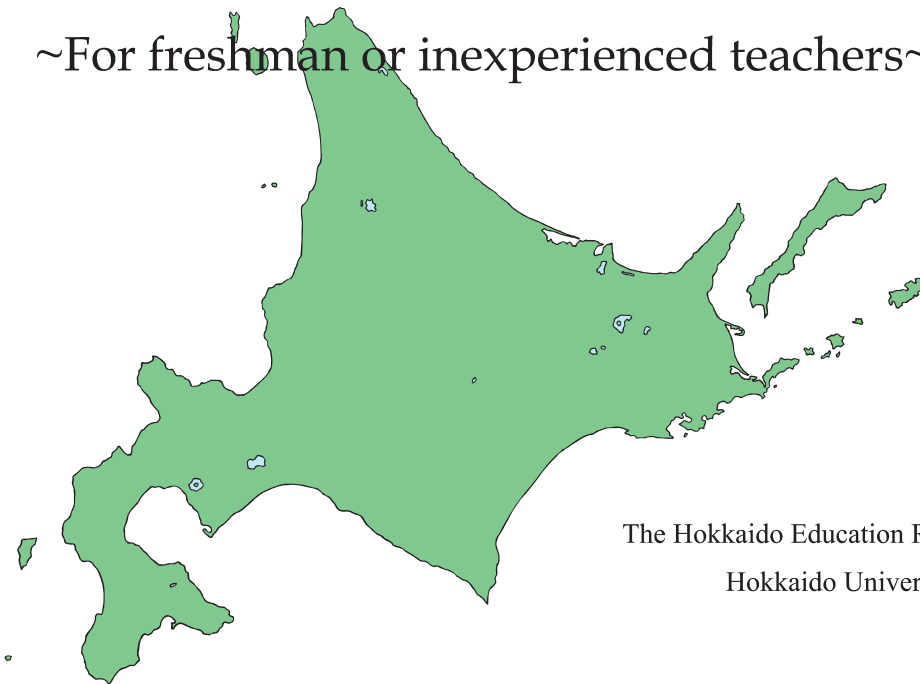


Joint Project of Hokkaido University of Education and Hokkaido Government Board of Education

# How to Instruct for Multi-grade Classes

~For freshman or inexperienced teachers~



The Hokkaido Education Research Institute  
Hokkaido University of Education

英語版  
「複式学級における学習指導の在り方～初めて複式学級を担当する先生へ～」

翻訳 北海道教育大学国際交流・協力センター

## Foreword

Schools in Hokkaido with multi-grade classes are practicing excellent education based on their own characteristics, making use of their originality and ingenuity. Such practices are regarded as a progressive approach to the “formation of distinctive schools” required these days. At the same time, however, quite a number of participants of our Institute’s multi-grade educational training courses have problems, such as “having difficulty in instruction in multi-grade classes” or “not being able to find many books on instruction in multi-grade classes.” Our Institute took such opinions seriously and decided to produce this document as a guidebook on “how to instruct for multi-grade classes” for teachers who are newly assigned to schools with multi-grade classes.

Our Institute has been committed to the production of this document through research cooperation with Professor Fumie Murata of the Research Center for Rural Education, Hokkaido University of Education, as part of joint research under the “Memorandum on Partnership between Hokkaido University of Education and the Hokkaido Board of Education,” which was concluded on February 22, 2001, for the purpose of improvement and development of education in Hokkaido.

This document is focused on “instruction by grade,” which is a type of instruction in multi-grade classes, and devotes many pages to the basic concept of such instruction.

Lastly, I would like to express my deepest gratitude to the Hokkaido Federation for Research on Rural and Multigrade Education and all the other parties for providing us with valuable materials and comments, and I am truly looking forward to contributing to the improvement and development of rural and multi-grade education in Hokkaido through the publication of this document.

September 2001

Isao ENDO

Director, The Hokkaido Education Research Institute

## How to Instruct for Multi-grade Classes

- For freshman or inexperienced teachers -

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## **1. Problems concerning instruction in multi-grade classes**

### **▼ What is a multi-grade class?**

A multi-grade class is a class consisting of students of different grades, for example, “a class of third and fourth graders.”

In recent years, Hokkaido has many multi-grade classes with an extremely small number of children (e.g., a class of one each of third and fourth graders) and unorthodox multi-grade classes (e.g., a class of third and fifth graders) due to the decrease in numbers of students and other reasons.

### **▼ What are the problems concerning educational guidance in combined classes?**

Many teachers have come up with various ideas concerning instruction in multi-grade classes. For example, there are ways “to make students of one grade study by themselves while the teacher is teaching something new to students of another grade” or “to teach the contents of learning for two grades in two years by teaching the contents prepared by combining teaching materials for the two grades.”

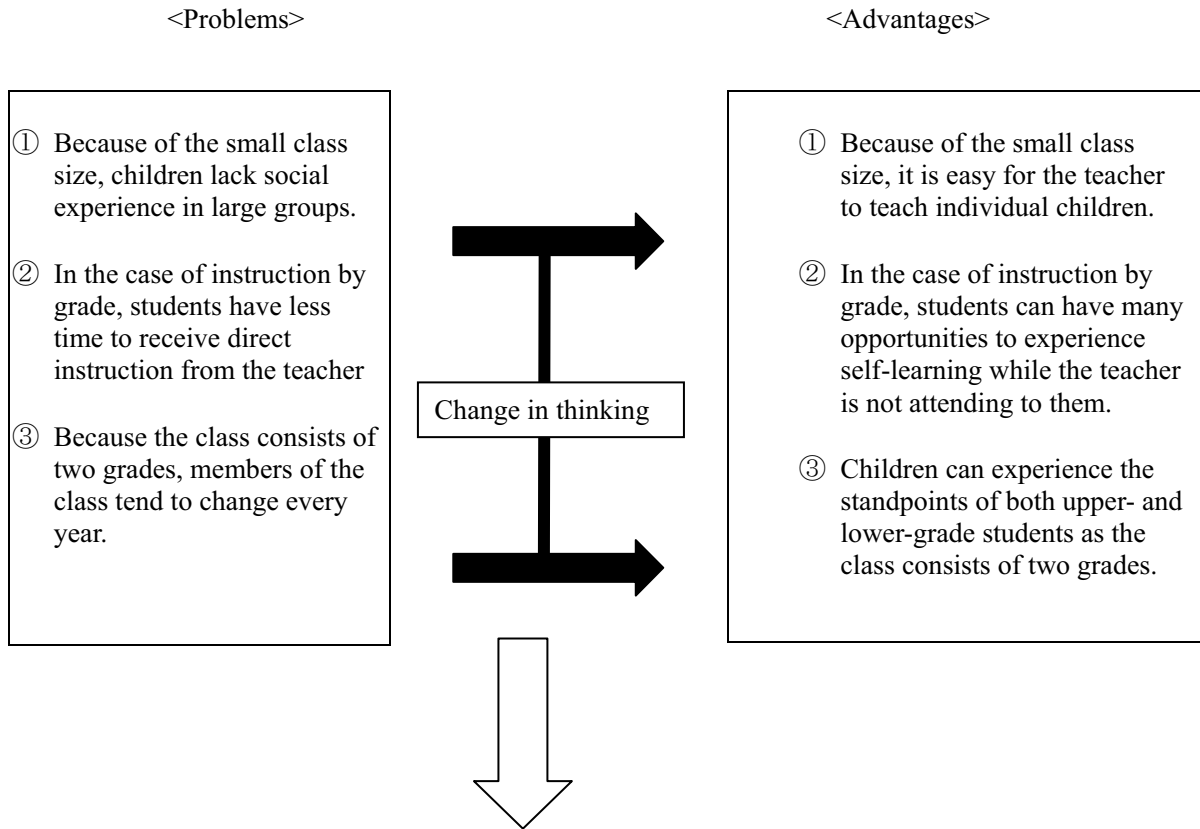
However, it is not easy for a teacher to perform learning activities for two grades simultaneously. Recent participants of multi-grade educational training courses of the Hokkaido Education Research Institute have listed the following problems concerning instruction in multi-grade classes:

