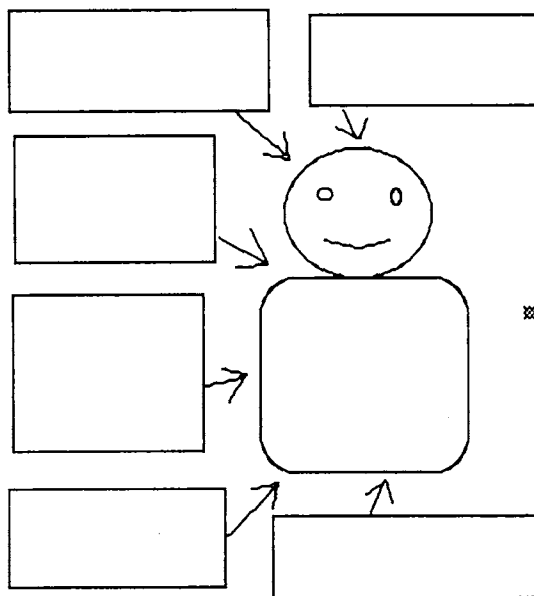
番号

氏名

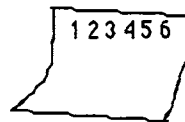
長大・医・3年次  
他履認識学

A 4-2

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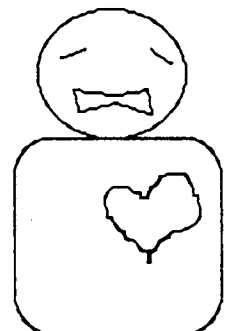


Possible  
lapse of  
time

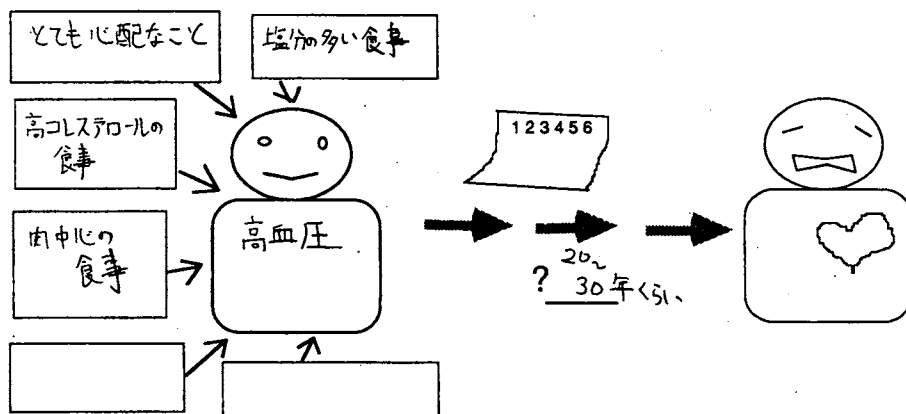
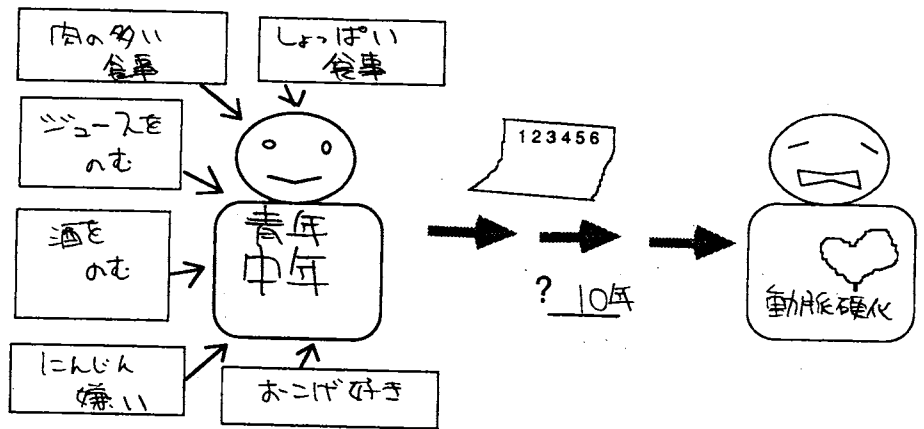
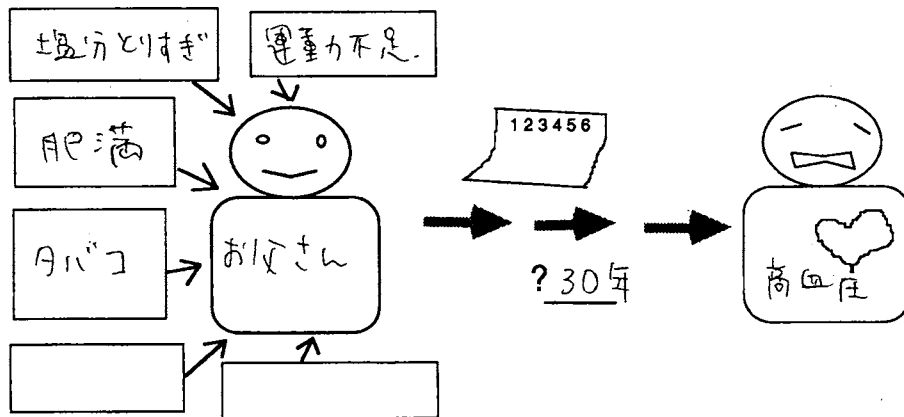
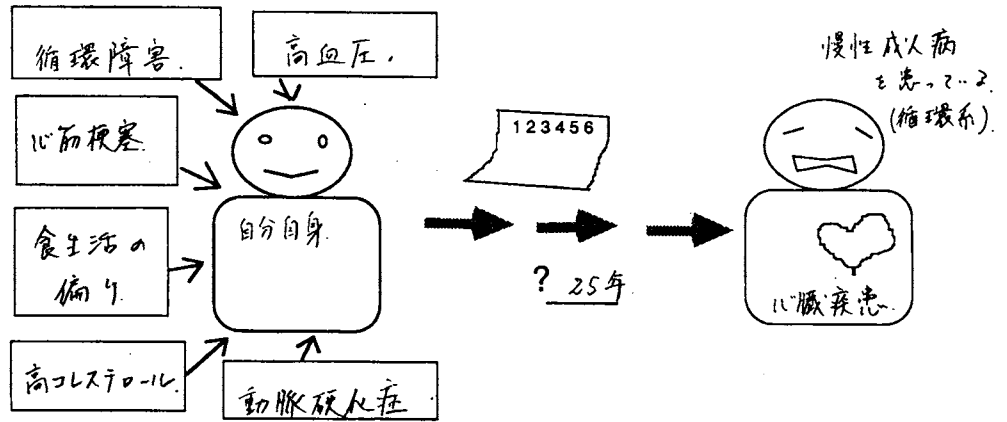


?

