How to Supply Water to a Planter during 10 Days' Absence

Speaker : Tsuyoshi Todome
Yuhji Mihara／Kazushige Aoki／Tatsuhiko Atsuta／
Takashi Shikata／Noritaka Nakayama／Tetsuya Nagai
／Yasutake Makino
(MPUF)

Announcement item

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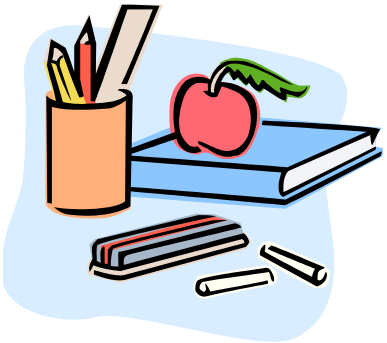


[1]Background and purpose

MPUF society in July, 2013

Problem solving society that everyone can do(Solution LAB)Inauguration

The member
Mr. A : I want to research USIT.
Mr. B : It doesn't know USIT though it knows TRIZ.
Mr. C : I want to learn USIT.
Mr. D : I want to come to be able to use USIT.
The difference at the level.

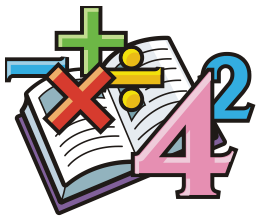
Problem

I want to research the technique improvement. 、

There are a lot of people who do not know USIT well.

Purpose

The usage of USIT is studied practicing it.



[2]Setting of problem

However,
Cost is within 1000 yen.
Making timeWithin 2-3 hours

Mr. Nagai proposal

How to Supply Water to a Planter during 10 Days' Absence .

[3]Procedure and result 1 (excerpt)

Problem Definition

Problem analysis

Solution generation

Summary

(1) Problem definition

(2) Present systems analysis method

(3) Ideal model method

(4) Analysis of time and spatial characteristic of function

(5) The first solution

(6) The second solution (the 1)

(7) The second solution (the 2)

(8) Mutual agreement of priority level

(9) Decision of development plan

[Making of the center problem sentences]

Every day, water is supplied to the soil ..

constant amount.. uniformly.

[Illustration of problem situation]

[Minimum component extraction]

①Plant ②Water in soil ③Soil

④Planter ⑤Water in container

⑥Container of water

[3]Procedure and result 2 (excerpt)

Problem Definition

(1) Problem definition

Problem analysis

(2) Present systems analysis method

(3) Ideal model method

(4) Time of function
Analysis of spatial characteristic

Solution generation

(5) The first solution

(6) The second solution (the 1)

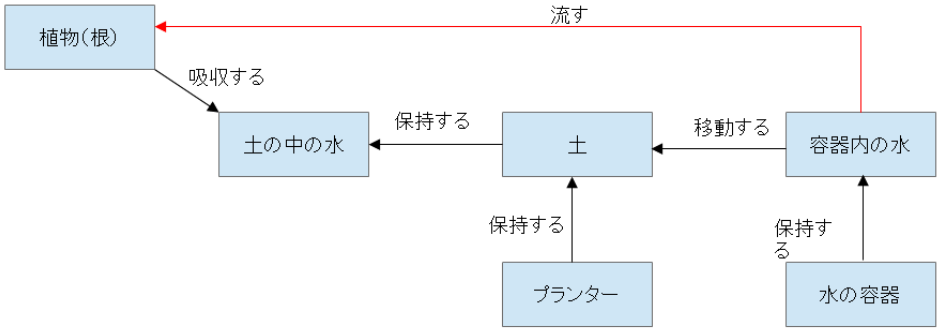
(7) The second solution (the 2)

