

The effect of learning support to elementary and junior high school in Choshi geopark

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1. Introduction

Geopark is a unified area with valuable geology and landscape as well as natural environment, history, culture and industry which relate with the earth in the region. In order to spread geopark activities, it is important to conduct educational activities. According to Guidelines and Criteria for National Geoparks seeking UNESCO's assistance to join the Global Geoparks Network (GGN), "One of the main issues is to link geo-education with the local context, thus local students should learn about the importance of their geological heritage inter-related to the biodiversity and local cultural heritage. Creating Earth science curricula for primary and secondary schools, using the local information about geology, geomorphology, physical geography as well as all components of its heritage will help to preserve the Geopark while at the same time reinforcing local awareness, pride, and self-identity".

Therefore, we introduce the learning support to elementary and junior high schools in Choshi. And we also introduce the result of a questionnaire survey about to what extent the people aware Choshi geopark.

2. Method of learning support that targets first-year junior high school

Learning support to elementary and junior high schools about the Geopark has been carried out mainly by Ando, one of the authors (Ando, Kasukawa 2013, 2014). Here we will introduce learning support intended for the students for the first year at junior high school. According to the curriculum guidelines of the Ministry of Education, Culture, Sports, Science and Technology in Japan, the objective of the Science(Field Two) in the junior high school is "to enable students to acquire skills for observation and experimentation by making observations and conducting experiments regarding geological events and phenomena, while also cultivating their ability to analyze, interpret, and express the results." And the detail contents related to "Overlapping of strata and aspects from the past" is "to enable students to discover regularity with regard to how strata overlap and expand based on records of these observations which they conduct outdoor and consider how strata are accumulated. To enable students to estimate past environments and geologic age by using strata and the fossils contained within them as clues." Therefore, the method of learning support was as follows.

3. Contents

3.1 Visits Byobugaura cliff geo-site and sampling (2 hours)

- Sketch outcrop
- Draw a geologic column
- Take sample from the volcanic ash layer
- Explain about faults, folds and widespread tephras
- Explain how strata at Byobugaura cliff are accumulated
- Explain about coastal terrace and unconformity

3.2 Lectures and observation in the laboratory (2 hours)

- Lecture of "How the strata have been formed?"
- Stereomicroscope observation of the sample
- Observation of sedimentary rocks and fossils
- Summary

4. Questionnaire survey about awareness of Choshi Geopark among the students and general public in Choshi city

Choshi city of grade five, grade eight, Municipal High School sophomore and teachers (except the Prefectural High School) targeted for everyone, was carried out a questionnaire survey on awareness of Choshi Geopark in September 2014. In addition, we conducted the same survey among the general public at the hill top observatory at Mt. Atago-yama in Choshi city for three days weekend from January 10 to 12, 2015.

The result show that the percentage of people who responded that they "know" the Choshi Geopark are significant in the group of grade five and grade eight students, which indicate that higher awareness of Choshi Geopark than the grade eleven students and the general public who have not received learning support. It has been found that the learning support program has penetrated to elementary and junior high school students to a certain extent in Choshi city.

O01-P09

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