

Episode 10

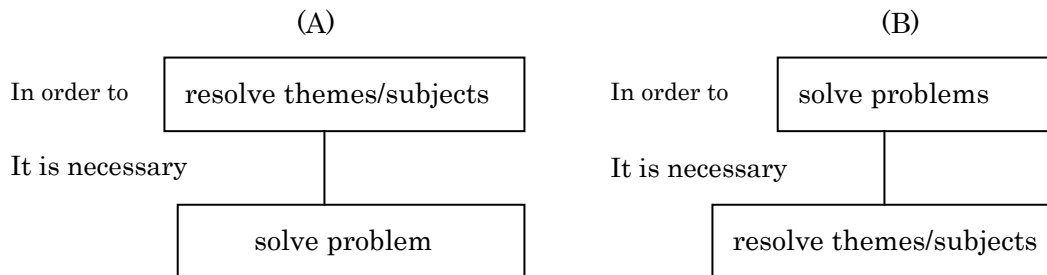
Avoiding Confusion between the Terms "Problem" and "Theme/Subject"

1. Introduction

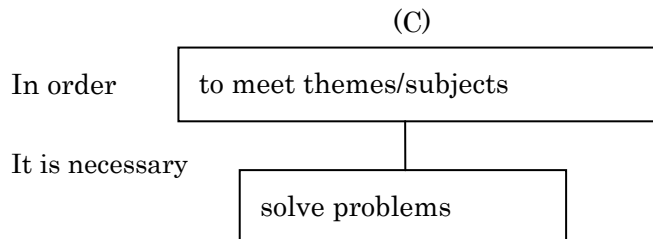
The distinction between the terms "problem" and "theme or subject" is unclear because they are similar. The purpose of this section is to make this distinction using the PMD method.

2. PMD Diagrams of "Problem" and "Theme/Subject"

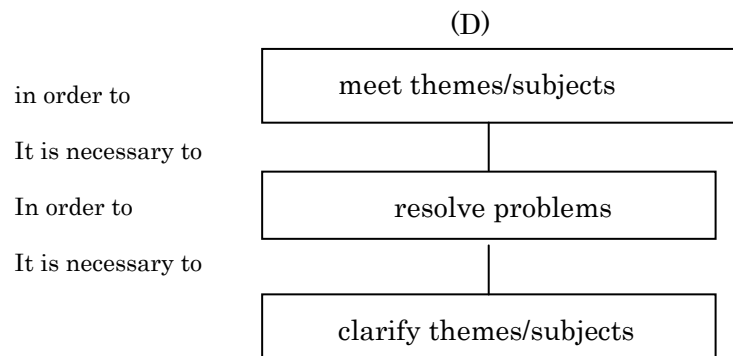
1) The PMD diagrams of the term "problem" and "theme/subject" are as follows:



2) When comparing (A) and (B), (A) seems to be the more natural way of understanding the purpose-measure relationship. To make (A) sound even more natural, (A) will become:



3) Inserting the sentence "clarify theme/subject" at the bottom of the PMD makes the purpose-measure relationship clearer.



4) Based on the above, the following points can be made:

Unless themes/subjects are clear, problems cannot be clarified (no theme/subject, no problem).

If there is a tacit understanding about what the themes/subjects are among the people concerned, it is possible to start working on the problems.

If the people concerned understand the themes/subjects differently, their understanding of the problems will also differ. In order to avoid having different understandings of the problems, it is necessary to clarify the themes/subjects, and then make a PMD. Making a PMD clarifies which things need to be done and their domain. If there is an obstacle to reaching the goal, that is where a problem lies.

5) The DTCN method tries to replace the term "problem" with the term "necessary condition for accomplishing an objective." By doing so, the term "problem" is no longer necessary.

6) Next, analysis of the term "problem" will be made from different perspectives.

3. Other Circumstances Where the Term "Problem" Is Used

1) In mathematics, the term "problem" has long existed. Because a problem in mathematics has to be resolved in terms set by the problem itself, this is not inconsistent with section 2.

2) In natural science, the term "problem" indicates something that has to be resolved. Otherwise, the mechanisms of nature will not be elucidated.

This does not contradict section 2 either because elucidating the mechanisms of nature is the theme/subject.

3) Imagine products are being made in a production line. Suppose defective units are found in the line. These defective units are produced by the production line that human beings invented, believing that they would be able to invent one by cleverly harnessing the mechanisms of nature.

In this case, the failure might have occurred because something that does not agree with

the mechanisms of nature was produced, or because there was a gap or mistake between the purpose-measures in creating the production line. This clearly fits into the category of "problem." It can be said that QC addresses this problem.

4. Analysis

1) The points the author made in section 2 refer to the way the term "problem" is dealt with in areas like management and engineering, whose purpose is to create the future for people.

2) Section 3 refers to the way the term is dealt with in mathematics and natural science, which are intended to analyze the existing mechanisms of nature.

Combining 1) and 2): The meaning of the term "problem" used in natural science has often been confused with its meaning in engineering contexts. In management or engineering, the mechanisms employed are invented. The purpose of natural science is to elucidate the existing mechanisms of nature. Therefore, it is natural for natural science to give a different meaning to the term "problem."

The reason why in the past there was no need to differentiate the term "problem" from the term "theme/subject" in management and engineering was that "problem" and "theme/subject" were almost identical. However, as new themes/subjects and values emerge, it is no longer possible to regard these two as the same. This is why the difficulty in differentiating a "problem" from a "theme/subject" began to be expressed. In order to resolve this "problem" or "situation," the PMD method seeks out the term "necessary condition" as a substitute.