

# THE METHODOLOGY OF THE STRUCTURATION OF THE RECOGNITIONS ABOUT THE MEASUREMENT AGAINST CLIMATE CHANGE AMONG STAKEHOLDERS

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## Abstract.

This paper deals with the methodology of the structuration of the recognitions for the international negotiation game. This methodology is applied into the international negotiation game called “Another COP” as an education tool. It is modelled on the conflicts of the actual international negotiation process, which is taking up the technologies of the climate change issues focusing on the diversity of nations and on the uncertainty. The players of the game can easily gain a better comprehension of the international negotiation on climate change issues by experience of the virtual international negotiation.

The details of the application of the methodology into “Another COP”, which is the application of the structuration of the recognitions, and how to use this education tool are described.

We held eleven times workshops of “Another COP”, and gain the suggestion that this tool with the methodology of the recognitions structuring has the availability as an education tool for supporting the comprehension of the issues of technologies and negotiations process.

## 1 INTRODUCTION

The sustainable measurements against climate change are needs with the consideration of various points of views. The management from global to local is essential, for example the consideration from the base of the social infrastructure, or environmental sound technologies is important.

Climate change issues became the international issue from the middle of 1980. In the international negotiation, the measurements against climate change are negotiated. Since the agenda has been more and more specific, the negotiation has become much more complex with the different advocacies between each nation. The first step to consider various points of views about climate change issues is to know the complex situation.

Technologies make an essential role, however, the recognition about technologies, transfer of technologies, diffusion of technologies, and so on are different among the stakeholders.

The methodology that argued in this paper is to make an experience-based education tool. There are two aspects for this methodology: first is to set on the tool the different recognition of some issues among the stakeholders, second is how recognize these difference by the users of this tool.

In this paper, we applied the methodology of the recognitions structuring for design “Another COP” which is an international negotiation game about the technologies for climate change issues. In this game, we focus on the technologies that are handled in the international negotiation process, as well as the carbon storage, forestation, transportation system and nuclear energy that are negotiated with the different recognitions among the nations.

Climate change issues need to discuss with diversified aspects from various fields. Discussion in the interdisciplinary research tends to spend long time because of misunderstanding and gaps among diversified peoples. The international negotiation game “Another COP” is an education tool for help understanding the interrupted problems of knowledge. And it is for supporting the comprehension of the technologies issues and negotiations process.

Once the participants experience the process of negotiation together, they can easily begin a discussion for the specific content of the game. This paper provides the explication of “Another COP” as an education tool to show how to use this tool and how to facilitate the discussion by the game. The three-hour-workshop with “Another COP” has been held eleven times in 2006 including an implementation in the international conference, for

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mainly graduate students and researchers. These results of workshops that verify implementation of “Another COP” applying the methodology of the recognitions structuring are shown.

## **2 METHODOLOGY OF THE STRUCTURATION OF THE RECOGNITIONS**

The methodology that argued in this paper is to make an experience-based education tool. It refers a complex six stakeholders negotiation called “Harborco”, a teaching tool available from the Clearinghouse of the Program on Negotiation at Harvard Law School ([www.pon.org](http://www.pon.org)).

There are two aspects for this methodology: first is to set on the tool the different recognition of some issues among the stakeholders, second is how recognize these difference by the users of this tool.

### **2.1 Recognitions of stakeholders**

For the first aspect to set on the tool the different recognition of some issues among the stakeholders, we consider the situation of the negotiation about several issues. Each stakeholder related each issue, negotiate to reach the agreement of a solution or decision, however, they can't reach the agreement soon because they have each advocacy involve with each interest that makes the different recognitions about the issue.

To set on the tool, several issues take up all together that are trade-off each other for the stakeholders and it is set the negotiation to agree all together in one time which is called package deal. The several issues that take up all together in virtual negotiation are related one big matter, however, the advocacies of each issue of each stakeholder are set different. For clarify these difference, some options for each issue are made to choose one option for insistent. The different of choice of these options and this reason makes the different recognitions of the stakeholders in the tool.

### **2.2 Comprehension of the different recognitions**

For the second aspect of how recognize the conflict of the negotiation, to have the experience of such negotiation in the manner of easier comprehension is a way. For that object, making the virtual negotiation agenda for try to negotiate with a roll-play is the first step. As the users of the tool are the diversified peoples, the visualization of the

negotiation that means clarify negotiation process is better. Once the agenda is set, clarify the agenda is the second step. For better comprehension of different recognitions of the stakeholders, making some options for each issue to clarify the advocacies of stakeholders and some reasons for choose the option as described above. In this methodology, scoring of the choice for options by taking the interest of each stakeholders and making the materials that visualize the process of the negotiation and the advocacy of the stakeholders are used.

## **3 APPLICATION OF THE METHODOLOGY OF THE RECOGNITIONS STRUCTURING INTO “ANOTHER COP”**

This section shows how the negotiation of “Another COP” is set using the methodology of the recognitions structuring. This methodology is used for design the international negotiation game “Another COP” that is an education tool for supporting the comprehension of the issues of technologies and negotiations process.

