

## 漢字基盤地球科學用語의理解程度와效用性

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The purpose of this study is investigation of understanding levels and utilities of the earth science educational terms written by Chinese characters.

Kim and Koh (2003)'s analysis of the earth science concerned vocabularies in science textbooks for 3rd to 6th grades of elementary school. In the books, earth region vocabularies were derived from 70% to 80% words of Chinese, below 10% of pure Korean, and other languages.

Jeong et al.(2007) analyzed 9th grade(middle school grade of the Korea) students' understanding about the earth science terms written by Chinese characters depending on their learning style and attitudes toward science. They selected the eight students, the students were judged middle level of science. Students were divided into four groups: verbal-high attitude toward science, verbal-low attitude toward science, visual-high attitude toward science, and visual-low attitude toward science learners. Researchers had three types of questionnaires including Korean character type, picture type, and Korean and Chinese characters type to how developing the students' understanding about the earth science terms written by Chinese characters. The results of data indicated that the 9th grades students' understanding showed no significant difference by their different learning style, and yet demonstrated higher level of understanding in Korean and Chinese characters type questionnaire rather than Korean characters type only or picture type. On the other hand, the level of students' understanding both in Korean characters type and picture type was equal. In conclusion, it seems more effective learning earth science terms written by Chinese characters when they were provided with both Korean and Chinese characters.

Jeong et al.(2007) analyzed 10th grade students' understanding level about earth science terms written in Chinese characters according to learners' characteristic. In order to investigate the responses followed their various characteristics, first of all, proper scientific terms were selected, and then corresponding questions about them were offered as subjects, which consisted of Korean characters type, picture type, and

Korean and Chinese characters type. During paper test and interview, the questions were given to fifteen students from general high school. The results of the study are as follows; Students in formal operation level and field independency answered very well and also the terms of Chinese characters type and picture type improved the students' understanding and memorization. Generally, Chinese characters have more positive influence on their learning than negative. Therefore, in general, it seems that more effective to explain the sound and meaning of terms in detail. In addition to give learners enough time to draw a picture about each terms by themselves when scientific terms are delivered to students in Chinese characters in class.

Lee et al,(2002) investigated that whether 11th grades students with more knowledge of Chinese Character get higher academic adaptability in inquiry activities using the concept and understanding level of earth science terms than the students with less knowledge of Chinese Character. They analyze which relationship exist between two groups. The students with more Chinese Character knowledge show high understanding level and high corrected answer rate in inquiry questions. However, the students with little knowledge also high corrected answer rate in inquiry question, but there is only a little difference on the level of concept understanding for earth science education is linearly connected from elementary school to high school.

In a prior study, researchers reported that Chinese Character learning will help understanding concept better but the lack of knowledge about Chinese Character will not be obstacle to understand the concepts in earth science, futhermore to do inquiry activities using the concept. Under the college education, however, science terms written by Chinese characters in science major tend to compare with the highschool abruptly. In order to get a complete concepts of new science terms, learning of the Chinese characters is needed. In conclusion, Chinese Characters learning will help understand new knowledge in college education and is very efficient at translation of science literatures written by foreign language without confusion.

Key words: Earth Science Terms, Chinese Character, elementary school, Middle school, High school