- Terms used for instruction in multi-grade classes are difficult.
- When a teacher is teaching children of one grade, children of the other grade cannot study properly by themselves.
- It is not very clear how to prepare lessons for multi-grade classes.

It can thus be seen that it is important to first understand the characteristics of multi-grade classes and learn the basic concept and methods of instruction. It is also necessary to incorporate various ideas depending on the actual conditions of individual schools, classes and students.

## 2. Basic ideas of instruction in multi-grade classes

### ▼ Turning problems of multi-grade classes into advantages



### ▼ Basic ideas of instruction in multi-grade classes

- ① By making the most of the small-size class, it is possible to ensure the learning of fundamentals through the detailed instruction of each child.
  - ② By making the most of the many self-learning experiences, it is possible to foster the ability of children to learn and think for themselves.
  - ③ By making the most of the two grade classes, it is possible to foster the attitude of learning from each other beyond their own grade.

→ It is important to plan instruction for multi-grade classes based on the idea of capitalizing on the advantages of multi-grade classes.

▼ **Specific measures**

① **Improvement in instruction for individual children**

- Preparation of teaching materials, handouts, etc. depending on predicted learning activities of individual children
- Understanding of learning conditions of individual children in the learning process and promotion of improvement in instruction
- Sharing the joy of progress and growth of individual children

② **Improvement in hours of self-learning**

- Establishment of a learning environment, in which a child or a group of children can engage in learning activities independently
- Flexible approach toward the combination of learning processes for two grades
- Incorporation of ideas concerning instruction methods that can lead to self-learning

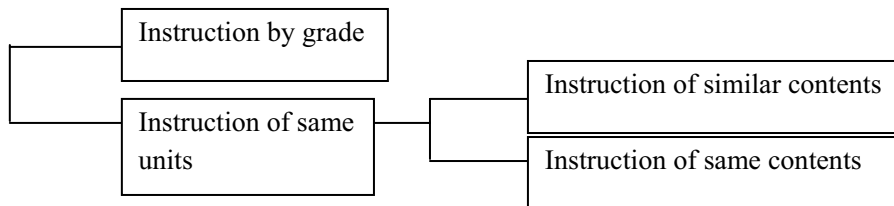
③ **Improvement in learning activities making the most of involvement with upper- and lower-grade students**

- Promotion of awareness of responsibility as leaders among upper-grade students
- Cultivation of aspiration in lower-grade students to improve themselves to the level of learning of upper-grade students
- Cultivation of the spirit of mutual cooperation and recognition through establishment of opportunities to let children have contact with each other beyond grades

### 3. Types of instruction

Since children of two different grades are taught simultaneously in multi-grade classes, it is necessary to give consideration to the contents and methods of instruction and incorporate new ideas.

#### ▼ Main types of instruction



#### ▼ Perspectives for selection of types of instruction

One of the above types of instruction for multi-grade classes is chosen by each school to prepare its instruction plan.

Perspectives for selection may include the following:

- Children's conditions of achieving fundamental learning
- Improvement in each child's motivation for learning
- Systematization of learning contents and characteristics of each subject
- Future prospects of the number of children and class formation
- Consideration to transfer students
- Explanation to and understanding of parents

→ When selecting a type of instruction for a multi-grade class, it is important to have a long-term vision while taking the advantages of each type and matters that require attention into account.

**Example** Main types of instruction in multi-grade classes

		Advantages	Combination	Matters that require attention
Instruction by grade		<ul style="list-style-type: none"> <li>○ It is easy to grasp the developmental stage of each grade and systematicity of learning contents</li> <li>○ Influence of transfer students is small.</li> </ul>	1 <sup>st</sup> grade Japanese	▽ It is necessary to prepare learning procedures and methods and establish a learning environment so that learning activities can be continued without interruption.
			2 <sup>nd</sup> grade Arts and crafts	
			3 <sup>rd</sup> grade Japanese “Let’s read an explanatory note”	
	Instruction of same contents	<ul style="list-style-type: none"> <li>○ It is easy to establish a collaborative learning environment for two grades.</li> <li>○ It is possible to have discussions and learn with a larger number of students.</li> </ul>	4 <sup>th</sup> grade Japanese “Let’s write a letter”	▽ Learning activities should be promoted depending on the difference in learning conditions and developmental stages by grade. ▽ Achievement of targets for individual subjects should not be hindered.
			5 <sup>th</sup> grade Social studies “People engaged in rice growing”	
			6 <sup>th</sup> grade Social studies “From the age of nobles to the age of samurais”	
Instruction of same units	Instruction of similar contents	<ul style="list-style-type: none"> <li>○ Children of two grades can share learning opportunities and a sense of unity is likely to form.</li> </ul>	1 <sup>st</sup> and 2 <sup>nd</sup> grades Life and environmental studies “Let’s play with snow”	▽ When making a combination, the annual instruction plan should be reconsidered to coincide with the time of instruction and allow some leeway in the number of hours.
			3 <sup>rd</sup> and 4 <sup>th</sup> grades Music “Haru-no-Ogawa”	
			5 <sup>th</sup> and 6 <sup>th</sup> grades Physical education “Mat exercises”	
			3 <sup>rd</sup> grade Science “Passage of electricity”	
			4 <sup>th</sup> grade Science “Functions of electricity”	
			5 <sup>th</sup> grade Mathematics “Division of figures with decimals”	
			6 <sup>th</sup> grade Mathematics “Division of fractional numbers”	