Summary

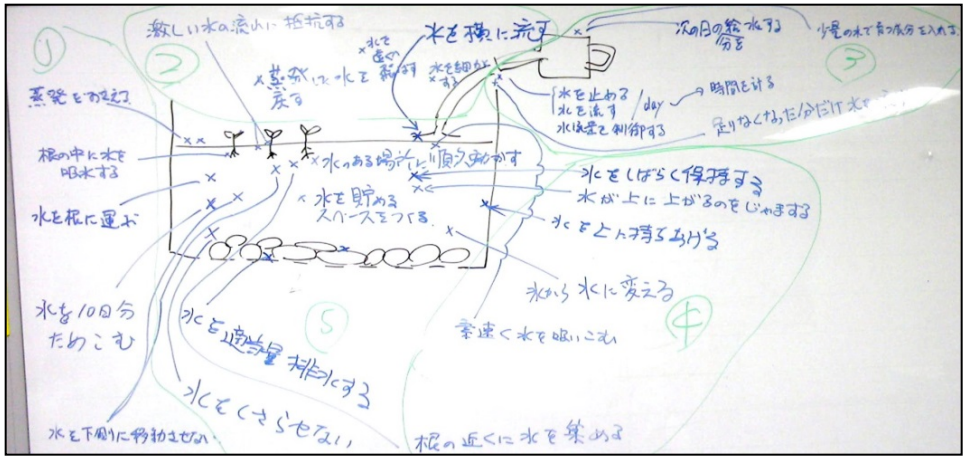
(8) Mutual agreement of priority level

(9) Decision of development plan

[The center problem model's making]



[Sketch of problem situation and ideal solution]



[3]Procedure and result 3 (excerpt)

Problem Definition

(1) Problem definition

Problem analysis

(2) Present systems analysis method

(3) Ideal model method

(4) Time of function
Analysis of spatial characteristic

Solution generation

(5) The first solution

(6) The second solution (the 1)

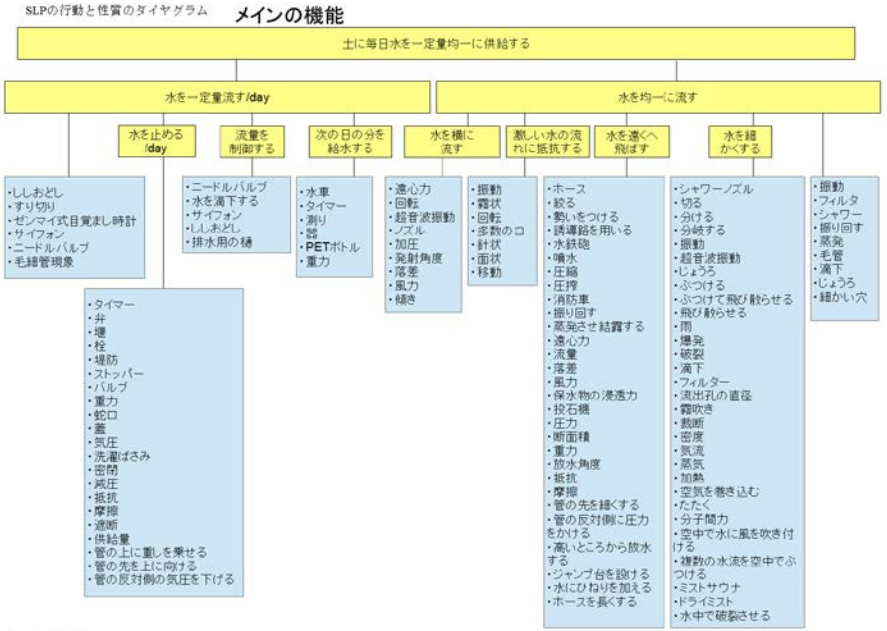
(7) The second solution (the 2)

Summary

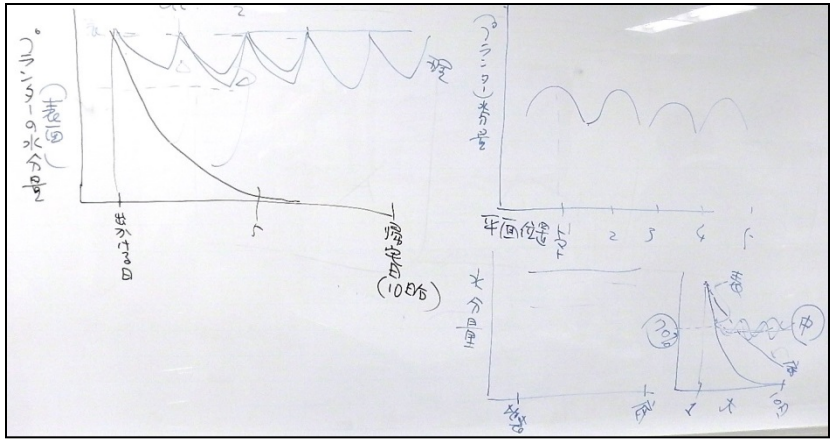
(8) Mutual agreement of priority level

(9) Decision of development plan

[Action of SLP and diagram of character]



