

Earth science education that connects the local geological characteristic and the culture

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The contents of earth science such as disasters, environment, energy and mineral resource relate closely to our livelihood. It is, therefore, important to learn earth science in our student days. In this presentation, I report case studies of practical works for earth science education at Aichi University. Aichi University is composed of 7 departments related to humanities, and the students are lack of science education. The purpose of my class is to lead the students to understanding the relation between the local geological characteristic and the culture.

(1) Relation between lake sediments, distributed in western part of Aichi prefecture, and ceramics industry

In Tokai region, there are a lot of areas that developed by ceramics such as Seto, Tokoname, Mino and Tajimi. Clay minerals used for ceramics are originated from lake sediments deposited in Pleistocene. In most of the schools of these areas, students learn the formation process of the ceramics, whereas they do not learn the origin of the materials (clay minerals). In this practical work, students sample the clay from the lake sediments, and they shape the clay to dishes such as cups. The dishes are baked by charcoal.

The purpose of this practical work is that they learn the ceramics culture in Tokai region is based on the local geological characteristic.

(2) Igneous rocks distributed in the eastern part of Aichi prefecture and the contained minerals
In the eastern part of Aichi prefecture, volcanic rocks (Shitara volcanic rocks) and plutonic rocks (Ryoke belt) are extensively distributed. The students can learn the internal structure of a volcano effectively owing to the dissected fields. Furthermore, they can sample minerals that are used as gemstones such as quartz and opal. The sampled minerals are fabricated to accessories such as a pierce.

The purpose of this practical work is that they learn gemstones that we wear usually are formed by ancient igneous activities occurred around the area.

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