Reference

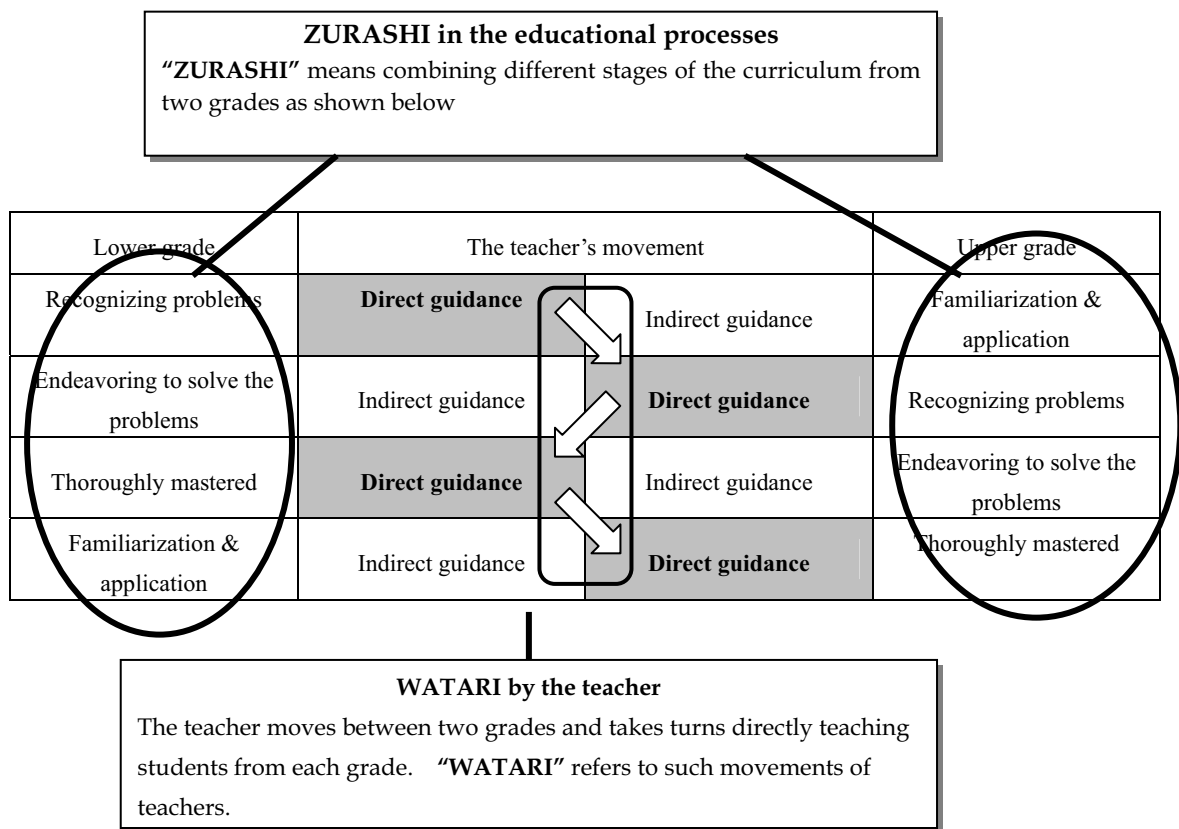
Some small-scale schools with multi-grade classes promote various types of learning beyond the boundary of classes and schools. For example, there are systems such as **joint learning** (see p. 20), **ensemble learning** (see p. 22), **exchange learning** for schools in different scales and living environments to have a sister-school relationship and have experiences that cannot be achieved by a single school, as well as **joint learning with other schools through an information communication network** (see p. 24).



**4. Instruction by grade**

Instruction by grade is a type of instruction to teach different subjects or different contents of a same subject to children of respective grades. Since the teacher has to teach different contents to children of each grade, children in one grade study by themselves (**indirect instruction**) while the teacher is giving instruction to children of the other grade (**direct instruction**).

(1) Learning process of instruction by grade



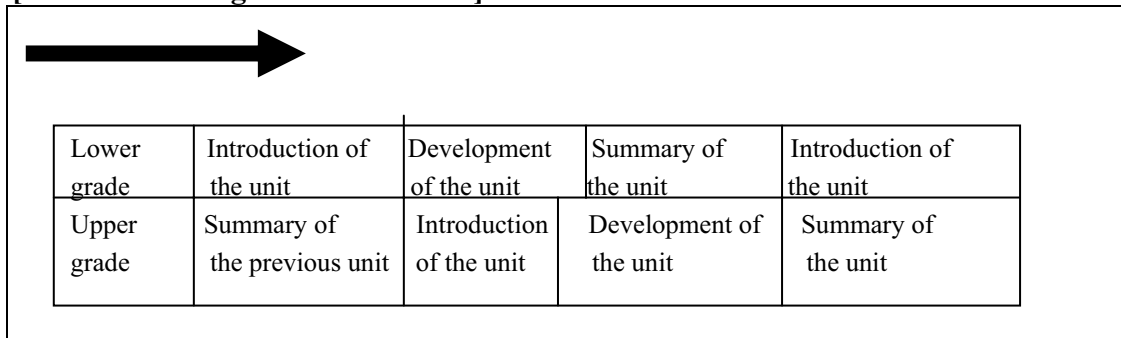
→ It is necessary to discard fixed notions and view "ZURASHI" in the educational processes flexibly depending on the contents of learning and conditions of students.

**Example** Learning process of instruction by grade

**[Development of learning activities in 1 unit hour]**

Step	Lower grade	Teacher's movement	Upper grade	Step
Recognizing problems	<input type="checkbox"/> Remember the lesson of the previous hour. <input type="checkbox"/> Recognize the problem of this hour. <input type="checkbox"/> Find the prospective solution. <input type="checkbox"/> Know the solution procedure.		<input type="checkbox"/> Use the result of the previous lesson and work on exercises and applied problems.	Familiarization & application
Endeavoring to solve the problems	<input type="checkbox"/> Try to solve the problem alone. <input type="checkbox"/> Check with each other in pairs or in a group.		<input type="checkbox"/> Remember the lesson of the previous hour. <input type="checkbox"/> Recognize the problem of this hour. <input type="checkbox"/> Find the prospective solution. <input type="checkbox"/> Know the solution procedure.	Recognizing problems
Thoroughly mastered	<input type="checkbox"/> Present the process and result of solution. <input type="checkbox"/> Discuss to find the better solution. <input type="checkbox"/> Reflect on and summarize the lesson.		<input type="checkbox"/> Try to solve the problem alone. <input type="checkbox"/> Check with each other in pairs or in a group.	Endeavoring to solve the problems
Familiarization & application	<input type="checkbox"/> Work on exercises and applied problems using the summarized result. <input type="checkbox"/> Have expectations for the next lesson.		<input type="checkbox"/> Present the process and result of solution. <input type="checkbox"/> Discuss to find the better solution. <input type="checkbox"/> Reflect on and summarize the lesson.	Thoroughly mastered

**[Flow of learning of an entire unit]**



→ By staggering the learning process of a unit, it is possible, for example, to make it easier for children to engage in learning at the introduction of the unit.