Chronic  
disease in  
the future



# Examples of phase 1; filled format



Examples of phase 1; Students' handwritings are translated and typed in English.

<u>Student No.</u>	<u>Risk factors related to the outcome of the chronic disease</u>						<u>Expected Chronic Disease</u>	
↓	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>	<u>Factor 4</u>	<u>Factor 5</u>	<u>Factor 6</u>		
01	Excessive working since young adulthood	Progress of job	Relationship with family	Fulfillment of the private life	Dietary factor	Level of exercise to reduce stress	→	Stomach Ulcer
02	Lack of exercise	Biased diet	Accumulation of chronic stress	Inherited factor	Non-sufficient self-recognition		→	Hypertension
03	Excessive intake of salt	Accumulation of stress	Too busy for work. Luck of rest.	Shortness of sleep	Insufficient exercise		→	Circulatory disease
04	Biased diet	Insufficient exercise	Psychological stress (something	Too busy Too tired	Lack of sleep	Loss of regularity of every day life	→	Heart disease
05	Stress	Preference of burned food	Excessive smoking, more than 10	Respirate powders at the work site	chronic fatigue	discordance within the family	→	Lung cancer
09	Excessive intake of cholesterol	Drinking too much of alcohol	Insufficient exercise	Hereditary factor	Excessive intake of salt	Over weight	→	hypertension

55/4



**Student  
No.**

**Risk factors related to the outcome of the chronic disease**

**Expected  
Chronic  
Disease**



**Factor 1**

**Factor 2**

**Factor 3**

**Factor 4**

**Factor 5**

**Factor 6**

10

Too much work

Too much activity during night time

Irregular daily life

Irregular diet

Over reliance to commercialized food

Lack of exercise



Hypertension

11

Salty food

Excessive intake of meat

Drinking too much juice

Drinking too much alcohol

Dislike of carrot

Preference of burned food



Atherosclerosis

12

Too much sweets

Too much intake of fat

Too much intake of Alcohol

Too much amount of food

Do not exercise

Easy to accumulate stress



Chronic disease general

14

Everlasting stress

Dietary consumption of high fat

Chronic lack of sleep

Fatness caused by lack of exercise

Loss of strength accompanying aging

Familial trend of high blood pressure



Hypertension

19

Eat as much food as young students

Decreased opportunity of exercise

Too much consumption of fat

Too much alcohol

Stress from work



Chronic disease general

21

Air pollution

Smoking

Absorbing expelled gas of automobile

Work experience in the factory

Experience of coal mining



Lung cancer

55/  
5

# Phase 2 Recognition of others.

Students scanned and recognized other students' responses in addition to their own.

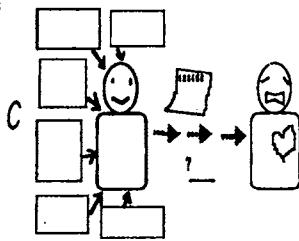
This procedure guided students toward deeper understanding of the issue.

Then, students wrote down their new findings.

*Take your handout and scan other students' responses in addition to yours.*

*Write down any of your comments and findings regarding the issue.*

成人病の罹患に関連した、長いときの経過が結果に結びつく要因



これは、HIV、不体同じだと思った。食生活、タバコ、ストレスなどの病気にも通じるものなのだろう。

A, B, Cを比較して、

Aについての。精神的なもの間接的のものが多いのに対し、  
B, Cについての。これこれの病気にに対し具体的直接的  
なことを述べている人が多いと思った。

Aは、B, Cについても関連しているはずなのに、どうして、  
Aに書いてある要因の、B, Cのとき、書かれないのだろうと、  
疑問に思った。

いー問題提起です。h.

## Examples of phase 2

Students' handwritings are translated and typed in English.

Student's

No

Each of student's findings after experiencing others' responses

10

*We are students and we are young, and we have not yet attained a possible situation to have various chronic disease for the aged people. Therefore, our information regarding the issue is limited. This is the reason why the view-points of my note and other people's notes only reflects ideal status. I hope this ideal status continues through the next thirty years.*

47

*The cause of the adult chronic disease is an outcome of lifestyle during longtime. As the effect of factors are cumulative, it will not respond easily to the therapeutic activity. As I have scanned other peoples' notes, I was surprised that many other peoples notices will also be applied to myself, such as biased food, stress and irregular lifestyle.*

75

*Basic lifestyle and likes and/or dislikes are reflected toward the notes of myself and other people. Our common views are summarized as the following; if we live under the somewhat distorted life style, and if we repeat somewhat risky life which will result the acute illnesses, we will be resulted to have some chronic disease in the future.*

94

*Most of our classmates indicate 'stress' as a cause of chronic disease. Today's world is full of stress.*

*Most of our notes reflect our present life style as college students; such as 'excessive drinking', 'excessive amusements', and 'distorted food consumption' (which is the result of single life).*

78

*From these outcomes, I can conclude that no single factor will directly results the chronic disease. The critical condition seems to be the repetition of a factor (or factors), and as the result of this repetition, the disease will finally appear. Therefore, if the person becomes to notice about this factor, most of chronic disease are preventable.*

## Series 6

### Behaviors toward common cold & fever

(case-based observations of  
Japanese medical students' image)

### Recognition of self and recognition of others.

	Page
Phase 1; Recognition of self; behaviors toward common cold and fever .....	s6/2
Examples of phase 1; filled format .....	s6/3
Examples of phase 1; students' conceptual models of behavior sequence .....	s6/4
Phase 2; Recognition of others; behaviors toward common cold and fever .....	s6/9
Examples of phase 2; .....	s6/10

# Phase 1 (of series 6) Recognition of self

Students have already formed their unique coping behaviors toward minor illnesses such as common cold, but how?

Students were asked to externalize and express their unique coping behaviors toward common cold by the use of this visual framework.

1. Name at least seven individual behaviors you probably take when you catch cold and have fever.
2. Make a diagram of your behavior by interconnecting individual behaviors.
3. Explain the major characteristics of your diagram.