[Making of time and space analysis graph]



[3]Procedure and result 4 (excerpt)

Problem Definition

(1)Problem definition

Problem analysis

(2)Present systems analysis method

(3)Ideal model method

(4) Time of function
Analysis of spatial characteristic

Solution generation

(5)The first solution

(6)The second solution (the 1)

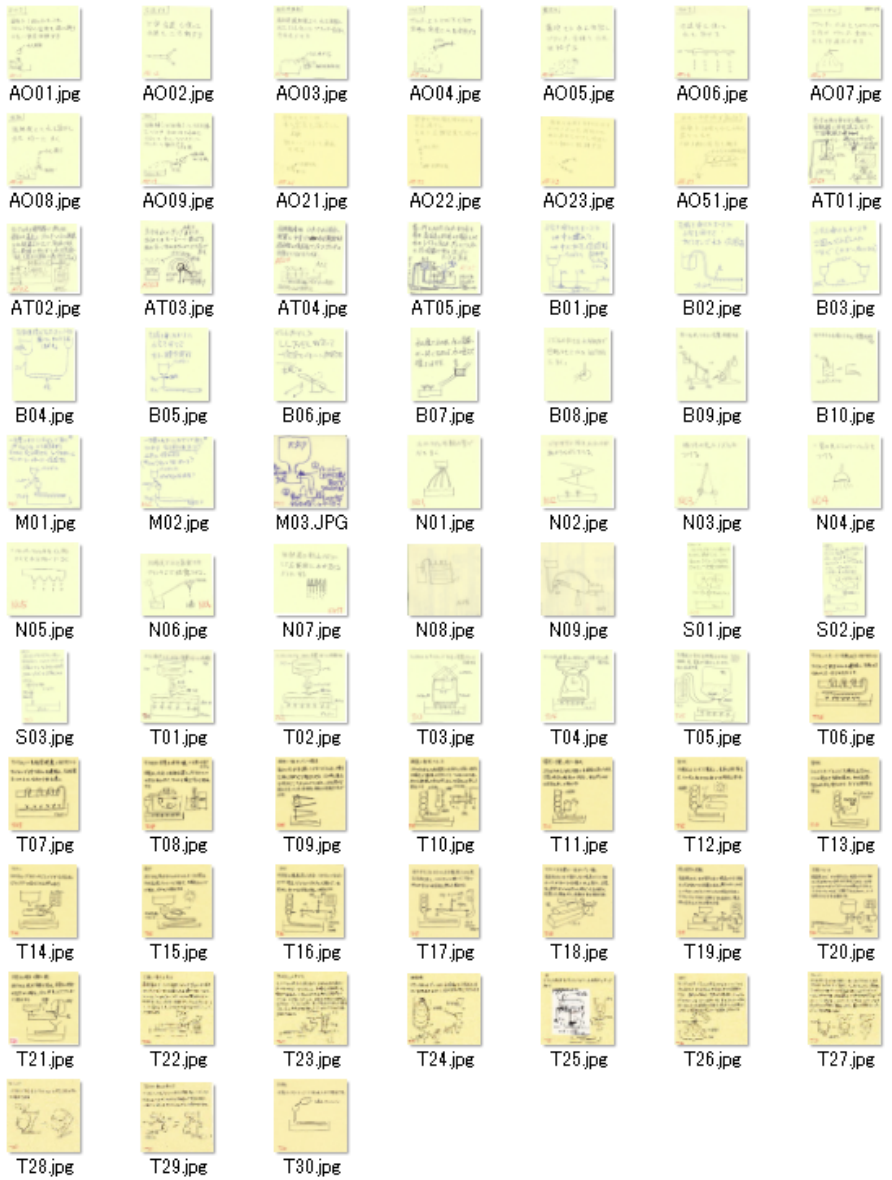
(7)The second solution (the 2)

Summary

(8)Mutual agreement of priority level

(9)Decision of development plan

[Examination of solution]



[3]Procedure and result 5 (excerpt)

Problem Definition

(1)Problem definition

Problem analysis

(2)Present systems analysis method

(3)Ideal model method

(4) Time of function
Analysis of spatial characteristic

Solution generation

(5)The first solution

(6)The second solution (the 1)

