



Center for Research on International Cooperation  
in Educational Development, University of Tsukuba

November 29th, 2004

International educational cooperation symposium  
*Problematic and Perspective of international cooperation in mathematics education*

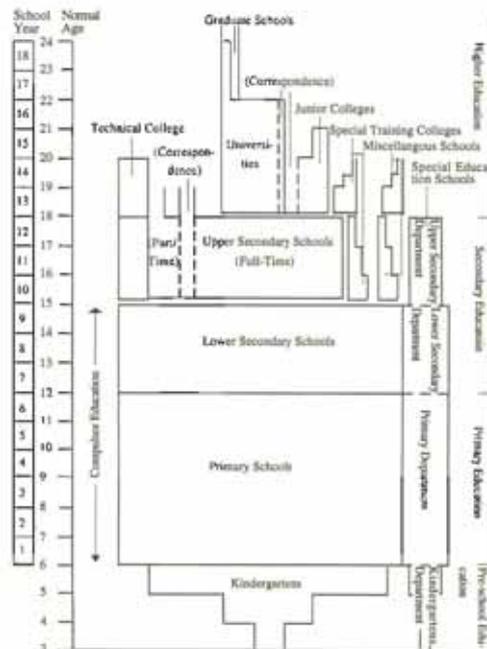
# The system, trend and task of mathematics education in Japan

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## Outline of presentation

School System in Japan  
The Outline of Educational System  
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Subjects and standard class hour for  
elementary and lower secondary schools  
The Control of Curriculum  
Lesson Studies in Japan  
The mechanism for curriculum revision and  
realization  
Mathematics education Today in Japan

## School System in Japan



Ministry of education,  
Science, and Culture,

“Education in Japan,  
A Graphic Presentation”

Cited from ref.(1)

## The Outline of Educational System

Since the education Reform after World War II, Japan has adopted the 6-3-3-4 school System.

Nine years of compulsory schooling, from 6 - year-old to 15-year-old, consist of 6 years of primary school and 3 years of lower secondary school. The school enrollment rate is approximately 100%. At this stage, in principle, all students receive education on the same curriculum.

From the upper secondary school, curriculum and types of courses vary.

Cited from ref.(1)

The upper secondary schools are classified as general, comprehensive, and specialized vocational courses according to the curriculum.

Specialized vocational courses are classified into commerce, industry, agriculture, fishery, English, science and mathematics.

The schools are classified as full time, part time, and correspondence courses.

There are technical colleges which provide both the upper secondary education and higher education for five years.

As for institutions of higher education, there are universities, junior colleges, technical colleges and higher institutes established by Ministries other than Ministry of Education, Science and Culture.

Cited from ref.(1)

## **The Current Curriculums:**

### **Aims and characteristics of the new Courses of studies**

#### **Aim**

On the basis of the complete implementation of 5day school week, each school should develop a “distinctive from of education” within a framework that allows “room to grow”, and while ensuring through acquisition by children of the basic learning content set out in the Course of Study and think independently.

#### **Characteristics**

- Classification that the Course of Study represent minimum required content.
- Strengthening of individually oriented teaching.
- Creation of an “Integrated Study teaching”
- Expansion of the framework allowing autonomous editing of the curriculum by school
- Reduction in class teaching hours and strict selection of educational content
- Emphasis on experiential, problem solving learning activities.
- Expansion of elective studies
- Strengthening of evaluation (norm referencing      criterion referencing)

Cited from ref.(2)

### Subjects and standard class hour for elementary schools

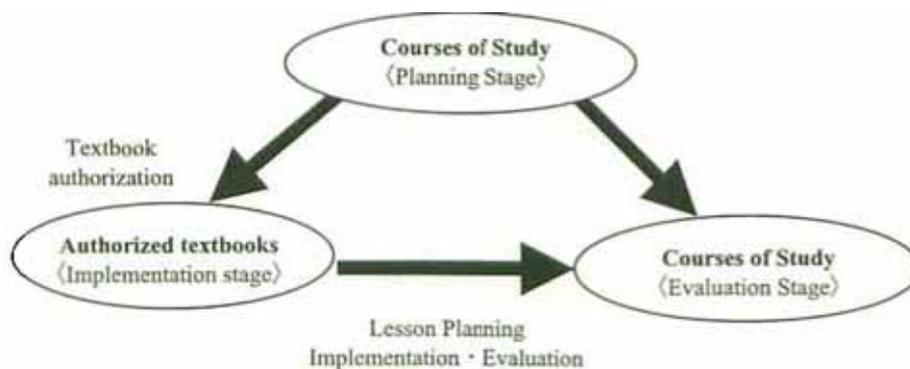
Grade List	Class hours for each subject										Moral Education	Special Activities	Integrated Study Period	Total class hours
	Japanese	Social Studies	Maths	Science	Life Environment Studies	Music	Drawing and Craft	Home-making	Physical Education					
Grade 1	272	—	114	—	102	68	68	—	90	34	34	—	782	
Grade 2	280	—	155	—	105	70	70	—	90	35	35	—	840	
Grade 3	235	70	150	70	—	60	60	—	90	35	35	105	910	
Grade 4	235	85	150	90	—	60	60	—	90	35	35	105	945	
Grade 5	180	90	150	95	—	50	50	60	90	35	35	110	945	
Grade 6	175	100	150	95	—	50	50	55	90	35	35	110	945	

