Japan Geoscience Union Meeting 2015

(May 24th - 28th at Makuhari, Chiba, Japan) ©2015. Japan Geoscience Union. All Rights Reserved.

G03-11

Room:106



Time:May 24 11:45-12:00

## Customizable Educational Materials on Disaster Prevention -Differences between Crossroad and four-frame Cartoon

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After the Great East Japan Earthquake, a need for "BOSAI" education as a part of curriculum has been widely recognized. BOSAI can be translated as disaster prevention based on individual awareness of disaster risks and leading to personal empowerment to take preventive action. Contents of BOSAI class should vary depending on the location of each school as it has difference in disaster risks. Under present circumstances, however, it may be hard for schoolteachers to make suitable materials by their own.

At the time of disaster, people have to make the best decision as quick as possible with insufficient information, and most of the time there is no formulaic answer. This makes BOSAI class more difficult for schoolteachers. We therefor developed an educational material of "four-frame cartoon" suitable for pre-training the dilemma problems.

There already released "Crossroad" and "TOSSANOHITOKOTO" as BOSAI education materials to let people experience the severe situation of disaster in advance. In the presentation, we will refer to these three materials' features, difference and common points. We will also show how to choose a suitable material above the three depending on the disaster situations. For instance, these educational materials are similar in sharing the risks in advance of a disaster and let people simulate the severe situation, but they differ from each others in how to express players' answers or in customizability of target people or risks. Our compiling these materials will enable schoolteachers to choose the appropriate educational materials without worries or confusion and to think about the risks of their school situation together with their students.

Particularly, Crossroad and four-frame Cartoon are closely similar in dealing with dilemma problems, while they differs in the players' expression of final decisions such that Crossroad is an alternative judgment game of Yes or No and four-frame Cartoon requires explanation of the decision to fill the balloon of the cartoon. We therefore tried to make four-frame Cartoons by applying the stories of Crossroad assuming that their differences concentrate in the form of description such as in "text" or "cartoon". We, after all, found that not all stories of Crossroad could be remade into four-frame Cartoon. This is because the main point of Crossroad is to make a decision and that of four-frame Cartoon is to share the reason for the decision or to convince others of your decision.

Each feature of the two materials covers a sequence of situation people face at the time of disaster; first to make decisions and then to convince others. For example, you would have to think about how to distribute aid supplies that is not enough for all refugees at an evacuation site. This part is corresponding to decision. Then you would have to explain the background or reason of your decision to the refugees, corresponding to convincing others. By using both Crossroad and four-frame Cartoon, players can experience a sequence of dilemma situations to make decision and to convince others.

In the presentation, we will refer to the necessity for schoolteachers and students of dealing with dilemma problems and how we could approach such situation as a BOSAI education. We will also show how to make four-frame Cartoons by using the contents of "Disaster Management" produced by Cabinet Office as examples.

Keywords: earthquake, disaster prevention, education, disaster, education material