提出 1995.6.14. 番号 \_\_\_\_\_ 氏名 \_\_\_\_\_ 長大・医・3年次 健康認識学95 B 3-1

演習テーマ：個人の思考と行動の連鎖に関するコンセプト・マッピング  
(風邪を引いて熱が出たときの対処行動)

1. 自分が取る行動の種類は？

1

2. 行動の連鎖図を描く

2

3. 自分の連鎖図を読む

3

# Examples of phase 1; filled format

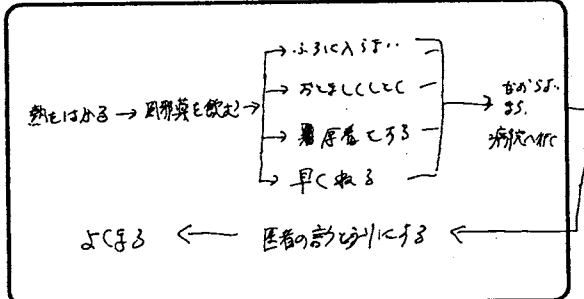
提出 1995.6.14. 番号 4 氏名 西木政人 長大・医・3年次 健康科学95 B3-1

演習テーマ；個人の思考と行動の連鎖に関するコンセプト・マッピング  
(風邪を引いて熱が出たときの対処行動)

1. 自分が取る行動の種類は？

- ・ 風邪薬を飲む
- ・ 熱をはかる
- ・ おどろしくお風呂に入る
- ・ 早く寝る
- ・ 早く起きる

2. 行動の連鎖図を描く



3. 自分の連鎖図を読む

風邪は、自分で判断して、おどろきより医師に行く方が、結局は、早く寝るというわけ。

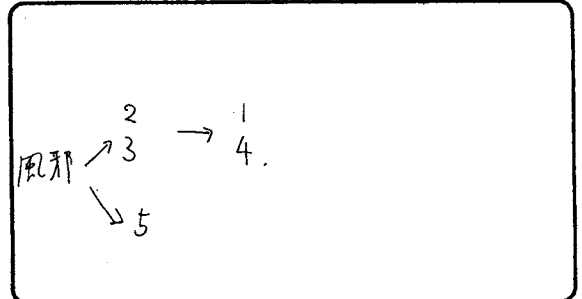
提出 1995.6.14. 番号 5 氏名 荒田尚 長大・医・3年次 健康科学95 B3-1

演習テーマ；個人の思考と行動の連鎖に関するコンセプト・マッピング  
(風邪を引いて熱が出たときの対処行動)

1. 自分が取る行動の種類は？

- 1 休息をとる
- 2 栄養をとる
- 3 薬を飲む
- 4 熱い風呂に入る
- 5 激しく運動

2. 行動の連鎖図を描く



3. 自分の連鎖図を読む

単純である。  
5で悪化形にやめれば治ってほう  
にでもある。

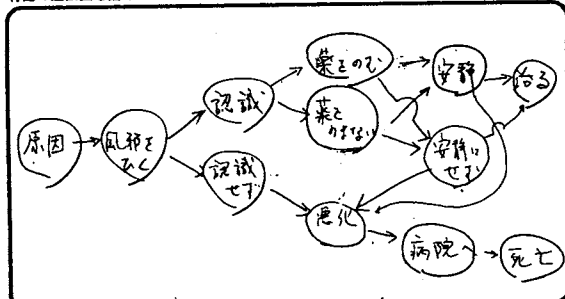
提出 1995.6.14. 番号 19 氏名 内野峻治 長大・医・3年次 健康科学95 B3-1

演習テーマ；個人の思考と行動の連鎖に関するコンセプト・マッピング  
(風邪を引いて熱が出たときの対処行動)

1. 自分が取る行動の種類は？

薬を飲み、安静にする。体温計で検温するなど。

2. 行動の連鎖図を描く



3. 自分の連鎖図を読む

正しく認識し、ちゃんと薬を飲んで安静にしては治る。  
しかし、薬の飲み忘れがあったり、安静にしてなかったり  
したら治るものも治らない。更にちゃんと薬を  
飲んで、安静にしても悪化する事も有り得る。

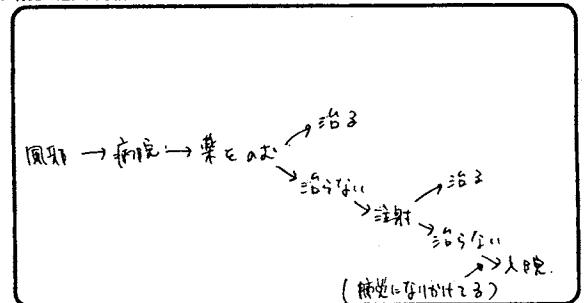
提出 1995.6.14. 番号 20 氏名 内野峻治 長大・医・3年次 健康科学95 B3-1

演習テーマ；個人の思考と行動の連鎖に関するコンセプト・マッピング  
(風邪を引いて熱が出たときの対処行動)

1. 自分が取る行動の種類は？

病院に行く。注射を打ってもらう。  
薬をのんで、水分を取って、ビタミンCを  
取って、早く寝る。

2. 行動の連鎖図を描く



3. 自分の連鎖図を読む

なぜか入院したことはないが、甘く見て無理を  
したり、安静にしなかったら十分に可能性は  
あると思う。

# Examples of phase 1; Students' handwritings are translated and typed in English.

## 1. I do not catch cold.

Caught cold. Cause headache.

風邪をひく → 頭が痛い。

"(うわ、うわ!!)" と思う → 飯喰う → 寝る。

Regret the situation. Have a meal. Go to bed.

長年と風邪をひいていないので考えにくい。

As I have not caught cold for such a long time,  
I have difficulty to imagine the situation.

## 2. I fight with cold by standing firm, holding out and keep going.

体温を測る。 Measure body temperature.

↓  
家で薬を飲む。 Take medicine at home.

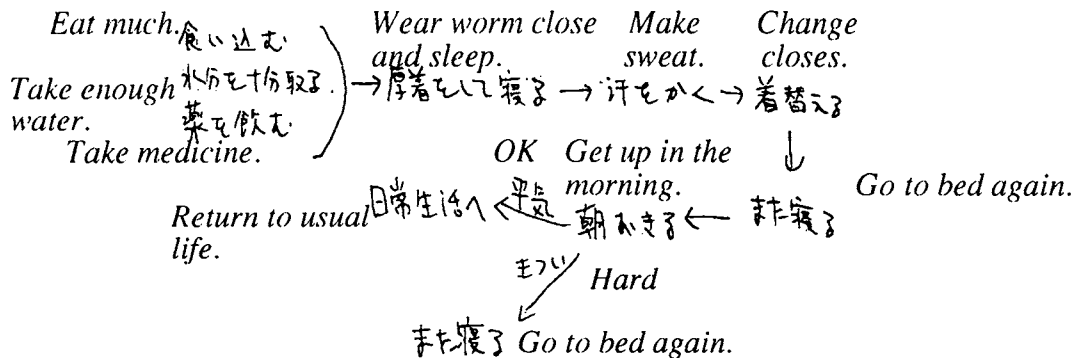
High temp. 高熱 → Normal temp. 正常体温

Go to bed / Make strain (高熱の時) → Do nothing. (正常体温の時)

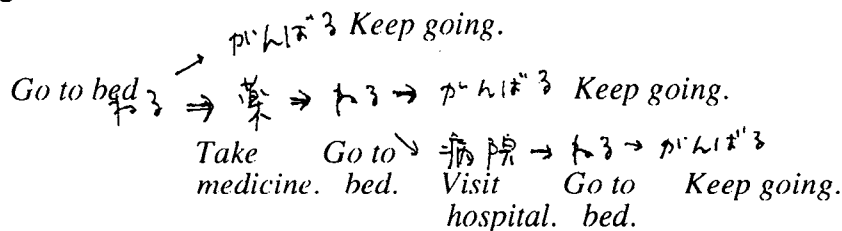
↓  
病院にいく → 学校を休む → 食欲がなくなる。  
Consider to visit hospital. Absent from school. Loss of appetite.