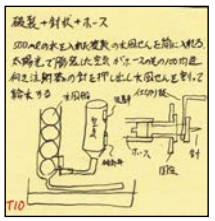
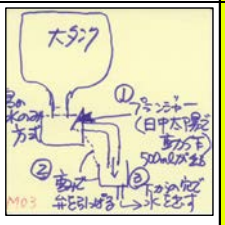
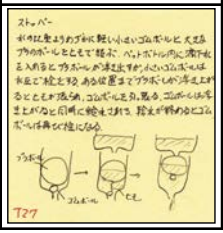
(7)The second solution (the 2)

Summary

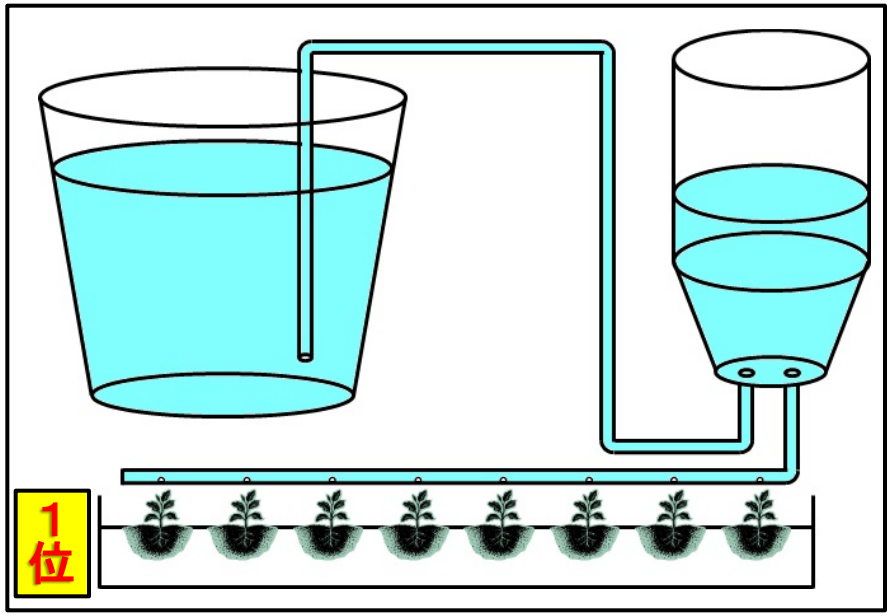
(8)Mutual agreement of priority level

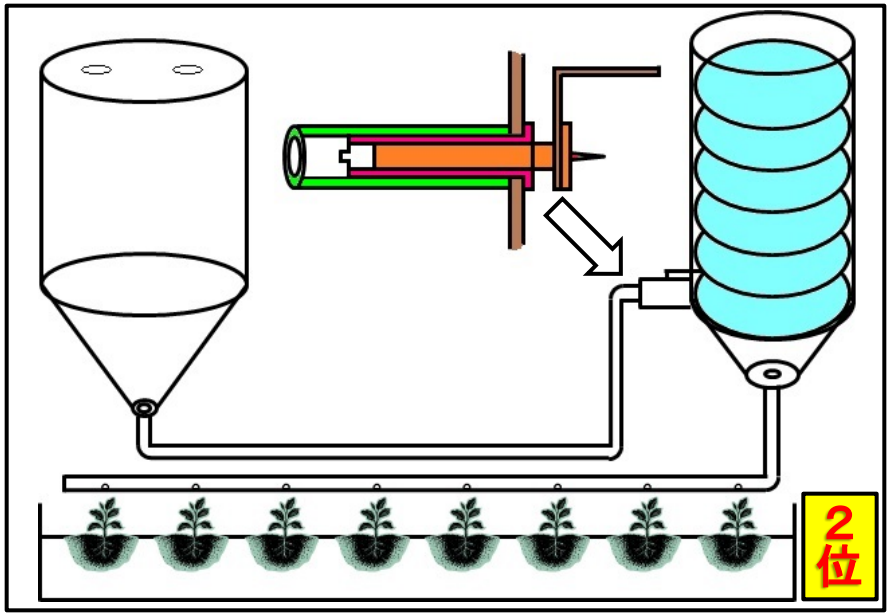
(9)Decision of development plan

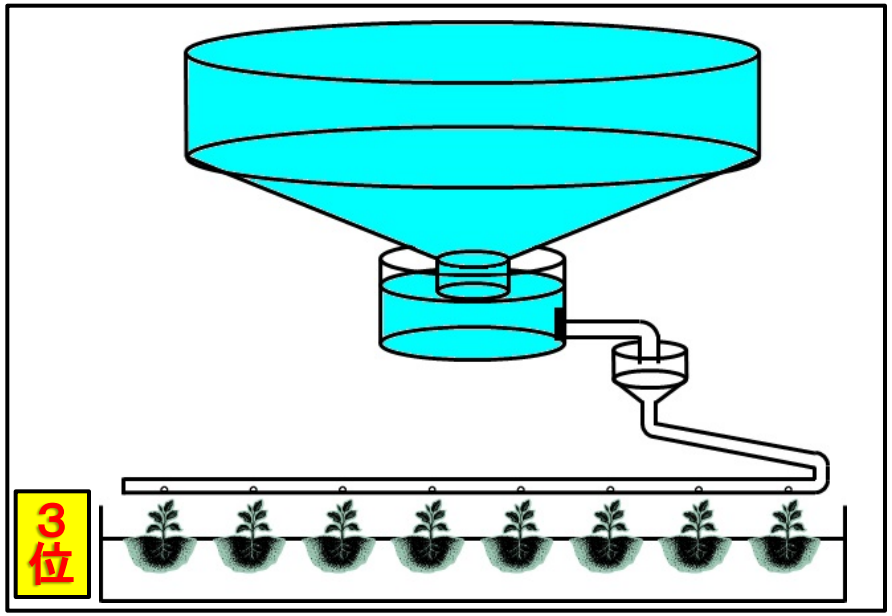
[Mutual agreement of priority level]

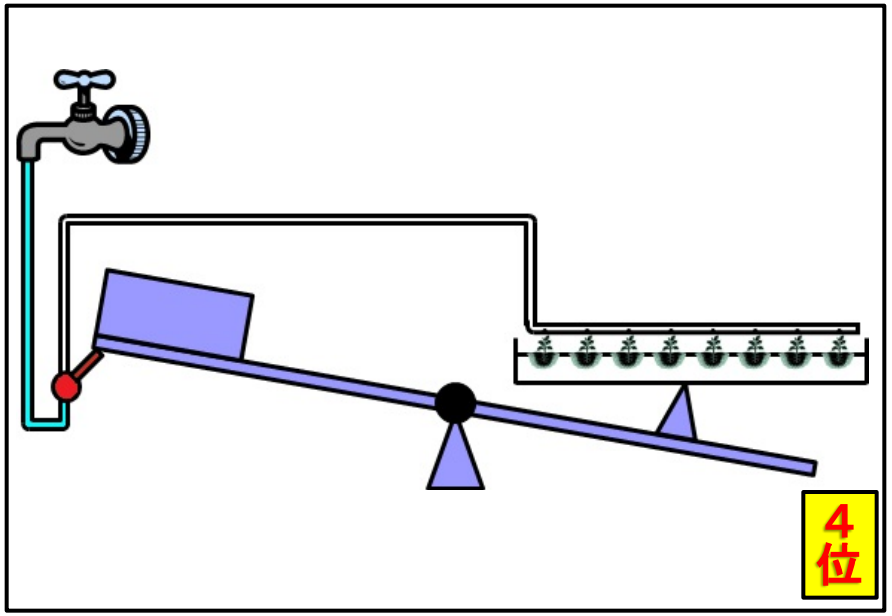
順位	説明	図	効果	コスト	手間	総合
1	太陽光で空気を膨張させ水を供給、夜、空気が縮小しタンクから水を補給する。		18	19	15	52
