

# The vision for education from now on, and the possibilities and tasks for marine education

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# Structuring an curriculum aimed at fostering of qualities and abilities that will be necessary in a new era (image)

## Fostering of qualities and abilities that will be necessary in a new era

- ◆ Qualities and abilities that are necessary for cooperating with others and living creatively, as an independent human being
- ◆ Things that are thought to be important for Japanese children in the future, such as motivation to proactively take on anything, an attitude of respecting diversity, leadership and teamwork for cooperating with others, communication abilities, abundant sensitivity and kindness, and thoughtfulness

### What will become possible?

Enhancement of learning assessment from the perspective of developing the qualities and abilities that should be fostered

### What will be studied?

New establishment of subjects, and reconsideration of objectives and content, in light of the qualities and abilities that should be fostered

- ◆ Strengthening of English abilities, which are essential in a global society (doing things such as creating subjects for elementary and secondary school years), and enhancing education related to Japanese traditional culture
- ◆ Improvement of high school education aimed at cultivating the ability to live independently as the people who will be responsible for forming the country and society etc.

### What form of studying will be used?

Proactive and cooperative learning aimed at discovering and resolving tasks in order to develop the qualities and abilities that should be fostered (“active learning”)

- ◆ Focusing on the quality and depth of learning so that people will not only know certain matters, but will also be able to utilize knowledge and skills in actual society and daily life while independently discovering tasks, proactively and cooperatively conducting research, and expressing things such as results

# Enhancement of active learning

Not only acquisition of knowledge, but also cultivation of things such as thinking abilities, judgment abilities, expression abilities, and an attitude of being proactive in cooperating with a wide variety of people

It is important for children to see the outlook for their learning, make efforts to proactively and cooperatively discover and resolve tasks, and conduct activities to reflect on what they have learned.

Ex: Improvement of lesson through “language activities”



Exchanging opinions in pairs



For example, not only the style of teaching en masse, but also...



For example, not only the teacher explaining things, but also...



Students explaining things

Discussions using a white board

Discussions using post-it notes

Deciding positions and then holding discussions

Making things such as posters and then making presentations



# Examples of active learning in elementary and secondary education

## Enhancement of language activities

### Examples of initiatives in Japanese language studies

Reading familiar folk stories, the classic works that were their roots, and related materials, summarizing the content and interesting points, and presenting them as a group. Also listening to other groups' presentations, making comparisons with the classic works that one presented, and expressing one's thoughts and things learned in writing.

(Photo below) A group making a presentation about the roots of a folk story



### Examples of initiatives in science

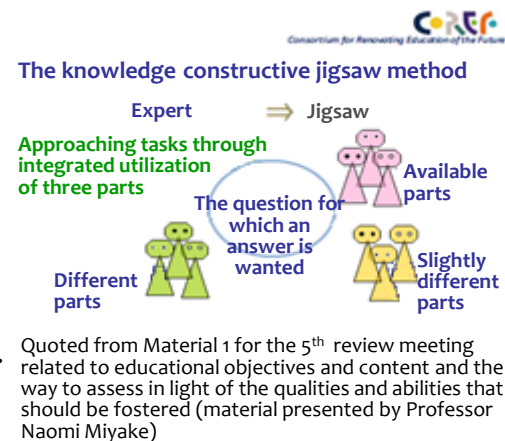
For the mechanism of an air gun, using an experiment to confirm the way a pellet flies out, and organizing one's thoughts in a diagram. The teacher takes pictures of those with a tablet PC and shares several proposals on an electronic blackboard. The thoughts of the entire class are classified, and each student compares them with his or her own thoughts.