↓  
熱が下がる。 Body temperature declines.

B2

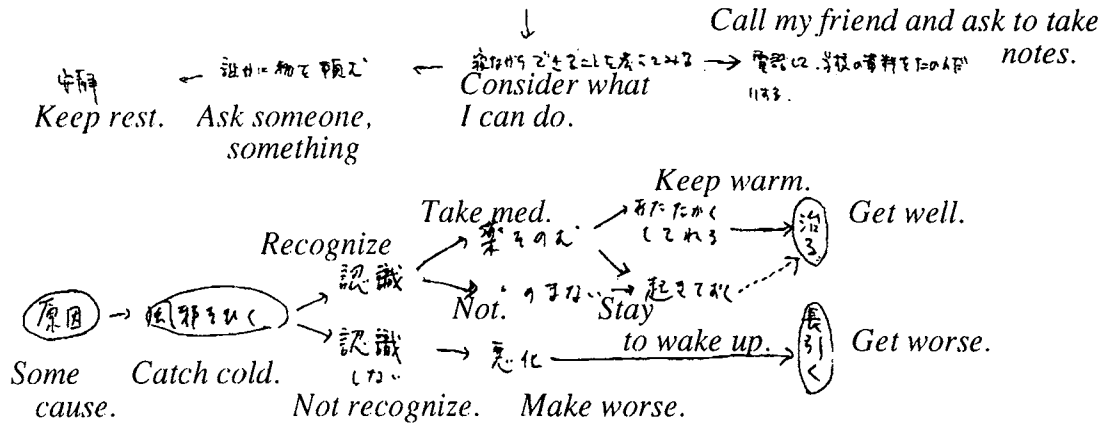


B10

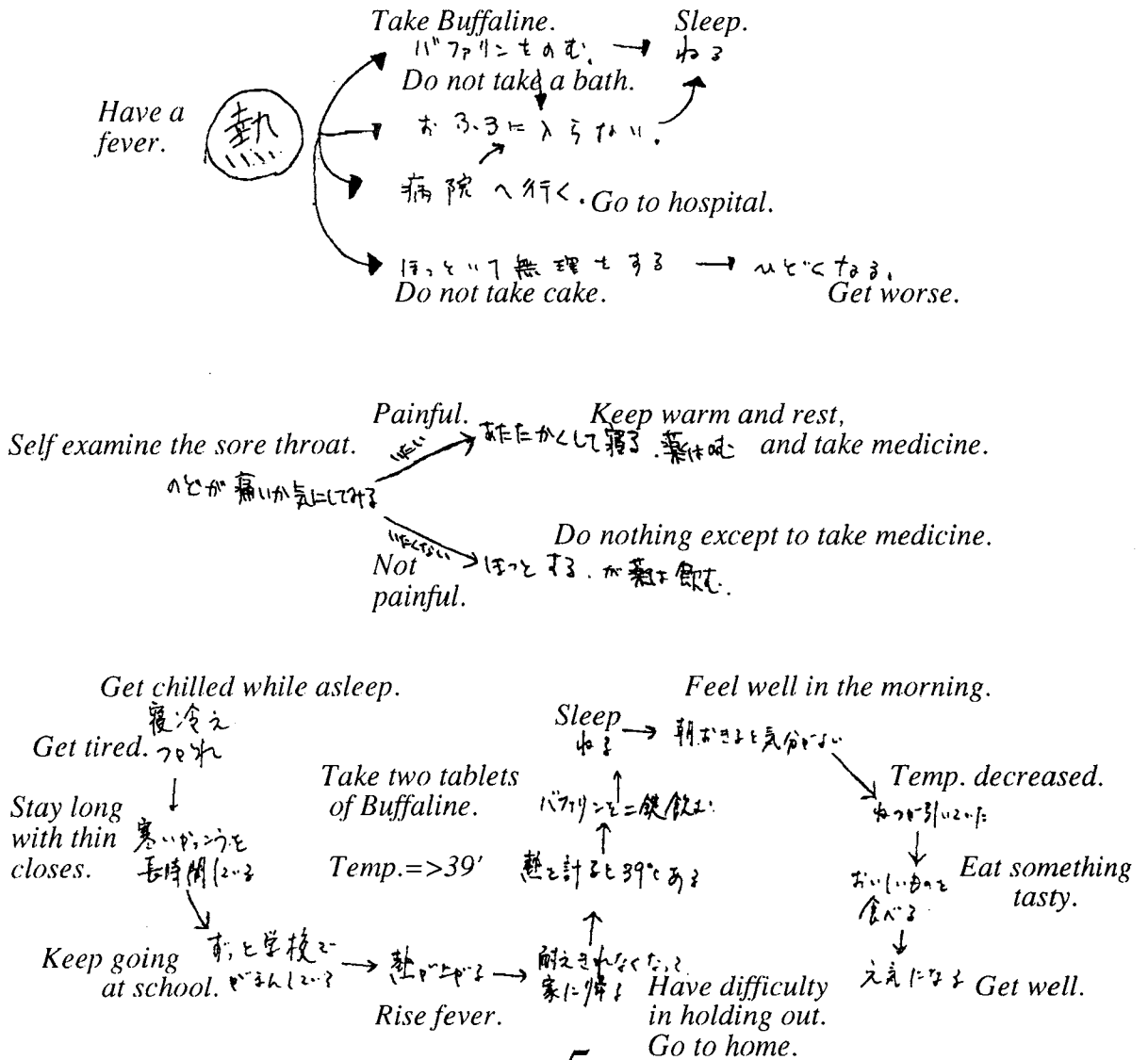


### 3. I carefully reflect and recognize my situation.

Measure temp. Take medicine Go to bed. Reflect the cause. Reflect myself.  
 体温計で測る → 薬を飲む → 寝る → 原因を考える → 反省



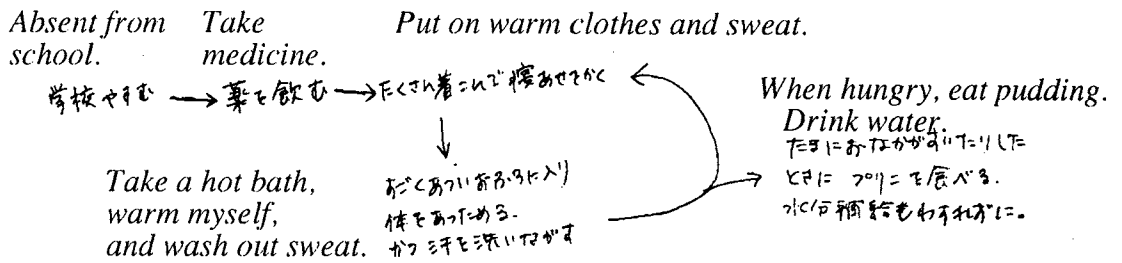
### 4. Patterned reaction to the fever.