**(2) Direct instruction that leads to indirect instruction**

It is important to consider the hours of indirect instruction as the hours that will foster children’s ability to learn and think by themselves, rather than time merely for mechanical practice.  
 The role of direct instruction is therefore essential to allow children to study independently during the hours of indirect instruction.

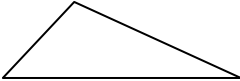
**▼ Matters that mainly require attention in direct and indirect instruction**

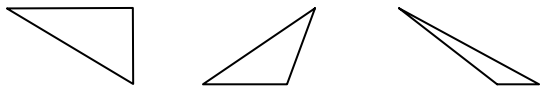
Stage	Lower grade	Teacher’s movements	Upper grade	Stage
Recognizing problems	(When the teacher is attending)			
<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p><b>[Matters that mainly require attention in direct instruction]</b></p> <ul style="list-style-type: none"> <li>○ Incorporate new ideas into presentation of problems to enhance willingness to learn (e.g., presentation of something real, connection to things that have already been learned).</li> <li>○ Confirm the learning procedure (e.g., method, quantity, “what to do after finishing the study”).</li> </ul> </div>				
Endeavoring to solve the problems	(When the teacher is not attending)			
<div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 80%;"> <p><b>[Matters that mainly require attention in indirect instruction]</b></p> <ul style="list-style-type: none"> <li>○ Show the learning procedure in advance (e.g., use of notices and “guidance for study”).</li> <li>○ Ensure the conditions to support learning (e.g., use of dictionaries, hint cards and applied problems, small blackboard and presentation board).</li> </ul> </div>				

→ For instruction by grade, it is important that children themselves understand the learning methods and procedures.

**Example** Direct instruction that leads to indirect instruction

**[Mathematics 5<sup>th</sup> grade “Area of a triangle”]**

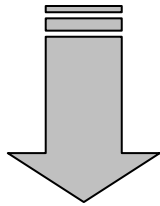
Step	Children’s learning activities	Teacher’s movements
Recognizing problems	<ul style="list-style-type: none"> <li>○ Remember the previous lesson (how to find the area of a parallelogram)</li> <li>○ Let’s think how to find the area of the triangle below.</li> </ul>  <ul style="list-style-type: none"> <li>● It may be possible to find it in the same way as before.</li> <li>● Change the shape by cut and paste.</li> <li>● Think by doubling the area.</li> </ul> <ul style="list-style-type: none"> <li>○ Confirm the learning procedure.</li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p><b>[Important points of movements that can lead to efforts in solving the problem]</b></p> <ul style="list-style-type: none"> <li>▼ Enhance the willingness to solve the problem by making use of things previously learnt.</li> <li>▼ Provide prospects for solution.</li> <li>▼ Give a viewpoint for discussion.</li> </ul> </div> <ul style="list-style-type: none"> <li><input type="checkbox"/> Is it possible to find it in the same way as before?</li> <li><input type="checkbox"/> “Then, let’s think how we can find the answer using one method. When you finish, think using another method. When the time comes, let’s have a discussion. We will talk about two things: “How you found the answer” and “How you can express it in an equation of words.”</li> </ul>

Thoroughly mastered	<ul style="list-style-type: none"> <li>○ Summarize the results of discussion.</li> <li>● Think of the triangle as half of a parallelogram.</li> <li>● Make two rectangles and think of the triangle as half of them.</li> <li>● It is easier to think as half of a parallelogram.</li> <li>● The equation of words is “base x height ÷ 2”</li> </ul>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p><b>[Important points of movements that can lead to effort to solve the problem]</b></p> <ul style="list-style-type: none"> <li>▼ Recognize the solution process and discussion results.</li> <li>▼ Explain the content that must be thoroughly mastered in easy terms.</li> <li>▼ Confirm that it is easy to make mistakes with similar problems.</li> </ul> </div> <ul style="list-style-type: none"> <li><input type="checkbox"/> Recognize the results of the trial and error process and discussion.</li> <li><input type="checkbox"/> Present various ideas using OHP.</li> <li><input type="checkbox"/> Induce the equation of words (formula) from an easier way to find the answer.</li> <li><input type="checkbox"/> Present a variety of triangles to confirm what the “bottom” and “height” are.</li> </ul> 
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**(3) Preparation of classes for instruction by grade**

**Step 1**  
(Before introducing the unit)

- Confirm the goal of the unit for two grades based on the systematicity of the contents of learning.
- Confirm the criteria, viewpoints and method of assessment of the unit for the two grades.

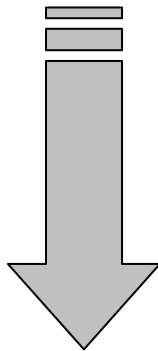


**[Example] Goal of the unit and assessment**

	Grade [ ]	Grade [ ]
Goal of the unit		
Assessment criteria for the unit		
Assessment method		

**Step 2**  
(When making the teaching plan for a specific unit)

- Confirm the degree of comprehension on matters already studied.
- Adjust the plan by combining the learning processes of the unit for the two grades.



**[Example] Instruction plan for the unit**

	Grade [ ]	Teacher	Grade [ ]
1 <sup>st</sup> hour	Orientation		Summary of the previous unit
2 <sup>nd</sup> hour	Recognizing problems		Orientation
	Endeavoring to solve the problems		
	Thoroughly mastered		
	Familiarization & application		

**Step 3**  
(When making the teaching plan for a unit hour)

- Instruct repeatedly to clarify the contents to be mastered and the problems to be solved by the children themselves and combine the two learning processes.
- Predict the learning activities of individual children and prepare accordingly.

**[Example] Instruction plan for one unit hour**

Grade [ ]	Teacher	Grade [ ]
Recognizing problems		Familiarization & application
Endeavoring to solve the problems (problems to be solved through research and task-oriented study)		Recognizing problems
Thoroughly mastered (contents to be mastered)		Endeavoring to solve the problems (problems to be solved through research and task-oriented study)
Familiarization & application		Thoroughly mastered (contents to be mastered)

→ For instruction by grade, it is important to be fully prepared for the lesson by conducting research on teaching materials for both grades, combining learning processes effectively and predicting learning activities of individual children.

#### (4) Clarification of the learning system

In schools with multi-grade classes, it is important to make the most of indirect instruction to foster children's ability to learn during hours of instruction by grade.

