



Semantic Network Analysis on Terms related Mantle in Earth Science 2 Textbooks of Korea

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Abstract : The purpose of this study is to demonstrate if freshmen's cognitive frame about 'Crisis of the Earth' upon taking the Earth science 1 in high school reflects the school curriculum. The data was collected from 67 freshmen who'd graduated high school in formal education. They expressed 'Crisis of the Earth' as a painting with explanation and then we extracted units of meaning from paintings, respectively. We analyzed the words and frame using the Semantic Network Analysis. The result is as follows; First, as every participant forms the cognitive frame for the crisis of the Earth, it is shown that they connect each part which that composes the global environment and realize it as the changing relation with interaction. Secondly, forming a cognitive frame regarding crisis of the Earth, both groups connect it with human endeavor. Especially, it seems that the group of participants who finished Earth Science I fully reflects the course of the formal education. It is necessary to make the students recognize it from a universal point of view, not only from the Earth. Also, much effort is required in order to enlighten about the appropriateness regarding problem-solving of the Earth and expand their mind as time changes.

Keywords : Earth Science [U+2160], cognitive frame, crisis of the earth, semantic network analysis