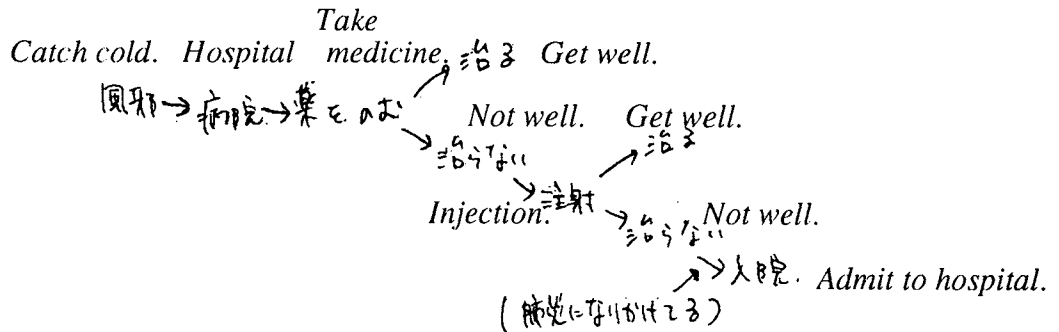




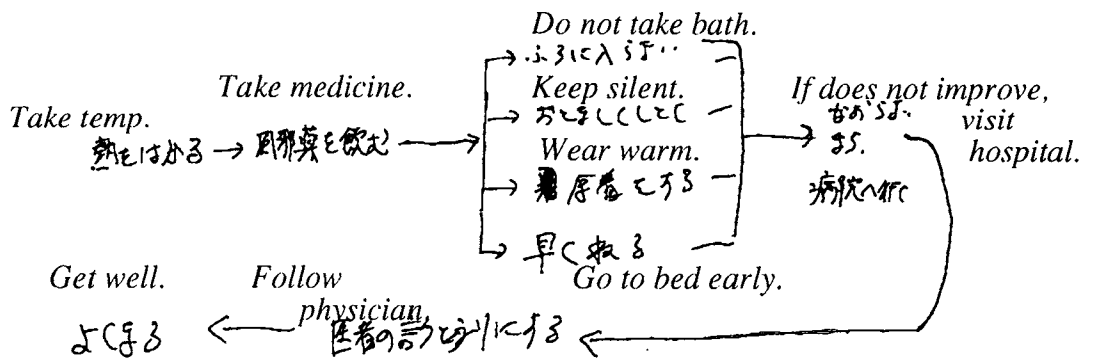
## 8. Sweat much.



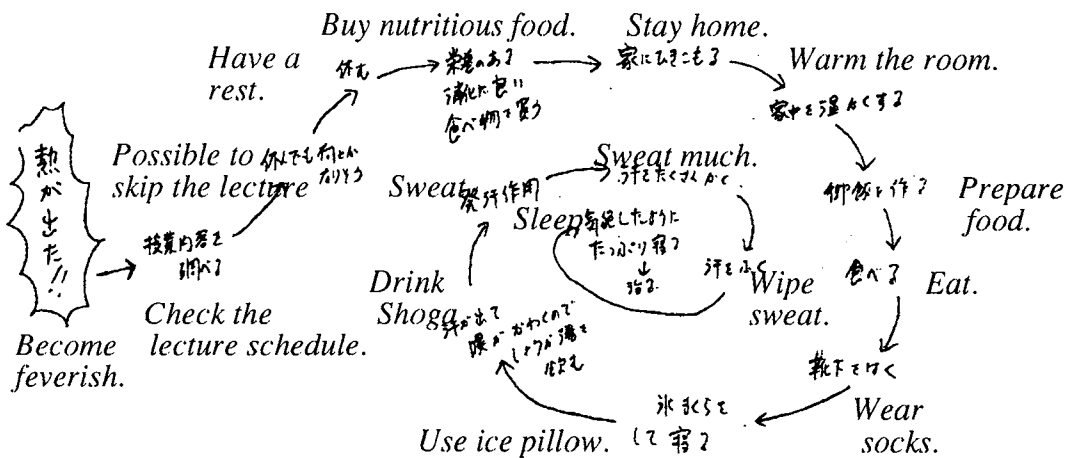
## 9. The first choice is going to hospital.



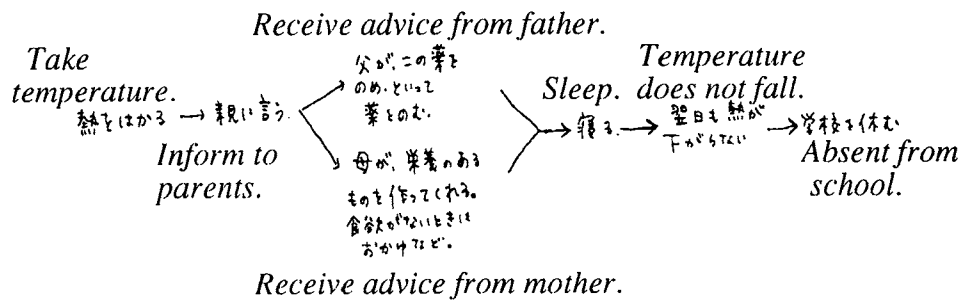
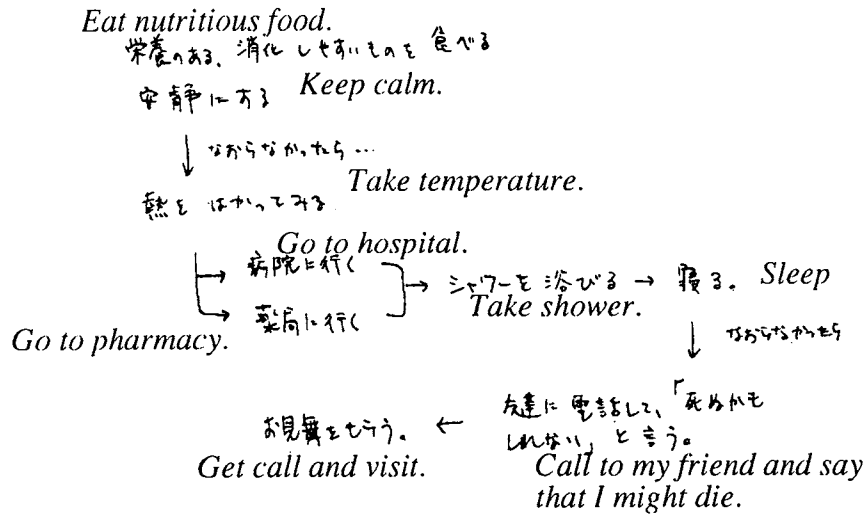
## 10. The first choice is to take medicine.