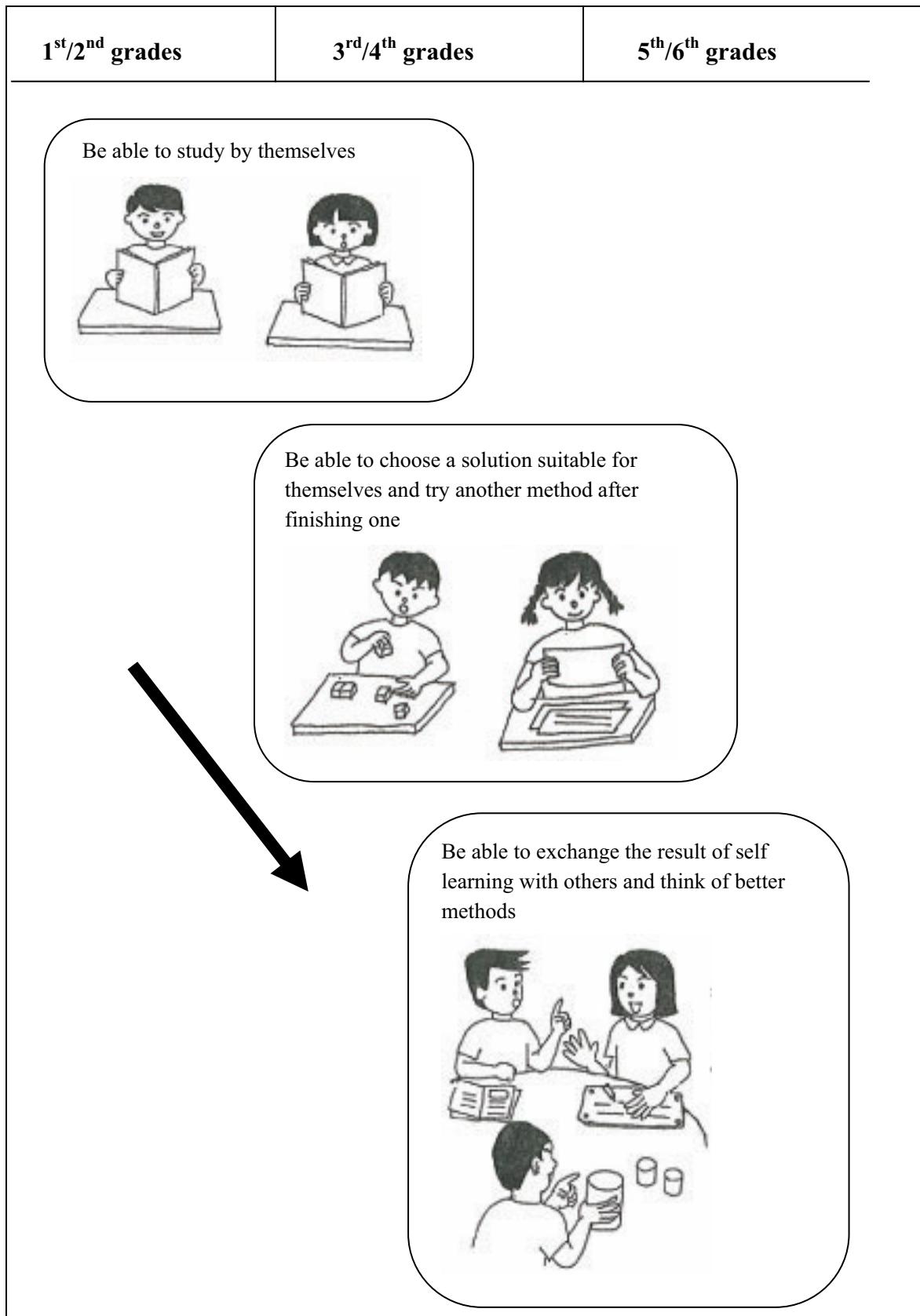
To realize this, it is necessary to achieve the educational goal of the school by clarifying the learning system for the entire school in consideration of the six school years (three years in junior high schools).

#### [Example] Learning system

Item	1 <sup>st</sup> /2 <sup>nd</sup> grades	3 <sup>rd</sup> /4 <sup>th</sup> grades	5 <sup>th</sup> /6 <sup>th</sup> grades
Ideal image of children to be fostered	Be able to follow the rules in the class and <b>engage actively in learning.</b>	Understand the procedure and method of learning and <b>be able to engage actively in learning.</b>	Be able to make a study plan from their own perspectives and <b>engage in learning independently.</b>
Preparation for leaning	Be able to prepare study tools for the next lesson.	Be able to review the previous lesson with willingness or think about the contents of the current lesson when the time comes.	Be able to grasp the main points of the previous lesson and clarify their own learning tasks.
How to make remarks	Be able to answer when called by the teacher and talk clearly to the end.	Be able to focus on the main points and talk with appropriate volume and speed.	Be able to talk logically and in an easy-to-understand manner.
How to listen	Be able to look at the speaker and listen until the end.	Be able to ask questions and listen while thinking carefully.	Be able to listen to the main points of the speaker and notice the differences from their own ideas.
How to study through discussion	Be able to have a discussion with support of the teacher.	Be able to listen to other children's remarks carefully and ask questions when something is unclear.	Be able to notice the differences between other children's remarks and their own ideas and summarize the result of discussion.

→ In addition to the items of the above table, it is also necessary to establish a learning system for each grade.

**[Example] Ideal state of children in indirect instruction by grade**



→ It is important for the teacher to ask individual children about the problems they have about indirect instruction, give them appropriate advice and recognize their progress.



**(5) Individually-targeted teaching in indirect instruction**

To allow children to select a solution in indirect instruction, it is necessary to prepare several different kinds of handouts and take other measures to promote individually-targeted teaching.

