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小学校理科に新しい形で遺伝子に関わる内容を導入する
——その理念と方策——

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Abstract

One of the contemporary issues faced by highly developed societies is promotion of knowledge regarding the genetics. Hence, science education that includes information on the gene is crucial even in primary and junior high schools. Currently, in primary, junior high and high school curricula, the focus on the genes is in the order of the organism, cell, nucleus, chromosome, and DNA. In other words, the focus of school education is arranged so that it flows seamlessly from macro to nano levels, and high school students are exposed to the subject of genetics. However, there is now a social requirement to introduce genetics to younger students of primary and junior high schools. One method would be to change the order of the learning contents in the present curriculum; however, this is not practical under the curriculum guidelines prescribed by the current ministry. Further, including any conceptual studies on the gene is not suited for younger children in early developmental stage. Therefore, a novel approach to introducing genetics is necessary for those who have not had readiness for genetics learning.

In this study, we first clarified the characteristics and the issues of the current school curriculum prescribed for the primary and the junior high schools. Next, we suggested a part of teaching program with genetic concepts in animal and plant studies. We have also referred the use of the terms, which can be accepted by the primary school students. Moreover, the usefulness of three-dimensional photographs in the science education has been stressed. Finally, the introduction regarding the novel approach has been discussed.

(in Japanese)

Key words: gene, genetic fundamental, primary school, science education

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