### **3.1 Purpose of “Another COP”**

Purpose of “Another COP” is to awake the comprehension of the feasibility and the availability for measurements against climate change through the experience of the negotiation. The tool is designed in the aspects of the technologies and the international negotiation focusing on two keywords, uncertainty and diversity of the nations.

### **3.2 Framework of “Another COP”**

“Another COP” is designed the conflicts of the international negotiation process in COP (the Conference of the Parties of United Nations Framework Convention on Climate Change). In actual negotiation, there were the conflicts between each nation when the numerical targets of greenhouse gas reduction is decided, availability of the technologies for the CDM (Clean Development Mechanism) is negotiated, and so on (Oberthur, 1999). There are the different advocacies between each nation. For apply the methodology of the recognitions structuring, we focus on these different recognitions that were made the conflict. The negotiation of the game is created the virtual situation from the actual one for predigested manner.

### 3.3 Setting of the agenda for recognition structuring: uncertainty

The agenda is whether the each technology can be included in the way of greenhouse gas reduction. For each technology, two or three options are set for better recognitions structuring among the nations. The carbon storage, forestation, transportation system and nuclear energy are chosen for negotiating items of the technologies. Table 1 shows characteristics of these technologies.

The selection criteria for the items are to take up the concept of the actual conflicts. Although in actual, there is the time difference among the

negotiations of each technology as the row “negotiated period” shows, in the negotiation game, these are handled at the same time and are negotiated in the game as a package deal.

As last two rows, “uncertainty” and “other aspect of the climate change issues” are taken up on the negotiation of the game because with these points, the conflicts arose. It means there are the different recognitions among the nations at these points. In the game, these differences of the recognition are represented on the cards as an explanation of each advocacy.

Technology	Carbon storage	Nuclear energy	Forestation	Transportation sys.
Negotiated Period	COP11 COP/MOP1	COP6	COP3,COP6,COP7 ,COP9	COP10
Negotiation matter	Certification as a CDM : - Go into COP/MOP2	Certification as a CDM : - Not permitted	Certification as a reduction target and as a CDM: - Permitted	- Promotion of transportation sector CDM
Uncertainty	- Technology development - Influence organism - Leakage	- Safety aspect - Nonproliferation - Technology development	- Absorbed amount - Definition of forestation - Durability	Definition of CDM project: - Estimation of baseline of traffic density - Ambiguous of areas
Other aspect of climate change issues	- Cost reduction - Using for EOR (Enhanced Oil Recovery)	- Energy security - Nonproliferation	- Outflow of soil protection - Conservation of forest ecosystem	- International cooperation of policy-support - Infrastructure construction business

Table 1: characteristic of 4 negotiated technical mitigations in actual

### 3.4 Setting of different recognition for nations: diversity

The nations in the game are set for having the difference advocacies based on the actual negotiation groups. There is the large difference of statement between the developed and the developing nations. As the agenda has been more and more specific, each nation has much more the difference of statement for each interest than the beginning of negotiation history. Therefore 3 developed and 3 developing hypothetical nations are set for the game as a following.

- \* Economically Developed Nation: lack in resources / a policy to diversify of nonfossil energy resources
- \* Technologically Developed Nation: a policy to develop and spread of one’s technology / anxiety about nonproliferation
- \* Environmentally Developed Nation: a policy to act for most reliable mitigations
- \* Newly Industrializing Nation: remarkable

economic growth / necessity for energy resources and technology transfer

- \* Energy Export Nation: possession of an abundance of fossil fuel and forest resources
- \* Developing Nation: requests for infrastructure development and technology transfer

The interests of the hypothetical nations are set with the scores for option by option about each item. For the balance of trade-off about interest between the each nation is considered. These differences of scores make the strategies of each nation.

### 3.5 Materials in the game: visualize the recognition of each nation

One of the features of the tool is to visualize the negotiation process. The materials of the game help to follow the negotiation process. In the negotiation process, the package deal is visualized using the expression board such as Figure 1 shows. The agenda items of four technologies are set up on the

board with some options for each technology. The pieces show the negotiator's opinion putting on appropriate place of the board. These pieces on the board show the distribution of the player's opinions so that the process of package deal is visualized. During the negotiation, they move them or add another piece to show their opinion changed or emphasized.

The negotiators also use the cards when they put the pieces on the board to present their opinion. The cards called "Knowledge Card" are written the contention for each nation.

The players have each score by the cards called "Score Card". These numerals of score express the advocacy of each option taken by each technology. The cards called "Uncertainty Card" represent the uncertainty of each technology that means the possibility of some events. According to the dices after they agreed with a certain proposal, nation's score would be changed.

Agenda	Option		
Carbon Storage  Suspend	Ocean & Ground 	Ground only 	Reject both 
Forestation  Suspend	Agree 		Reject 
Transportation System  Suspend	Agree 		Reject 
Nuclear Power  Suspend	Whole Nuclear Cycle 	Once-through only 	Reject 

Figure 1: An example of the board and pieces

## 4 IMPLEMENTATION OF "ANOTHER COP"

### 4.1 "Another COP" as an education tool

Through the experience of this tool, participants can easily understand the process of negotiation regardless of their skill of facilitation.

