令和3年度　環境科学院　修士論文内容の要旨

Efficacy of geoscientific education of Tokachi-Shikaoi Geopark, Japan

（とかち鹿追ジオパークの地球科学的教育の有効性）

Hokkaido University, Graduate School of Environmental Science
Division of Environmental Science Development, Course of Global Environmental Management
Xiang Shirou

Geopark's three objectives are to protect geological relics, to disseminate geo-knowledge, and to promote local economic development. Geoscientific knowledge education serves as the foundation of these three objectives.

The aim of the present study is to examine the efficacy of geoscientific education methods on the sustainable development of geoparks in Japan. This research focuses on Tokachi-Shikaoi Geopark and Hokkaido Shikaoi High School, which is the only one in the area. This study is mainly conducted through field interviews with five key informants of geoscientific education in Shikaoi Town and an online questionnaire survey of Shikaoi High School students, followed by a SWOT analysis of two different geoscience-related education programs: (1) the former systematic geoscientific education program called ‘Shin-Chikyu Gaku’; and (2) the current selective minimum course in the ‘Shikaoi Revitalization Program’.

According to the results of a questionnaire survey, the students who have received the systematic geoscientific education generally have a more profound understanding of geo-knowledge than the students who have not received the systematic geoscientific education. Moreover, there are significant differences in the understanding of geo-knowledge (P-value ranges from 0.000-0.048). About 46.4% of the students who received systematic geoscientific education expressed a strong interest in geopark, and 61.7% stated that their understanding of the geopark is extremely thorough. However, only 19.7% of students who had not received the systematic geoscientific education exhibited interests in the geopark, and only 9.1% of the students believed that they had a reasonable knowledge of the geopark.

Through a comparison of two different types of geoscientific education, it is determined that Hokkaido Shikaoi High School can maximize the efficacy of geoscientific education in Tokachi-Shikaoi Geopark by using the following strategies: (1) ensuring that geoscientific education is covered in all students' curriculum; (2) providing effective geoscientific education through the development of innovative curriculum; (3) providing better geoscience training for teachers; (4) strengthening cooperation with the geopark; and (5) acquiring the government's long-term support. These strategies will serve as guidelines for the long-term development of geoscientific education in other geoparks of Japan.