

Analogu experiment on interdisciplinary education of science and disaster mitigation

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1. Background

In disaster education at the school, it is required to foster "the ability to utilize knowledge and skills in real life" as specified in "School Education Law Article 30-2". Activities such as utilization of disaster prevention slogans and education by preparing disaster prevention slogans were carried out, but after the earthquake disaster prevention education became emphasized "to protect lives" "to think by oneself", teaching material development is ongoing .

When excessive emphasis is placed on "easy to understand" "ease of practice", as seen in the case of the Chile earthquake in February 2010, despite the fact that the hazard map residents were abundant enough to live nearby, As in the case of the possibility (Kesenuma city, 2011) which can not lead to the application of information or behavior to be read, as in the case at the Umi-Sumi Citizen Center in Kamaishi City at the time of the Great East Japan Earthquake, it was inappropriate for tsunami evacuation Evacuation to facilities and hazard maps may be read as safety maps (Kamaishi City, 2014).

2. Survey on degree of interest in earth science and knowledge of earthquake and tsunami

Survey on 178 students who are equivalent to university in university who do not specialize in geography, about the interest in earth science and knowledge about earthquakes and tsunami, 90% of the students recognized the danger of the tsunami after the earthquake However, as for the fact that the tsunami does not necessarily arrive from the pulling wave, the misrecognition rate (about 40%) is higher than the correct answer rate (about 20%), it is in a positive correlation with the prior interest and the high interested party It was shown that it has more erroneous knowledge. It was shown that it had more erroneous knowledge, and the problem point of disaster transmission only by experience was clarified.

3. Practice of disaster education with simple analogu simulation

Since 2010, as "basic science for disaster prevention", about the mechanism of the emergency earthquake bulletin entitled "Tatenami, Yokonami, Ready Go" and actions on receiving an emergency earthquake bulletin, Spring As well as explaining the propagation of seismic waves using the earthquake warning system. At 11 elementary schools that became evacuation on the day of the Great East Japan Earthquake on March 11, 2011, from some lower grade students who participated in "Tatenami, Yokonami, Ready Go", "I made it properly!" It took a voice. It is one example that having a concrete image of the disaster phenomenon lead led to quick response for hazard.

4. Potential as regional implementation

Efforts to develop and develop educational programs tailored to regional circumstances (Yamada, Matsumoto 2015, Hasegawa et al. 2016) in areas where promotion of local disaster prevention education is aimed at promoting settlement of young people also It is beginning. According to an interview survey in the area that caused extensive damage, testimonies such as "I went to see the sea then" and "I thought that the tsunami would not come" were obtained, and regarding disaster prevention (especially tsunami disaster prevention) There was a lack of consciousness of the parties. In order to ensure safety and security of local communities, we believe that combining "soft" countermeasures such as disaster prevention education and evacuation drills with effective "hard" measures implemented by the

administration is effective, and Regional Safety Disaster prevention. Actually disaster prevention and science education means education aimed at associating disaster prevention and scientific knowledge / understanding, and aiming at improvement not only in disaster prevention but also interest in natural science, a hydraulic experiment with a small aquarium is adopted. It was shown that the evacuation behaviors after the earthquake are effective, not the evacuation behaviors after confirming the tide, by conveying the characteristics of the earthquake that generates the tsunami and the characteristics of the tsunami propagation.

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