2	500mlの水を入れた複数の水風船を筒に入れる。ペットボトルの太陽光で膨張した空気が、ホースの先の100均の逆向きにした注射器のピストンにつけた針を押し出し、水風船を割って給水する。上の水風船は、仕切り板によって邪魔され落ちて来ない。太陽が沈み、ペットボトル内の空気が冷えて圧縮することで、針が引っ込むと同時に、仕切り版が引っ込むことで、上の水風船は下の位置に落ちて来る。		18	16	15	49
3	①プランジャーが作動して弁を開ける。②下に置いた小タンクの重みでストッパーが働く③小タンクの水は下の小さい穴から出る。		19	14	15	48
4	プランターを天秤の一方に置き、水分が蒸発して軽くなると天秤が動き、それによって水の管のバルブを開く。水でプランターが重くなると天秤がバルブを閉じる。		17	16	15	48
5	水の比重よりわずかに軽い小さいゴムボールと大きなプラのボールを紐で結ぶ。ペットボトル内に滴下水を入れると、プラボールが浮き出すが、小さいゴムボールは水圧で栓をする。ある位置までゴムボールが浮上すると紐が張られ、ゴムボールを引張る。ゴムボールは浮き上がり、同時に給水される。給水が終わると、ゴムボールは再び栓になる。		17	13	14	44