### Subjects and standard class hour for lower secondary schools

Grade List	Class hours for each subject									Moral Education	Special Activities	Hour range for electives	Integrated Study Period	Total class hours
	Japanese	Social Studies	Maths	Science	Music	Arts	Health and Physical Education	Industrial Arts / Home-making	Foreign Langs.					
1	140	105	105	105	45	45	90	70	105	35	35	0-30	70-100	980
2	105	105	105	105	35	35	90	70	105	35	35	30-45	70-105	980
3	105	85	105	80	35	35	90	35	105	35	35	105-105	70-100	980

Cited from ref.(2)

### The Control of Curriculum



Cited from ref.(2)

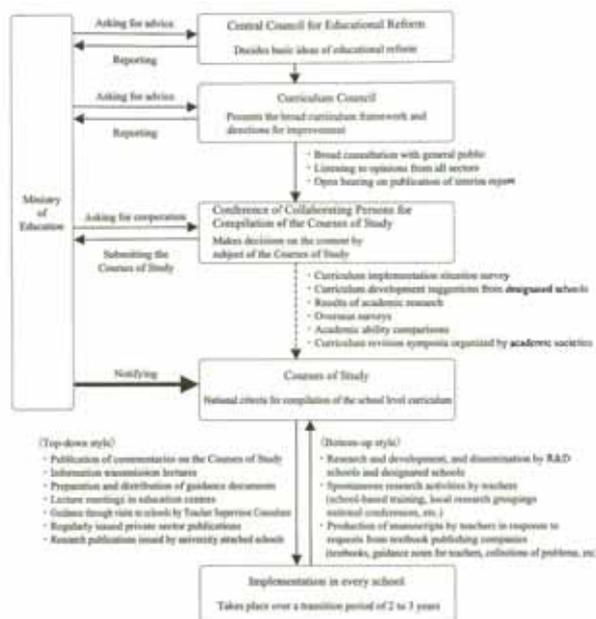
## Japanese Lesson Study

- “Lesson Study” is a device for lesson improvement, put together on the basis of the principle of “Plan-Do-See”, and development within the framework of the Japanese educational envelopment; specially, “teacher colleagues research teaching materials as a group, teach a class, discuss their teaching, and then results of the discussion for the next study session”
- In is this kind of accumulation of teaching improvements at classroom level that makes high-level education possible, and is undoubtedly the reason why lesson study has attracted worldwide attention.



Cited from ref.(2), (3)

## The mechanism for curriculum revision and realization



Cited from ref.(2)

## Mathematics education Today in Japan

- In 1977, revised Course of Study were announced, focusing primarily on the provision of education “with room to grow”. In these Courses of Study, the content of Mathematics for elementary and lower secondary schools was reduced in line with the reduction in class hours.
- The revision was generally welcomed as having brought a more relaxed atmosphere into school education, while persons connected with mathematical education saw the revision as emphasizing basic abilities and the teaching of calculating skills.
- On the other hand, the direction of research in mathematics education was toward the cultivation of problem solving ability and Zest for living including the development of mathematical thinking.
- In 1989 revision, there was a focus on reviving the “virtues” of mathematics as fostering education of the heart, while in the 2002 revision, the “joy of mathematics thinking” was incorporated into the objectives, with the aim of realizing mathematics education that enabled children to “study for themselves and think for themselves”

Cited from ref.(2)

## Reference

- (1) The Tsukuba Association for International Education Studies, (eds.), Education in Japan. Gakken, 1998.
- (2) IFIC/JICA (eds.), The History of Japan’s educational Development, JICA, 2004.
- (3) ISODA, M., Japanese Lesson Study Origin and Some Cases, Original PP., 2003
- (4) OECD (eds.), Education at a glance : OECD indicators. Gyohsei, 1996