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中・高等学校の化学分野における教科書中の図式について

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分子化学分野

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OGAWA, H., ISHIWAKI, K., IKUO, A., YOSHINAGA, Y. and FUJII, H.: Survey of scheme expression concerning chemistry in textbooks of “Science” and “Chemistry I・II” used in junior-high and senior-high school in Japan. Bull. Tokyo Gakugei Univ. Natur. Sci., 60: 9-18. (2008) ISSN 1880-4330

Abstract

A survey of schemes adopted in new textbooks of “Science” and “Chemistry I・II” used in junior-high and senior-high school in Japan has been conducted. Popular textbooks of three in junior-high school and five in senior-high school, which were compiled based on Japanese course of study (MEXT, 1998, 1999), were chosen for the survey. Schemes were assorted into two groups based on style and matter. The style of a scheme could be classified into four categories, figures, graphs-tables, pictures, and equations. The matter of a scheme could also be classified into four categories based on whether it describes a concept, a phenomenon, an experimental device-apparatus, or a case description. It was found that a large number of schemes concerning an experimental device-apparatus and case description were adopted in junior-high school textbooks, and those concerning concept and phenomenon were adopted in senior-high school textbooks. The most fundamental schemes were extracted by citation frequency. Further improvement in the adequateness for use of schemes at the appropriate level in each grade would be a great help for learners.

Key words: scheme, figure, textbook, science, chemistry

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