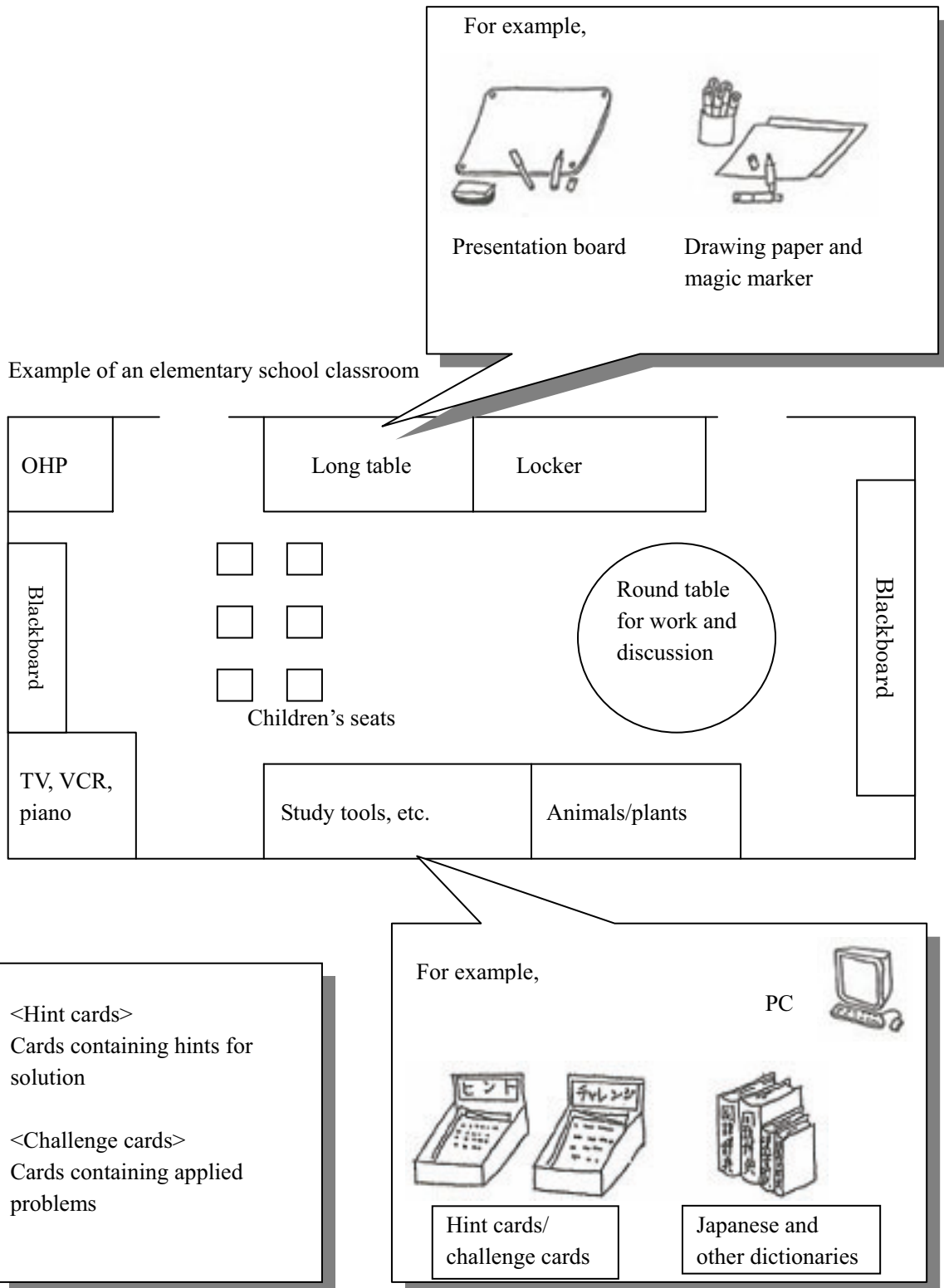
▼ **Individually-targeted teaching in indirect instruction**

Step	Learning activities of lower grade	Teacher's movements	Learning activities of upper grade	Step
Recognizing problems	<div style="border: 1px solid black; padding: 2px; display: inline-block;">Problem</div> <ul style="list-style-type: none"> <li>● Confirm the procedure and method of solution.</li> </ul>		<div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;">                     Supplementary problems                       Similar problems                       Applied problems                 </div>	Familiarization & application
Endeavoring to solve the problems	<div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;">                     By looking at hint cards                       By referring to handouts                       Take notes in their own ways.                 </div>		<div style="border: 1px solid black; padding: 5px; display: inline-block;"> <b>[Steps for individually-targeted teaching]</b>                      ① Predict learning activities for individual children.                      ② Prepare handouts, etc. based on the prediction.                      ③ Encourage individual children to choose suitable methods.                 </div>	Recognizing problems

→ Attention must be paid to the following matters when adopting individually-targeted teaching in individual instruction:

- Encourage individual children to choose suitable methods of learning by confirming the processes and methods of solution and ways of practice they use in direct instruction.
- Establish a good learning environment in the classroom so that individual children can study in their own ways.

**[Example] Preparations in the classroom to support individually-targeted teaching in indirect instruction**



→ It is important to fully explain how to use the above materials so that the children can use them freely.

**(6) Evolutionary ideas for instruction by grade**

In the case of instruction by grade, several hours may be spent for grasping the learning conditions of both grades or combining the learning processes with focus on one grade.

**▼ When spending several hours for grasping the learning conditions of both grades**

Lower grade	Teacher's movements	Upper grade
(1) Recognizing problems		(4) Familiarization & application
		(1) Recognizing problems
(2) Endeavoring to solve the problems		(2) Endeavoring to solve the problems
(3) Thoroughly mastered		
(4) Familiarization & application		
		(3) Thoroughly mastered

○Instruction can be improved by grasping learning conditions of individual children in both grades.  
○Appropriate advice can be given to individual children.

**▼ When focus is placed on the lower grade**

Lower grade	Teacher's movements	Upper grade
(1) Recognizing problems		
(2) Endeavoring to solve the problems		(4) Familiarization & application
(3) Thoroughly mastered		
(4) Familiarization & application		(1) Recognizing problems
		(2) Endeavoring to solve the problems
		(3) Thoroughly mastered

○Direct instruction of the lower grade is possible from the stage of understanding to the stage of mastering.

[Example]

[Japanese “Let’s read a story” (1<sup>st</sup> grade “Umi-e-no Nagai Tabi,” 2<sup>nd</sup> grade “Kasakojjo”)]

