

Computer Based Educational Seismology System for Regional Elementary School Students

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Japan is one of the most seismically active countries in the world. Catastrophic earthquake can happen anywhere in the country and large offshore earthquake sometimes cause destructive Tsunami. Since no one can predict the exact date and location of the earthquakes, it is important to get prepared in advance to protect their homes and families. For this purpose, education of disaster preparedness is crucial for everyone. After the 2011 great Tohoku Oki earthquake occurs, importance of the education of disaster preparedness was rediscovered and various educational activities were held in schools and other public facilities. However the mechanism of earthquake itself (Why and how it happens, why the strong ground motion can be generated, what controls the ground motion intensity, etc.) is rarely taught in the classroom. Both comprehensive knowledge of the earth science and disaster drill should go together for the effective disaster prevention. In addition, the education of the earth science including seismology for younger generation is very important to encourage them to be a future scientist or/and leader of disaster prevention. In this study, we develop a computer based educational seismology system targeted for elementary school students. The system will be aimed at being used in the classroom to support their better understanding of earthquake and earth system. Prior to this project, we performed a series of survey in the local elementary school to figure out what teachers want for this type of learning system and how to adopt it in their class. Based on the survey, we developed a prototype of the system. Since it is targeted for little children, we made efforts so that it to be not only practical but also enjoyable. For example, as the prototype, we developed the computer game to determine the hypocenter of earthquakes, which is practical and visually enjoyable. In the game, students will pick P- and S-wave by themselves and compete the score. Furthermore, since we are trying to distribute the system to the local elementary school, we included the learning contents of the local geology, tectonics and historical earthquakes in the system so that they can learn them effectively and prepare for the future earthquake that affects their home town.

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