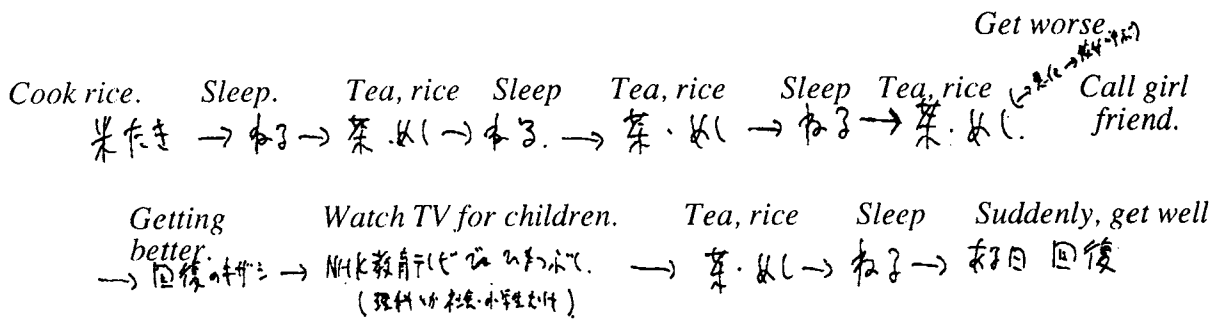
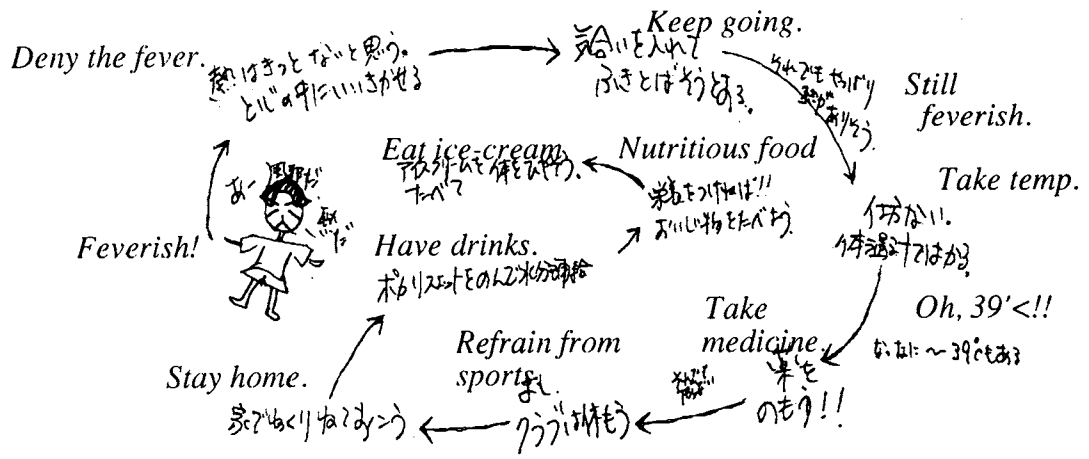
## 11. Consider and keep the nice environment.



## 12. Keep nice communication.



## 13. Do my most favorite thing.



# Phase 2 Recognition of others.

Students scanned and recognized other students' responses in addition to their own.

This procedure guided students toward deeper understanding of the issue.

Then, students wrote down their new findings.

*Take your handout and scan other students' responses in addition to yours.  
Write down any of your comments and findings regarding the issue.*



他者の多様なコンセプトを目の前にして  
いろいろなコンセプトがあるわけだから、何をメインにしているかということから、その人が日ごろ何を大切に生きているかが分かると思う。気合いや認識、コミュニケーションなど、風邪といういわゆる危機を想定することによって各人の思考パターンが見えてくるのだと思う。

他者の多様なコンセプトを目の前にして  
自分は、頭の痛みの熱がある時は、可成り薬(下剤)を飲むのに対して、他人は、できる限り、薬、たばこ、取らずに栄養のある物を食べて、(こころ眠り) 自然治療をしようとしていると思った。あと熱の高さによって、行動を変えているのか、面白いと思った。  
いい観察です。m..

## Examples of phase 2

Students' handwritings are translated and typed in English.

Student's

No

Each of student's findings after experiencing others' responses

24

*When I have headache and fever, I immediately take some medicine to decrease my fever. However, many other people do not take such medicine, eat something nutritious, sleep well and also perform other naturalistic therapeutic activities. I was impressed by this difference. It is also interesting that some people change their coping behavior depending on the degree of fever.*

10

*The characteristic of my behavior sequence is 'eating some food' which comes first and various types of behavior follows. Considering my daily life, eating occupies a big weight.*

*As there are many sequence patterns, the core behavior of a given pattern reflects the person's favorite way of life. The behavior caused by the common cold reflects various dimensions of the person's cognition.*

44

*My behavior sequence is characterized by the promotion of my physical defensive system including sufficient nutrition and rest. I also rely on taking medicine.*

*The most popular sequence is initiated by 'take temperature', follows 'intake nutrition' and ends with 'sufficient sleep'. Some other people preferred to take medicine. Interesting is 'to call girl friend' when the situation is not eased. In common, we are all easy going.*

73

*I am very sensitive to my body temperature. After the initiation of cold, I take temperature and select possible behaviors. After this, I will take my temperature again.*

*As a diagram, my behavior sequence looks like a straight line with minor feedbacks. Interesting is that there are many types of diagrams including three or four branches, and circles. The number of factors interacting at the same time determines the complexity of the diagram.*

93

*The unique feature of my diagram is the bifurcation of behavior sequence according to the cognition of my physical status. I also noticed this same strategy in other people's diagrams.*

*I felt sympathy to people who put higher priority to 'combatting cold physically'. I cannot understanding the people who take temperature at the first stage. For myself, I can sense my temperature, and when I feel some fever, I usually loose my vitality and go to bed.*

## Series 7

### Appreciable questions in general

(case-based observations of  
Japanese medical students' image)

### Recognition of self and recognition of others.

	Page
Phase 1; Recognition of self; appreciable questions in general.....	s7/2
Examples of phase 1; filled format.....	s7/3
Examples of phase 1; students' examples.....	s7/4
Phase 2; Recognition of others; appreciable questions in general.....	s7/6
Examples of phase 2; .....	s7/7

# Phase 1 (of series 7) Recognition of self

Students already have their own questions toward life & health related problems in the world, but how?