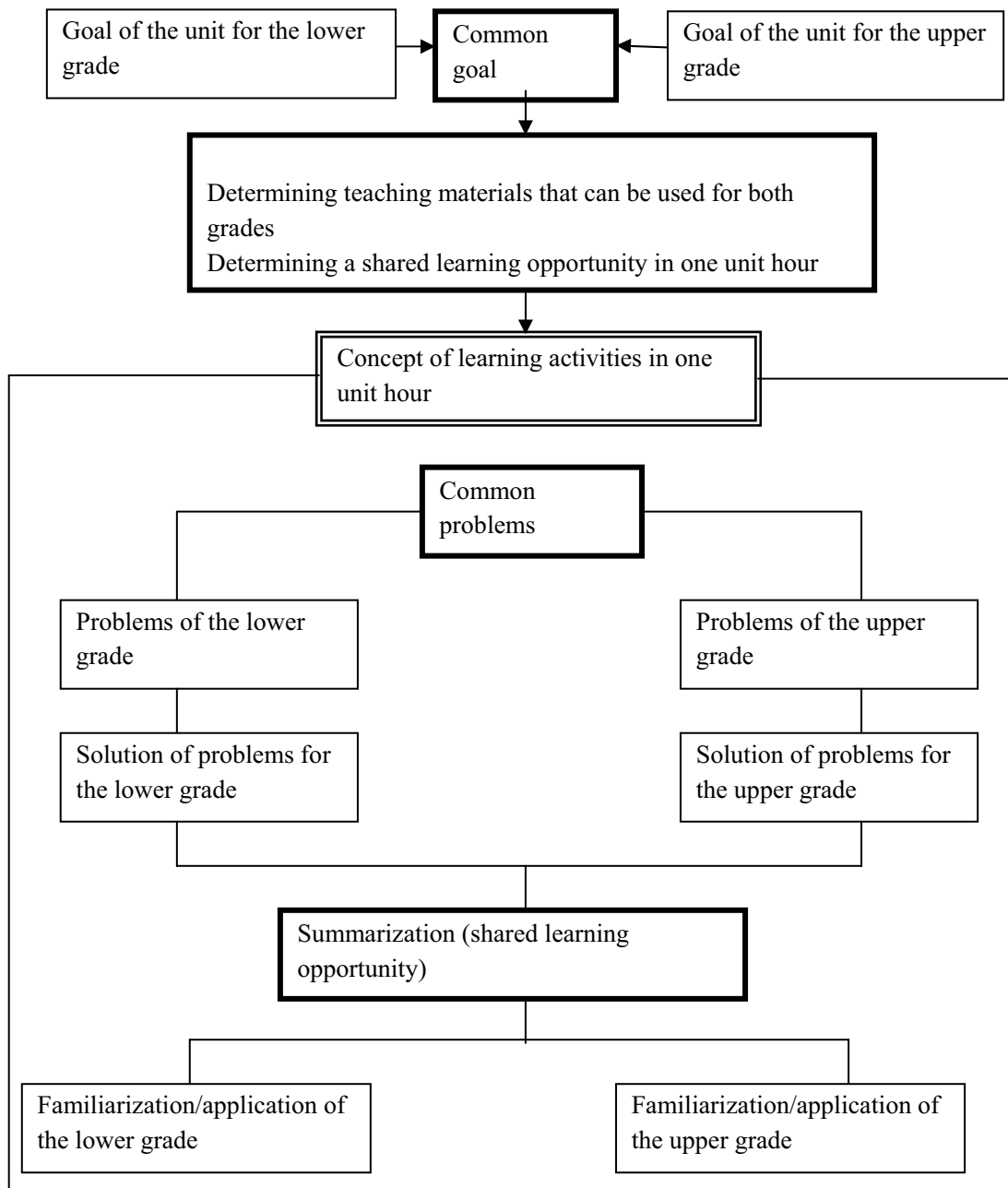
Stage	Children’s learning activities	Teacher’s approach	Teacher’s movements	Teacher’s approach	Children’s learning activities	Stage
Recognizing problems	○ Read out the scene studied in the previous lesson.	<input type="checkbox"/> Confirm what was learned in the previous lesson. <input type="checkbox"/> Confirm the task of this lesson.		<input type="checkbox"/> Confirm the problems and solutions.		Recognizing problems
	<div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;">Read the words of mother bear well.</div>			<div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;">Imagine the feelings of the old man who could not sell any umbrellas</div>		
Endeavoring to solve the problems	○ Read out the scene studied in this lesson. ○ Pay attention to the sentence, “Mother bear was cheering up the brothers...” ○ Practice recitation in the gym with attention to the words of Mother bear, “Don’t be slow, make sure to follow me.”	<input type="checkbox"/> Instruct the children to read out the scene studied in this lesson. <input type="checkbox"/> Instruct the children to focus on the task of the lesson and pay attention to certain words. <input type="checkbox"/> Check the conditions of practice in the gym and give advice.		<input type="checkbox"/> Confirm the children filled out the worksheets. <input type="checkbox"/> Confirm the method of recitation practice in the gym.	○ Read out the scene studied in this lesson individually. ○ Write the words of the old man in balloons on the work-sheet and think about how to read it (quietly and cheerfully, calling out, etc.). ○ Practice recitation in the gym. Pay attention to the words of the old man.	Endeavoring to solve the problems
	○ Present recitation.	<input type="checkbox"/> Evaluate recitation of each child.			○ Record the recitation on a tape to listen to themselves.	
Thoroughly mastered						

→ It is possible to combine learning processes flexibly depending on the conditions of children and contents of learning in instruction by grade.

**5. Instruction of similar contents**

Instruction of similar contents is a type of instruction in which similar contents are taught to both grades. The effects of this type of instruction include the creation of a sense of unity in a multi-grade class and enhancement of the willingness to learn by sharing an opportunity of learning.

▼ **Structure of a unit and a unit hour**



**[Example] Learning activities in one unit hour**

**[Mathematics “How to read a graph” (3<sup>rd</sup> grade “tables and bar graphs,” 4<sup>th</sup> grade “line graphs”)]**

Stage	3 <sup>rd</sup> graders' learning activities	Teacher's approach	4 <sup>th</sup> graders' learning activities	Stage
Recognizing problems	<p>Let's read a bar graph</p> <ul style="list-style-type: none"> <li>○ Think about what should be learned.</li> </ul> <div style="border: 1px dashed black; padding: 5px;"> <ul style="list-style-type: none"> <li>● Number of books by type</li> <li>● Largest number of books</li> <li>● Smallest number of books</li> </ul> </div>	<p>Let's read a graph</p> <ul style="list-style-type: none"> <li>□ Present two types of graphs. 3<sup>rd</sup> grade “survey of reading” 4<sup>th</sup> grade “changes of body temperature”</li> <li>□ Let the children think of what to study by grade.</li> </ul>	<p>Let's read a line graph</p> <ul style="list-style-type: none"> <li>○ Think about what should be learned.</li> </ul> <div style="border: 1px dashed black; padding: 5px;"> <ul style="list-style-type: none"> <li>● Highest temperature</li> <li>● Lowest temperature</li> <li>● Difference in length (slope) of lines</li> </ul> </div>	Recognizing problems
Thoroughly mastered	<p>○ Present the findings to each other.</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> <li>● Kinds of books that were read the most or least</li> <li>● What kind of books are popular?</li> <li>● Comparison of the numbers and percentage of different books</li> </ul> </div> <div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> <li>● When the temperature is highest or lowest</li> <li>● When the temperature starts to rise or fall</li> <li>● When there is no temperature change</li> </ul> </div> </div> <p style="text-align: center;">&lt;Characteristics of graphs can be found.&gt;</p>			Thoroughly mastered
Familiarization & application	<div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> <li>○ Work on exercises to read bar graphs.</li> <li>○ Check the answers with each other.</li> </ul> </div>	<div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> <li>○ Make each child read graphs through the exercises.</li> </ul> </div>	<div style="border: 1px solid black; padding: 5px;"> <ul style="list-style-type: none"> <li>○ Work on exercises to read line graphs.</li> <li>○ Check the answers with each other</li> </ul> </div>	Familiarization & application

→ Besides the above example, there are a variety of possible combinations, for example, “addition” of the 1<sup>st</sup> grade and “addition” of the 2<sup>nd</sup> grade and “triangles” of the 3<sup>rd</sup> grade and “quadrangles” of the 4<sup>th</sup> grade.

