

A multidisciplinary approach to learning from geological and geographical perspective.

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The intention of this study is to consider the efficiency of a multidisciplinary approach of learning from the perspective of geology and geography. The common word "GEO" implies its commonness and many geology and geography teachers are aware of it, but just vaguely. It is time to reconsider the relation between both learning concretely, since the global environmental change has increased its complexity and needs a practical interdisciplinary approach for the real solution. In particular in Japan, the earthquake in 2011 also stimulated us to reconsider our perspective on earth. Such actual problems should be addressed by whole earth perspective and through an interdisciplinary approach. These points are intensively discussed in context of future earth. As a school subject concerned with earth and global problems, geology and geography can contribute to it.

We planned and implemented a one-hour class with multidisciplinary approach of geology and geography for 52 11th-grade students in a private high school in Tokyo. The issue is Fossa Magna, geological feature located in central Japan, treated at first from geological aspects such as development of Japan islands, active fault line and thickness of sediment rock. Successively into geographical aspect such as geo-tourism in Geopark, mining limestone and developing cement industry. The questionnaire of students review shows 96% of students "understand the difference of the 2 subjective perspectives" and "recognize the significance of the multidisciplinary approach." Almost half of them agree that "multidisciplinary learning is efficient for better understanding."

Earth-scientific explanation from the perspective of geology is to geographies advantage to learn scientific physical condition for human activity. As for geology, the relation between geological features and human activity treated by geography gives feedback to geology to remind the significance of learning geology.

For further advance of multidisciplinary approach, besides revising learning material, the potential of the cooperation of 2 geo-subjects should be discussed at curricula level.

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