(Photo on the left) Comparison and consideration of different perspectives



## Promotion of pair learning and group learning

Setting multiple perspectives in order to resolve a certain task, dividing duties, and eliciting an answer by making integration through discussing the explanations that each person created. In addition, presenting the answers and grounds of each group to the entire class, which will lead to deeper understanding. (Example of the jigsaw method)



Quoted from Material 1 for the 5<sup>th</sup> review meeting related to educational objectives and content and the way to assess in light of the qualities and abilities that should be fostered (material presented by Professor Naomi Miyake)

## Utilization of ICT

Effectively utilizing ICT such as tablet PCs and electronic blackboards makes classes easier to understand, and through individual learning and cooperative learning it becomes possible for children to learn proactively.

(Photo on the left) Presenting and discussing one's own thoughts



## Collaboration with schools, households, and regions through utilization of external human resources, etc.

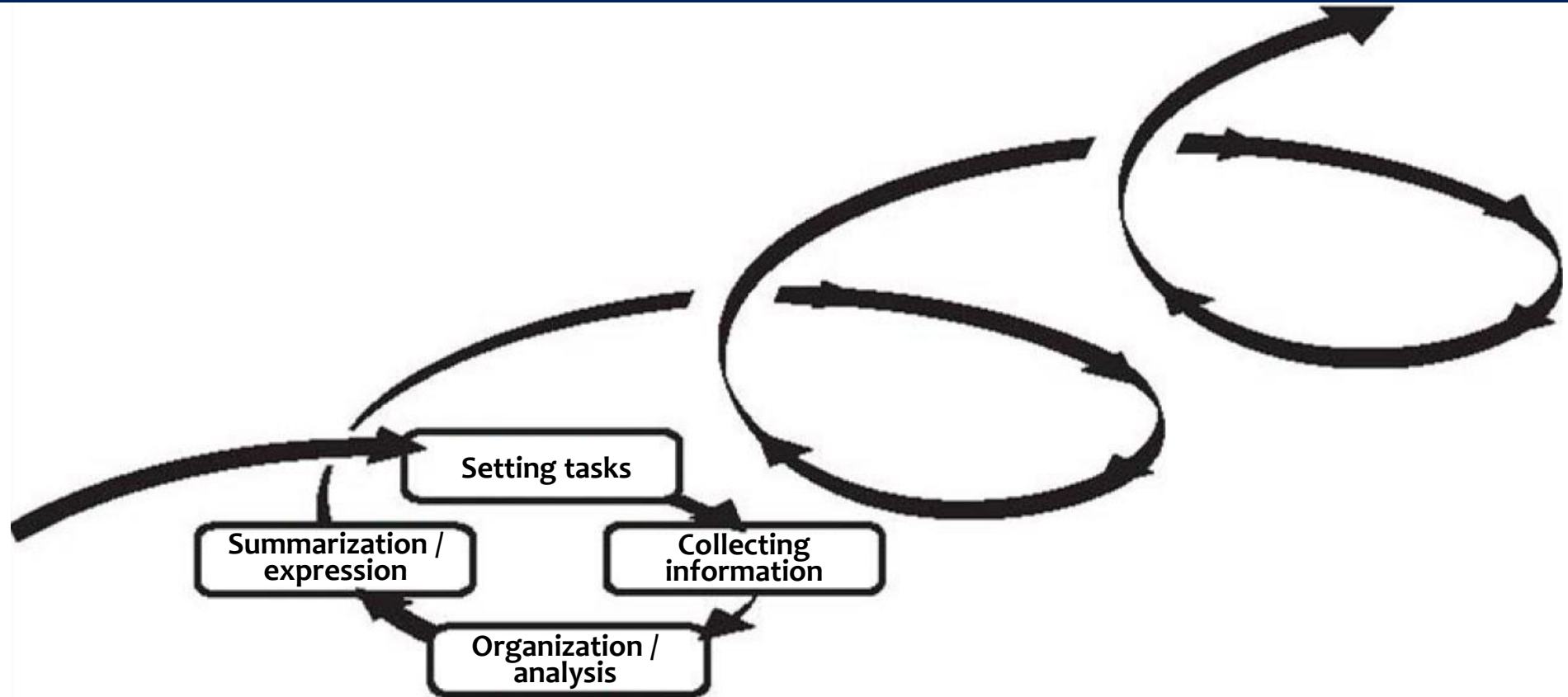
Opportunities such as various learning and experience activities are provided by utilizing Saturdays, with the cooperation of volunteers such as local residents and parents and guest teachers from places such as private-sector companies.