[3]Procedure and result 6 (excerpt)









[4]Examination of idea

Test Method

A)Round PET bottle

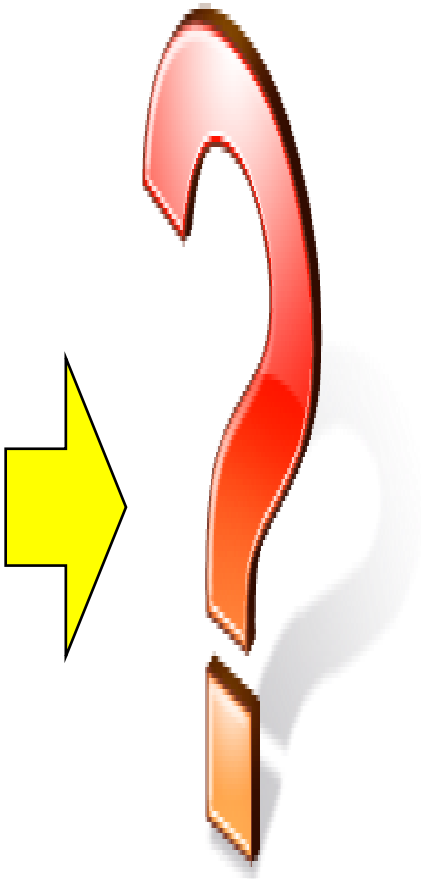
D)Bottle

B)Frozen beverage bottle

E)Bottle can

C)Corner PET bottle

F)Bottle can + PET bottle



Final shape?

[5]Summary

Target：Let's study the usage of USIT practicing it.

Result：An immature person to USIT, while studying, the idea that was able to be made for the prototype was able to be shown.

Impression：It follows the procedure. Correctly, It can reach the answer to be requested at last by piling up the result of review.

The future：The USIT use practice is piled up, with the knowhow master, the technique improvement is researched.

[6]Reflection and point 1

(1)It is the most important, and arranges the center problem.

→Does not the center problem contain two purposes or more?

This center problem：To the soil every day、It is a constant amount as for water.、uniformly supplies it.

↓

Two purposes were contained.

Water is supplied in a constant amount.　and　Water is uniformly supplied.

↓

It becomes difficult to do the solution systematization.

It becomes difficult to put out the second solution.

↓

Water is supplied to the soil in a constant amount every day.

Water is uniformly supplied to the soil every day.

You should individually execute it separately.

[6]Reflection and point 2

(2)Sentences and rough sketches are indispensable for the solution.

→Only no sentences、Is the rough sketch shown?

→Only no rough sketch、Is sentences shown?

Purpose in sentences and rough sketches

①Is it the same idea or a different idea?

②Where is a different idea?

③The image is shared in the rough sketch.

④Sentences become indices when arranging and retrieving it.

This failure example

- The rough sketch of idea M03 that is the high score is not found.
  - → The content of the idea was not able to be recalled easily.

[6]Reflection and point 3

(3)Clarification → disregard is → evaluation condition and changes into the limiting condition.

①The limiting condition is clarified first.

This example : Cost is within 1000 yen.

Production is within 2-3 hours.

②The idea is being examined. The limiting condition is disregarded.

To a cheap idea because of the idea with high cost

To the idea at short time because of the idea with long production tim

③When finally evaluating it, the limiting condition is added as an evaluatio condition.

Is the idea feasible within 1000 yen? →Cost

Can the idea be produced within 2-3 hours?→Time

[7]It develops with the business.

“Be accustomed “ is more important than ″Learn it″.

(1)It is necessary to use it on business by force when learning it. 。

The grasp and the problem of my understanding level become clear.

(2)When my executing it, the center problem definition and making the SLP diagram are more difficult than the conception stage.

The technique of the center problem definition、Mr. Nagai’s announcement

Cause search development（DeSC）

- The source of a problem is covered -.

Please listen by all means.