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A Relationship between the Science Process Skills of the Middle School Students and their Hemispheric Specialization

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The purpose of this study was to investigate the relationship between the science process skills and the hemispheric specialization and to provide a fundamental information necessary for improving the science process skills and developing the teaching program. The scores of the basic inquiry ability were generally higher than the ones of the integrated inquiry ability. Based on the cognitive laterality test, the right brain-dominant students were 50% of the total students and the left brain-dominant students were 46%, while the harmonic development students who have equally developed brain were 4%. The correlation between the scientific inquiry ability and the hemispheric lateralization was statistically significant ($p < 0.01$). The score of the right brain-dominant students was 22.61 and higher than ones of the other two groups. The difference among three groups was statistically significant ($p < 0.001$). Students' scientific inquiry ability was significantly correlated with their science achievement ($p < 0.001$). However, there was no significant correlation between science achievement and the hemispheric lateralization. Although the right brain-dominant students showed a higher science achievement score of 62.53, there was no significant difference among three groups.

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The Plant Laboratory Experiments in the 6th Middle School Science Textbooks: an Analysis by Vee Diagram

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In this study, the experiments related to plants which are introduced in the 6th middle school science textbooks were examined by using vee diagram and the most proper contents to the experiments were suggested. Among the experiments related to plants in the five textbooks of the 6th curriculum, the ones appeared in more than three textbooks were analyzed. 'Focus Questions' given to some experiments like *Stem structure* in the Dusan and Cheonjae textbooks and *Transpiration by plants* in the Kyohaksa and Hansaem textbooks are not suitable to the 'Knowledge Claim' described in the textbooks. In terms of inquiry activity, there are some improper 'Events' for the experiments corresponding to 'Focus Question' such as *Somatic cell division* in most textbooks and *Transpiration by plant* in the Dusan textbook. Most textbooks do not contain the STS contents in which 'Value Claim' could be related with science and everyday life. 'Value Claims' are suggested in the experiments of *Transpiration by plants* in Kyohaksa textbook, *Gas produced by photosynthesis* in Dusan textbook, and *Flower structure* in Hansaem textbook.