(Photos on the right) Eco-friendly craftwork as part of environmental learning





# The form of children's and students' learning in exploratory learning during the integrated studies class



■ Paying attention to daily life and society, and children and students setting tasks themselves

■ Going through the process of research

- (1) Setting tasks
- (2) Collecting information
- (3) Organization / analysis
- (4) Summarization / expression

■ One's own thoughts and tasks are newly renewed and the research process is repeated.

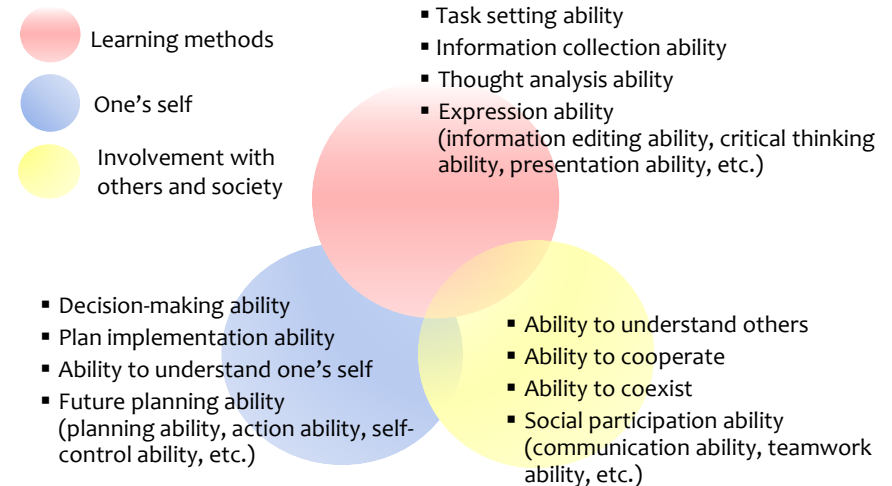
# Setting content at each school

- For content, it is necessary to set learning tasks that each school has judged appropriate in order to realize objectives. These learning tasks include, for example, cross-sector and comprehensive tasks such as international understanding, information, the environment, welfare and health, tasks based on students' interests and concerns, tasks in accordance with the school's characteristics, tasks related to occupations and one's future, and various educationally valuable tasks that are cross-sector and comprehensive, that are appropriate for research-based learning, and for which that learning and the things noticed will cause students to think about their way of living.

## Setting qualities, abilities, and attitudes at each school

- Things that specifically and analytically indicate the objectives of each school
- Consideration from three perspectives
  - Things related to learning methods
  - Things related to one's self
  - Things related to others and society  
(\*Concurrence with OECD key competencies)

### Abilities that can be utilized in actual society (examples)



# The state of education related to the ocean

- As for education related to the ocean, in social studies, etc. from elementary school through high school, education is being provided about things such as location and territory of Japan, its characteristics as a marine country, and the ocean's effects, based on the Course of Study.
- The Course of Study was revised in 2008 and 2009, and efforts are being made to enhance education related to the ocean. (It have been implemented since fiscal 2011 for elementary schools, since fiscal 2012 for junior high schools, and starting with new students in fiscal 2013 for high schools.)

(Note)

Course of Study: Curriculum standards that were announced and stipulated by the Minister of Education, Culture, Sports, Science and Technology, based on delegation under the provisions of the School Education Act, etc. Thus far, they have been revised approximately every ten years.

