

## The development of teaching materials in simulating the dilemmatic decision-making processes in the event of a disaster

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The “4-frame cartoon,” a teaching material developed by the writer of this paper, was inspired by the disaster prevention drills held at Minami Sanriku-choritsu Utazu Middle School. The “4-frame cartoon” takes a gaming and exercise-based learning approach, and is carried out as a workshop. Participants must imagine themselves taking part in managing the evacuation sites. They are to collaborate with others in facing the dilemmatic situations that occur. The first 3 frames illustrate the proposed dilemmatic situation, and the 4th frame is left blank for participants to fill out with a dialogue targeting the general public. This dialogue is to be the result of a consensus-making process amongst participants, in coming up with a solution to the situation.

This paper will discuss the effects of this “4-frame cartoon,” mainly by conducting speech analyses of the workshop’s participants. Out of over 20 variations of the “4-frame cartoons” that exist, this paper will mainly examine the “role-based 4-frame cartoon.” The workshop is composed of an introductory lecture, group work, and presentations. During the group work time, a deck of “quote cards” are distributed to each group. Written on these cards are important information for their specific role, based on past disasters and incidents that actually occurred in evacuation sites. Participants will thus result in reaching a consensus by taking real-life situations in consideration.

Ever since the 2011 Great East Japan Earthquake, the demand for conducting disaster prevention education at schools and local communities has only increased. Meanwhile, learning materials are overwhelmingly lacking. Considering the fact that there has been almost no discussion on the means of evaluating existing materials; in accordance with Yamori (2007), and by classifying existing materials based on Atsumi (2006), this study aimed at evaluating the “4-frame cartoon” as a learning material for disaster prevention education.

Keywords: disaster prevention education, teaching materials, consensus-making