

<p>21. Developmental Research on a Moral Education Curriculum to Cultivate Ethical Outlooks for the Science and Technology Era Leader: NISHINO Mayumi, Senior Researcher, Department of Curriculum Research, Curriculum Research Center</p>

(1) Purpose and Aim of Study

Japan's aim to be a world leader in science and technology has generated expectations concerning the role of education on science and technology and science, and there is now an urgent need to establish a system of science and technology ethics oriented to the development of new relationships between civil society and science and technology.

As well as improving programs for acquisition of basic knowledge, the school education system is being required to upgrade curricula focusing on the "mentality" of children studying science—aspects such as an enthusiastic approach to learning, and a desire to apply that learning to everyday life and society.

In light of these demands, this study sought to develop in moral education in school a theoretical framework to inform the development of a curriculum to cultivate the ethical outlooks needed in the science and technology era. The following two tasks were undertaken in order to fulfill this purpose.

1. Analysis of findings from theoretical research on the relationship between science and morals/ethics in the science and technology era, and exploration of theoretical frameworks to underpin curricular development in moral education.
2. Exploration of methods for curricular development in moral education linked to science education.

(2) Outline of Research Results

- Surveyed the relationship between scientific perspectives and morals/ethics and morality in contemporary philosophy of science, and identified issues to be addressed in moral education from now on.

- Examined case studies on moral education for engineers in universities in the U.S., and concluded that engineering design-based approaches could play an important role in the morals education curriculum, particularly in secondary education.
- Shed light on the significance of consensus-building through communication in the science and technology era, applying findings from research on risk communication, which has attracted attention as an assessment of science and technology in civil society.
- Based on the findings above, proposed “critical thinking” and “consensus-building through communication” as the core educational issues in a morals education curriculum for cultivating science and technology ethics, and discussed theories for curricular development to address these issues.