Study of Disaster Prevention Education in the Coast of Fukushima -For Sustainable Education on Disaster Prevention

*Momoko Hirata[1], Sho Hasegawa[2], Daiki Ito[1], Shuji Yamada[3], Shunsuke Sasaki[3], Takashi Ishizawa[1], Yuya Matsuoka[3], Shusaku Kon[1], Tadashi Isozaki[3], Michimasa Matsumoto[4], Miwa Kuri[4]

1. Graduate School of Science, Tohoku University, 2. Graduate School of Engineering, Tohoku University, 3. Graduate School of Arts and Letters, Tohoku University, 4. International Research Institute of Disaster Science, Tohoku University

1. Introduction

Non-structural measures against disaster (e.g., disaster prevention education and disaster drills) aimed at improving regional disaster prevention have recently claimed. Damage caused by a natural disaster is expressed by the product of an external force (hazard) and social vulnerability [Wisner, 2004]. Thus, strengthening of non-structural measures intends to reduce the social vulnerability and damage finally. However, there are a lot of problems to continue the long-term non-structural measures. In this study, to achieve the strengthening of regional disaster prevention, we tackled on disaster prevention education (DPE). Here, we examine the viewpoint necessary for the sustainable DPE.

2. Contents of DPE

A target area for DPE is the Coast of Fukushima Prefecture, where suffered huge damage from the Great East Japan Earthquake. DPE was carried out five times at the two elementary schools, the public hall, and the child house. We mainly conducted (1) “Disaster Mitigation Action Card Game” involving quick consideration and decision making for protecting themselves during disasters, (2) elucidation of regional disaster history relying on scientific materials, and (3) promotion activities of natural science.

3. Interdisciplinary DPE

As disaster prevention is a typical interdisciplinary research, we include not only DPE but also various activities (e.g., geological surveys, investigation of historical records, evacuation drills, and participant observation). To sublimate these “multi”-disciplinary activities into “inter”-disciplinary DPE, we consider the following important.

Review of the standing of external forces (hazards); The conventional measures against disaster prevention had been to study external forces and implement structural measures against them. It suggests that external forces had been positioned “outside” the society. Science education focused on natural science shows the similar trend. Therefore, we tried to position external forces “inside” society by incorporating regional disaster history and the card game into science education. It enables students to take initiative to consider both natural science and disaster and to regard external forces as necessity. Moreover, adults also replace external forces inside the society through evacuation drills. In accordance with this ethical framework based on philosophy, we aimed the interdisciplinary DPE.

4. For sustainable DPE

Their initiative is important for attaining sustainable DPE. Interventions in communities by external organizations have often been confirmed after catastrophes. However, in the future, it is desirable that activities on disaster prevention will continue and develop without external interventions. In our DPE, we requested students to talk what they thought to their families. This is exactly a remark expecting spread of initiative from children to adults. Moreover, through the explanation that regarding external forces as necessity leads to protect their lives against various disasters, we sought the understanding from some

school officials who wanted to avoid the topic of disaster. As another activity, we attempted to grasp the demands of the residents by long-term participant observation. As a result, it was clear that they have been requesting construction of a regional museum and human resource development on disaster prevention. Thus, it is expected that DPE will continue without external intervention by providing teaching materials and human resource development.

5. Conclusion

DPE was conducted in the Coast of Fukushima. We attempted replacing natural phenomena inside the society and training the initiative to consider natural science and disaster by incorporating local disaster history and the card gage into usual science education. We also aimed the spread of DPE for adults through the evacuation drills and grasping their needs. Through this study, sustainable DPE as well as further development of local initiative will be expected.

Keywords: disaster prevention education, interdisciplinary , social implementation, the Great East Japan Earthquake