Students were asked to externalize and express their unique questions that they want to know in everyday situations.

*Consider if you are expected to organize the following census and/or surveys.*


- 1. national census*
- 2. nation based opinion survey*
- 3. national nutrition survey*
- 4. a survey of possible future direction of a given population*
- 5. a survey related to general life and health around your world*
- 6. a survey relating to popular culture and everyday situations around your world*

*What kind of issue will you select for the census/survey?  
What kind of questions will you ask?*


知りたいこと  
?

問いかけ  


知りたいこと  
?

問いかけ  


知りたいこと  
?

問いかけ  


# Examples of phase 1; filled format

国勢調査 (知りたいことの前; わが国の高齢者数は他の先進国に比較して特多いのか?)

知りたいこと ? 日本人の20代の人口は、40代の人口に比べ、どうか?	聞いかけ 
--	----------

世論調査 (知りたいことの前; わが国では資源のリサイクルの比率をもっと高められるか?)

知りたいこと ? 長崎の3つの使用量と佐世保の使用量を比べてどうか?	聞いかけ 長崎の人と佐世保の人とで、分別の割合はどうかを聞いてみる。
---------------------------------------	---------------------------------------

国民栄養調査 (知りたいことの前; わが国の国民のカルシウム摂取量は十分か?)

知りたいこと ? 20代の日本人の摂取量と米国の比較。	聞いかけ 日本人の大学生と米国の大学生に1週間食生活のアンケートをとる。
--------------------------------	---

意向調査 (知りたいことの前; 医学部卒業生中どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?)

知りたいこと ? 医学部3年生の中で、どのくらいが将来途上国で医療援助に当たりたいと考えているか?	聞いかけ 全学年別アンケートで、同じような質問をする。その中で6年生の一番正確なものが2つに分ける。
--	---

実態調査 (知りたいことの前; 医学部の学生で自然科学の世界観に疑問をもっている人はどのくらいいるか?)

知りたいこと ? 医学部3年生の中で、自然科学の世界観に疑問をもっている人はどのくらいいるか?	聞いかけ YES or NOで、是非を答えさせて割合を計算する。
--	-------------------------------------

いわゆるアンケート調査、その他:

知りたいこと ? みんながどれくらいSHAPを好きか? 私の大好きなアイドル (特に木村くん)	聞いかけ 長崎の大学生、高校生、中学生、小学生の女子にアンケートをばり、SHAPについて思ったことを書いてもらう。書き方2つあり、女子、年齢層別の分析が目的。
--	--

国勢調査 (知りたいことの前; わが国の高齢者数は他の先進国に比較して特多いのか?)

知りたいこと ? 我が国の赤十字の活動状況	聞いかけ 昨年中に何人の赤十字が活躍したか。
--------------------------	---------------------------

世論調査 (知りたいことの前; わが国では資源のリサイクルの比率をもっと高められるか?)

知りたいこと ? 国民の年齢別における医療に対するイメージ	聞いかけ 若年層、医療についてどう思うか。また、どういう医療を求めているか。
----------------------------------	---

国民栄養調査 (知りたいことの前; わが国の国民のカルシウム摂取量は十分か?)

知りたいこと ? ビタミンDをどれくらい摂取しているか。	聞いかけ ビタミンDがどのくらい必要か。また、どのくらい必要か。
---------------------------------	-------------------------------------

意向調査 (知りたいことの前; 医学部卒業生中どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?)

知りたいこと ? 医学部3年生のうち、どのくらいが将来途上国で医療援助に当たりたいと考えているか?	聞いかけ 今年度は自分たちがどのくらい必要か。また、なぜ必要か。
--	-------------------------------------

実態調査 (知りたいことの前; 医学部の学生で自然科学の世界観に疑問をもっている人はどのくらいいるか?)

知りたいこと ? 医学部3年生のうち、自然科学の世界観に疑問をもっている人はどのくらいいるか?	聞いかけ アンケートをしてもらう。また、その結果を分析して成功させる。
--	--

いわゆるアンケート調査、その他:

知りたいこと ? 雰囲気がよくて、値段も高く、価値も高い美容室を知りたい。	聞いかけ 今行った美容室はどのくらいか。また、どのくらいか。他人に自信をもってもらえる美容室。
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国勢調査 (知りたいことの前; わが国の高齢者数は他の先進国に比較して特多いのか?)

知りたいこと ? 日本の人口の増加は、他の先進国に比べてどうか?	聞いかけ 日本の人口増加は、他の先進国に比べてどうか。また、その理由は何か。
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世論調査 (知りたいことの前; わが国では資源のリサイクルの比率をもっと高められるか?)

知りたいこと ? 理系の学生と文系の学生とで、資源のリサイクルの比率を比べてどうか?	聞いかけ 理系の学生と文系の学生とで、資源のリサイクルの比率を比べてどうか。また、その理由は何ですか。
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国民栄養調査 (知りたいことの前; わが国の国民のカルシウム摂取量は十分か?)

知りたいこと ? 日本人は平均、1日何回目を食しているか? 日本人は平均、1日何回目を食しているか?	聞いかけ 1日何回目を食しているか? (1日何回か)
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意向調査 (知りたいことの前; 医学部卒業生中どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?)

知りたいこと ? 医学部卒業生中どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?	聞いかけ どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?
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実態調査 (知りたいことの前; 医学部の学生で自然科学の世界観に疑問をもっている人はどのくらいいるか?)

知りたいこと ? 医学部3年生の中で、自然科学の世界観に疑問をもっている人はどのくらいいるか?	聞いかけ 自然科学の世界観に疑問をもっている人はどのくらいいるか?
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いわゆるアンケート調査、その他:

知りたいこと ? 理系の学生はどのくらい理系が好きか? 理系が好きか? 理系が好きか?	聞いかけ 1ヶ月に何回理系が好きか? 理系が好きか? 理系が好きか?
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国勢調査 (知りたいことの前; わが国の高齢者数は他の先進国に比較して特多いのか?)

知りたいこと ? 列強 (大企業) を持つ国が、他の先進国に比べてどうか?	聞いかけ 列強 (大企業) を持つ国が、他の先進国に比べてどうか?
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世論調査 (知りたいことの前; わが国では資源のリサイクルの比率をもっと高められるか?)

知りたいこと ? どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?	聞いかけ どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?
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国民栄養調査 (知りたいことの前; わが国の国民のカルシウム摂取量は十分か?)

