

Drawing up of "teaching plan" applying Sakurajima-Kinkowan Geopark's regional resources "volcanic ash".

*Miyuki Yoshikawa¹

1. Geopark Promotion Office, Kagoshima City Hall

[Introduction]

Sakurajima-Kinkowan Geopark which designated in 2013 as a Japanese national geopark is located in southern part of Kyushu, in the middle of Kagoshima prefecture. An active volcano, Sakurajima which is as symbol to people in Kagoshima has repeated its volcanic eruption for over 60 years since 1955. Our geopark is uncommon to have phenomenon of ash fall on a daily basis and volcanic ash is very familiar to us.

[Applying resources of geopark to school education]

According to "Course of Study (of earth science fields)" of the Minister of Education, Culture, Sports, Science and Technology, it says "applying regional resources and nurture the love for their home". However teachers do not have enough time to research those teaching materials and as a result, many teachers develop science classes by following school books and existing teaching books. Therefore, our geopark wrote out "teaching plan" by cooperating with teachers of local community which can be applied to unit of "land structure and crustal deformation" of science class in 6th grade of elementary school. The materials used in the teaching plan was "volcanic ash" which is representative regional resources in our geopark.

[Content]

Content of teaching plan was "punning experiment" by using volcanic ash. By carrying out an experiment using volcanic ash which is familiar to students' daily lives was not only learning about land structure and an active volcano Sakurajima, but also linked to opportunity to think about disaster prevention.

[An idea to adapt it to school]

"Teaching plan" that we wrote out is packaged with 1. Predictive response and questions of students and example answer of teachers to those, 2. Spreadsheet, 3. Experiment recipe and list of minerals that it widely spread to school teachers. We also made data for examples of materials which are made by properties of magma, pattern of explosion, and distinctive volcanic landscape to learn deeper including disaster prevention.

[Achievements]

The educator of our geopark held 1 class in 1 school in 2014 and 5 classes in 3 schools in 2015 based on "teaching plan" made by cooperation with teachers in local community which took half a year. Teachers of local community themselves also hold class by using this "teaching plan". According to the surveys of the students after they participated classes said "annoying volcanic ash turned out to be volcanic ash contains jewels (minerals)." or "Sakurajima which we used to only look out is now looks more fascinated." That we successfully made a new way to look resources and rediscovery of region.

[Future prospects]

We are planning to develop and deepen the educational materials by cooperating with teachers and researchers to apply our "teaching plan" widely in elementary and junior high schools outside of our geopark. Not only school educations but also to elaborate on education using regional resources by cooperating with more stakeholders are required such as to enrich "geo-kids class" which is offered by collaborating with museum, science museum, and aquarium in the region.

Keywords: sakurajima, sakurajima-kinkowan geopark, geopark, school, learning program, education