"Another COP" has two processes. One is negotiation process for about an hour and the other is debriefing process for about an hour.

### 4.2 The negotiation process

Players negotiate about technologies for climate change issues. The Players consist of six negotiators from different characterized nations and one chairperson. Each characteristic features are specified by the methodologies of recognitions structuring.

The players try to make an agreement for the items all together. The goal of each negotiator is to maximize its nation's score and the goal of a chairperson is to reach an international agreement smoothly.

The negotiation process follows the three steps that Figure 2 shows. The chairperson offers a proposal agreement of package deal of these items and negotiators vote for this. Their score should be beyond the indicated score when they agree with that. This negotiation is continued certain time until the negotiators reach to the agreement. These process was designed as "NA-BE; Negotiation for Agreement using a Board of Expression" (Inoue et. al., 2006).

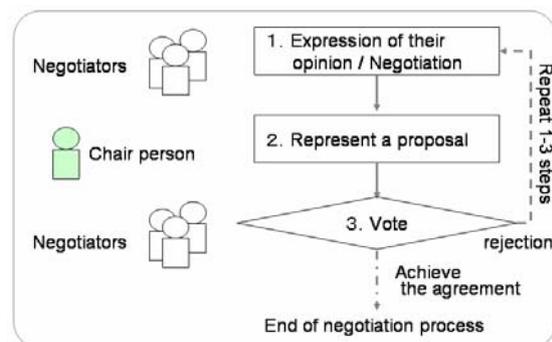


Figure 2: Structure of Negotiation Process "NABE"

### 4.3 The debriefing process

In the debriefing process, they discuss the issues related to the negotiation game such as the problems in the international negotiation, influence of uncertainty factors on climate change, about the technologies, other items of climate change issues and so on. Since the participants have the same experience through the negotiation game, the debriefing process provides a critical aspect of learning.

Participants are asked three questions: What do you feel during the game? What situations in the game are different from actual issues that you think of as a climate change negotiation? How do you think to make the better situation of the problems of negotiation? They have opportunity to discuss the issues through these processes. The participants also answer the questionnaires before and after the experience of this tool.

### 4.4 Workshops using "Another COP"

The workshop using "Another COP" for mainly the graduate students was held 11 times. In these workshops, the conflicts to reach the agreement are

observed from the negotiation process. As a results of these implementations, it can be shown that the game structure are well represented the summation of the international negotiation focussing on the measurements of the technologies. From the discussion in workshop and the questionnaires, the availability of “Another COP” as an education tool for supporting the comprehension of the technical issues and negotiations is suggested. Therefore from the satisfying implementation of “Another COP”, it is demonstrated the effectiveness of the methodology of the recognitions structuring.

The results show the availability of this tool to discuss the issues with the various fields of participants. After analyzing, we find this negotiation process has characterized broadly three steps although discussions itself were tend to the participants. First, they tried to adjust to the rule of the game itself and get the information. Then, they insisted their opinion to maximize their points with their strategies. Finally, they negotiated with compromise proposals or tried to persuade.

In spite of their personalities as independent variables, participants can be led to analyze role demands. Through these steps, they find the characterized situation of the package deal. They remark on the factors of package deal or climate change issues that they find through these steps. They stated many factors; the feelings, difference among their opinions, the compromises, trade-off situations among negotiators, the comparison with actual world, the empowerment of each nations or a chairperson, and so on. We suggest the availability of this tool for climate change issues to promote interdisciplinary education and discussion.



Figure 3: Demonstration of “Another COP”

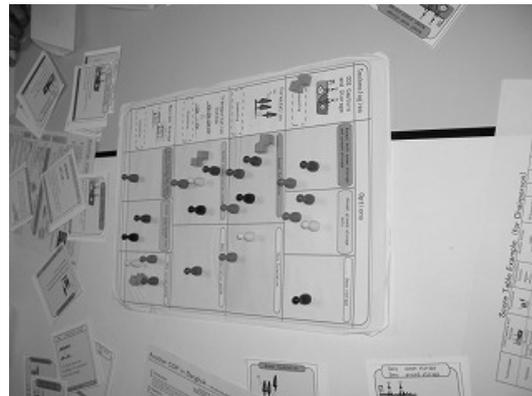


Figure 4: The board of “Another COP” during the demonstration

## 5 CONCLUSION AND FUTURE WORK

This paper describes how to set the agenda and hypothetical nations from the actual negotiation into “Another COP” using the methodology of recognition structuring. This tool enables the players to understand the negotiation process in an easy-to-understand way. The effectiveness of the methodology of recognition structuring is demonstrated. Therefore it is expected to have much more opportunity to introduce this education tool using the methodology of the recognition structuring for the dissemination of the knowledge about climate change issues. In the future work, it is expected to design the expansive tool for various matter.

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