知りたいこと ? 栄養素を摂取している人の割合	聞いかけ 毎日どのくらい栄養素を摂取しているか?
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意向調査 (知りたいことの前; 医学部卒業生中どのくらいが割合が将来、途上国で医療援助に当たりたいと考えているか?)

知りたいこと ? 同僚が将来、途上国で医療援助に当たりたいと考えているか?	聞いかけ 同僚が将来、途上国で医療援助に当たりたいと考えているか?
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実態調査 (知りたいことの前; 医学部の学生で自然科学の世界観に疑問をもっている人はどのくらいいるか?)


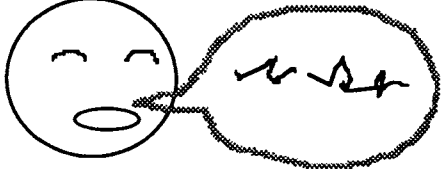
知りたいこと ? 同僚がどのくらい自然科学の世界観に疑問をもっているか?	聞いかけ 同僚がどのくらい自然科学の世界観に疑問をもっているか?
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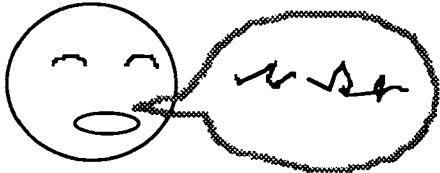
いわゆるアンケート調査、その他:

知りたいこと ? 同僚がどのくらい理系が好きか?	聞いかけ 同僚がどのくらい理系が好きか?
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Examples of phase 1; Students' handwritings are translated and typed in English.

NO	<u>Selected issue</u>		<u>Question asked</u>	
21	Opinion of the environmental preservation.		<i>Do you think about the quality of garbage? Are you used to differentiate garbage before you dispose them?</i>	
22	Medical students' attitude toward the euthanasia. Difference between Japan and United States.		<i>Do you admit euthanasia to your patients?</i>	
23	Interests to the environment.		<i>What degree are you involved in the issue of environment? What are you going to do for the environment?</i>	
24	The percentage of medical students who give high priority on religious issues.		<i>Do you believe god?</i>	
25	Sexual life of men and women at their age of twenties.		<i>How frequently do you have sexual experience in a week?</i>	
26	Social acceptance of higher technology related to genetic engineering		<i>Is it permitted for human beings to know their genetic structure completely? Should it be something beyond human knowledge?</i>	
27	Difference of attitude toward death between physicians and medical students.		<i>I would like to ask questions regarding the view point toward death.</i>	
29	The social independence of people with physical handicaps.		<i>(This question will be asked to a person with disability) Do you control all of your financial status including the acceptance of your</i>	

NO	<u>Selected issue</u>		<u>Question asked</u>	
30	College students amount of alcohol consumption.	➤	<i>What occasions do you drink alcohols? How many times in a week, and how much in a chance?</i>	
31	Politicians interest toward their service and self-sacrifice to the public benefit.	➤	<i>What is your true reason to be a politician?</i>	
32	The level of security of our society.	➤	<i>I would like to evaluate the security of our society by the use of some scale. Social places such as stations and parks will be selected.</i>	
33	Everyday activity of students, in addition to study.	➤	<i>I will prepare questionnaires regarding sports club activities and side work.</i>	
34	The communication with plant.	➤	<i>Do you speak to your cactus?</i>	
35	People's interest toward oriental medicine.	➤	<i>The westernized medical science is not all mighty in treating disease. How do you think about this issue?</i>	
36	Equality of gender.	➤	<i>Ask one's opinions about sharing jobs related to house keeping. Also about finding jobs.</i>	
38	Medical students' interest toward the basic research of medical science.	➤	<i>Are you interested in earning money? Are you more interested in the basic research?</i>	

# Phase 2 Recognition of others.

Students scanned and recognized other students' responses in addition to their own.

This procedure guided students toward deeper understanding of the issue.

Then, students wrote down their new findings.

*Take your handout and scan other students' responses in addition to yours.  
Write down any of your comments and findings regarding the issue.*

E. 実態調査

実態という字からどういった印象はなかなか よくよく見えてくる。表には見えない本意の姿が見える。どう感じるか、思わず目がいく。

F. いわゆるアンケート調査

どうもいっ  
指摘が下  
...

内容的には、B、Eに入ってきたようなものばかりだと思ふ。  
懸念にのたまきたい時などは、アンケートでは世論調査という言葉を出すと、相手は協力してくれやすいという話だし、逆に、世論調査といういかにも重々しい(という印象の)言葉(以前電話アンケートを呼んだ)を出すと、敬遠されることがある。いかにも人間的

☆. 上記すべてを振り返って考えたこと

どうかわかっている。

「知りたい」とは自由だが「問いかけて」は難しい。お礼にかんたんすぎると、具体的なでない問いかけてがありがたと思う。人間的な流れを言える。質問を巧くする。それは、お礼と核心に近づいていく。  
なるべく相手の情報を答えから得ようとする。職人技かと思う。  
... 問題提起がす。...

E. 実態調査

かなり対象が しぼられてくる。

F. いわゆるアンケート調査

実態調査とアンケート調査の違いがいろいろわかるようになった。  
アンケート調査は 知りたいことの内容の幅が広く、ほんまに知りたいことはぼらばら 丁寧に話を聞いた。

☆. 上記すべてを振り返って考えたこと

これだけの知りたいことに対して 本当に調査に当たると おもしろい と思うけど、  
すく 大変な作業 だと思う。

## Examples of phase 2

Students' handwritings are translated and typed in English.

Student's  
No

Each of student's findings after experiencing others' responses

02

*The will to ask a question does not necessarily results an actual good question. I was impressed by the question 'do you differentiate garbage?' which reflects the cognition of environmental problems. These question-asking reflects the person's strength of will toward the better environment.*

10

*The actual situation to be surveyed is different from people to people. Therefore, we need to be flexible in our question asking.*

*After I have read all of these notes, I am beginning to realize that there is a better question-asking which corresponds to the issue. If we neglect this relationship, we will not be able to ask good questions.*

24

*I am most interested in the question-asking of no.19. Today, many young girls are said to have experiences of diet. I am interested in the degree of success of the diet.*

*Today's issue concerning this feedback is very interesting. I am impressed by other peoples' question-asking, and I get my own finding about the issue.*

44

*I am very much interested in the question-asking regarding the sexual activity of young adults.*

*After I have examined all of these notes, I think that most of these notes are too formal for the young people. Most of medical students probably consider life as the stable carrier ladder, and do not enjoy uncertain hope for that.*

20

*I understand that many people start their question-asking from a will to understand some uncertain issue, and/or from an interest to compare self with others.*

*In spite of the wide variety of issues, the variety of question-asking is not so wide.*