- Based on this, statements about things such as the eastern, western, southern, and northern edges of national land, Japanese territorial issues, territorial waters and exclusive economic zones, fishing resources, and the effects of seawater movement on the weather are made in elementary school social studies textbooks, junior high school social studies and science textbooks, and high school geography, history, civics, and science textbooks.

# Relational description for the course of study (elementary schools)

- Course of study for elementary school: Social studies (Grade 5) (announced in March 2008)
  - (1) Concerning national land and nature of Japan, students will investigate the things below by utilizing maps, globes, and materials, etc., so that they will think about the fact that the environment of national land has a close relationship with people's daily lives and industries.
    - A. The world's major continents and oceans, the names and locations of major countries, and **location and territory of Japan**
  - (2) Concerning Japanese agriculture and **fishing industry**, students will investigate the things below by utilizing maps, globes, and materials, etc., so that they will think about the fact that those things play an important role in securing food for the citizens and the fact that they are conducted with a deep relationship with the natural environment.
    - A. The fact that various kinds of food production support citizens' dietary habits, and the fact that some food is imported from other countries
    - B. Things such as the distribution of major food products and characteristics of land use of Japan
    - C. The ingenuity and efforts of people engaged in food production, and the mechanisms of things such as transport linking production areas with consumption areas



# Relational description for the course of study (junior high schools)

## ○ Course of study for junior high school: Social studies (geographical field) (announced in March 2008)

(1) Various regions of the world

A. Regional composition of the world

By utilizing globes and world maps, things such as latitude and longitude, **distribution of land and oceans**, the names and locations of major countries, and regional classifications will be studied, so that students will make a general study of regional composition of the world.

(2) Various regions of Japan

A. Regional composition of Japan

By utilizing globes and maps, things such as **the location of Japan's national land**, time differences with various regions of the world, **characteristics and changes of territory**, and regional classifications will be studied, so that students will make a general study of regional composition of Japan.

B. Regional characteristics of Japan compared to the rest of the world

(a) The natural environment

Students will understand the characteristics of Japan's topography and climate and **the characteristics of Japan's national land, which is surrounded by oceans**, from a global perspective, and the characteristics of Japan's topography and climate and efforts for preventing natural disasters will be studied, so that students will make a general study of characteristics related to natural environment of Japan.

(Handling of content)

(a) **Japan's characteristics as a marine country** will be studied concerning "characteristics and changes of territory," and students will also be made to focus on issues of Japan's territory, such as the fact that the northern territories are inherently territories of Japan.

## ○ Course of study for Junior high school: Science (2nd field) (announced in March 2008)

(4) Weather and its changes

C. Japanese weather

(b) Atmospheric movement and effects on the ocean

Using things such as weather cameras and investigative records, associations will be made between Japanese weather and the atmospheric movements around Japan and **effects on the ocean**.

# Relational description for course of study (high schools)

- Course of study for high school: Geography and history Geography A (announced in March 2009)
  - A. The modern world as seen from globes and maps  
Through comparisons of globes and world maps, and things such as the graphics of brief maps, students will understand things such as the forms of continents and oceans on the Earth's surface, positional relationships of various countries, orientations, time differences, and **location and territory of Japan**.
  - C. Geographical consideration of global tasks  
Students will consider the environment, **resources and energy**, populations, food, and residence and urban issues from global and regional perspectives, understand that global issues are issues that go beyond regions and that the ways they occur differ by region, and think about the fact that efforts by each country aimed at realizing a sustainable society and international cooperation are necessary in order to resolve those issues.

(Handling of content)

For A, ingenuity will be used to make students familiar with ways of thinking about the world on the Earth. For location and territory of Japan, location will be considered from a global perspective and **issues of Japan's territory** will also be covered.

For C, it will be handled by combining learning that make a general survey of the world and learning that consider through specific examples for each global issue. In doing so, ingenuity will be used for handling so that attention is paid to the fact that there are respective mutual relationships between the environment, resources and energy, populations, food, and residence and urban issues.

\*There are also related descriptions for Geography B.

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