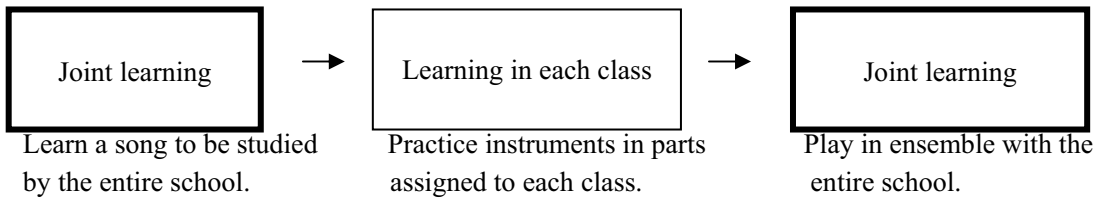
**6. Joint learning**

Joint learning is a method for children of two or more classes to learn together beyond the boundary of classes (e.g., physical education and music classes for the entire school).  
 Joint learning may be adopted when implementing learning activities that require a group of a certain size, for example, choruses and ensembles of instruments in music and ball games in physical education.

**▼ Positioning of joint learning**

Focus should be mainly on learning of each class, rather than considering the entire learning of the unit as joint learning.

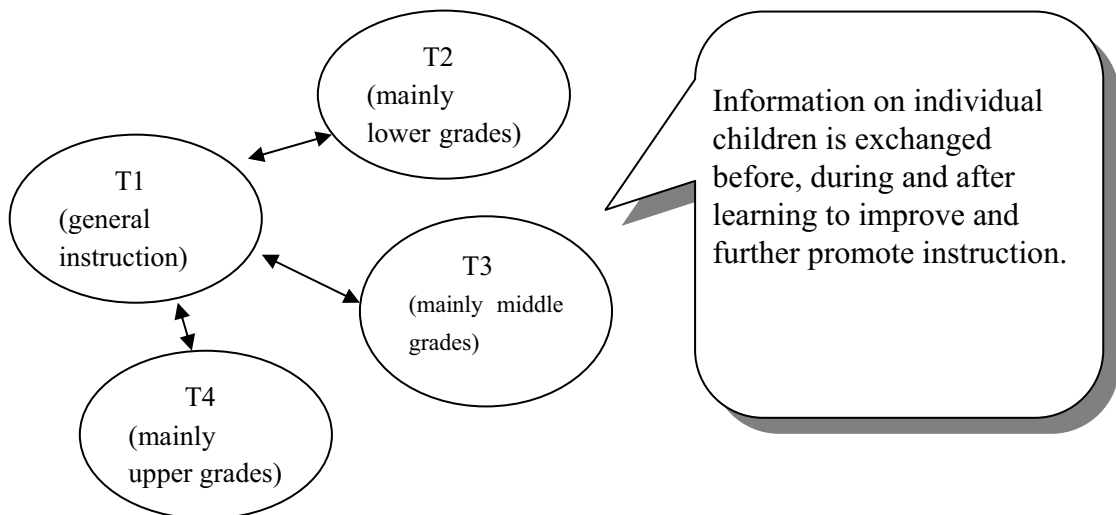
**\* A plan utilizing the joint learning method in music class**



**▼ Collaborative instruction by teachers**

With the mutual understanding of teachers, the role of each teacher should be clarified to promote joint learning.

**\* An example of sharing of roles in joint learning**



**Example** Learning activities in one unit hour (music for the entire school)

**[Music 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> grades “In the rhythm”]**

Stage	Children’s learning activities			Approach of teachers (T1, T2 and T3)								
	1 <sup>st</sup> /2 <sup>nd</sup> grades	4 <sup>th</sup> grade	6 <sup>th</sup> grade	T1	T2	T3						
Recognizing problems	<p>Sing the song “Aruite Ikou” together.</p> <p>↓</p> <p>Task “Let’s play in rhythm”</p> <p>↓</p>			<ul style="list-style-type: none"> <li>● Play accompaniment.</li> <li>● Confirm any problems.</li> </ul>	<ul style="list-style-type: none"> <li>● Encourage children to sing rhythmically and with a swing.</li> </ul>							
	Endeavoring to solve the problems	<p>Practice separately by part.</p> <p>↓</p> <table border="1"> <tr> <td>1<sup>st</sup>/2<sup>nd</sup> grade</td> <td>4<sup>th</sup> grade</td> <td>6<sup>th</sup> grade</td> </tr> <tr> <td>Keep in rhythm using hands or percussion.</td> <td>Rhythm accompaniment with xylophone, metallophone, etc.</td> <td>Melody accompaniment with piano, organ, etc.</td> </tr> </table> <p>↓</p>					1 <sup>st</sup> /2 <sup>nd</sup> grade	4 <sup>th</sup> grade	6 <sup>th</sup> grade	Keep in rhythm using hands or percussion.	Rhythm accompaniment with xylophone, metallophone, etc.	Melody accompaniment with piano, organ, etc.
1 <sup>st</sup> /2 <sup>nd</sup> grade		4 <sup>th</sup> grade	6 <sup>th</sup> grade									
Keep in rhythm using hands or percussion.	Rhythm accompaniment with xylophone, metallophone, etc.	Melody accompaniment with piano, organ, etc.										
Thoroughly mastered	<p>Present the results of practice to each other.</p> <p>↓</p> <p>Discuss good points, etc.</p> <p>↓</p> <p>All the children play in ensemble.</p> <p>↓</p>			<ul style="list-style-type: none"> <li>● Create an opportunity for individual children to present the results of their practice.</li> <li>● Keep in rhythm and conduct the ensemble of the entire school.</li> </ul>	<ul style="list-style-type: none"> <li>● Support the presentation of individual children.</li> <li>● Recognize the growth of individual children.</li> <li>● Play in ensemble with children.</li> </ul>							

→ In joint learning, it is important to consider the developmental stage of each grade. It is also necessary to avoid placing excessive burden on upper graders or making lower graders follow directions of the children of middle and higher grades all the time.



## 7. Ensemble learning

Ensemble learning is a method for teachers of different grades in giving instruction through mutual cooperation conducted by gathering children of the same grade from two or more neighboring schools or all the students of those schools.

### ▼ Procedure of ensemble learning (planning/implementation/evaluation)

Planning

- Confirm the common goal of ensemble learning among schools.
- Promote mutual understanding by determining the frequency, dates, contents of activity, main schedule before the lesson and sharing of roles.
- Prepare and consider the teaching plan jointly in advance.



Implementation

- Effectively relate ensemble learning with learning at each school before and after ensemble learning.
- Promote instruction by team teaching in ensemble learning.



Evaluation

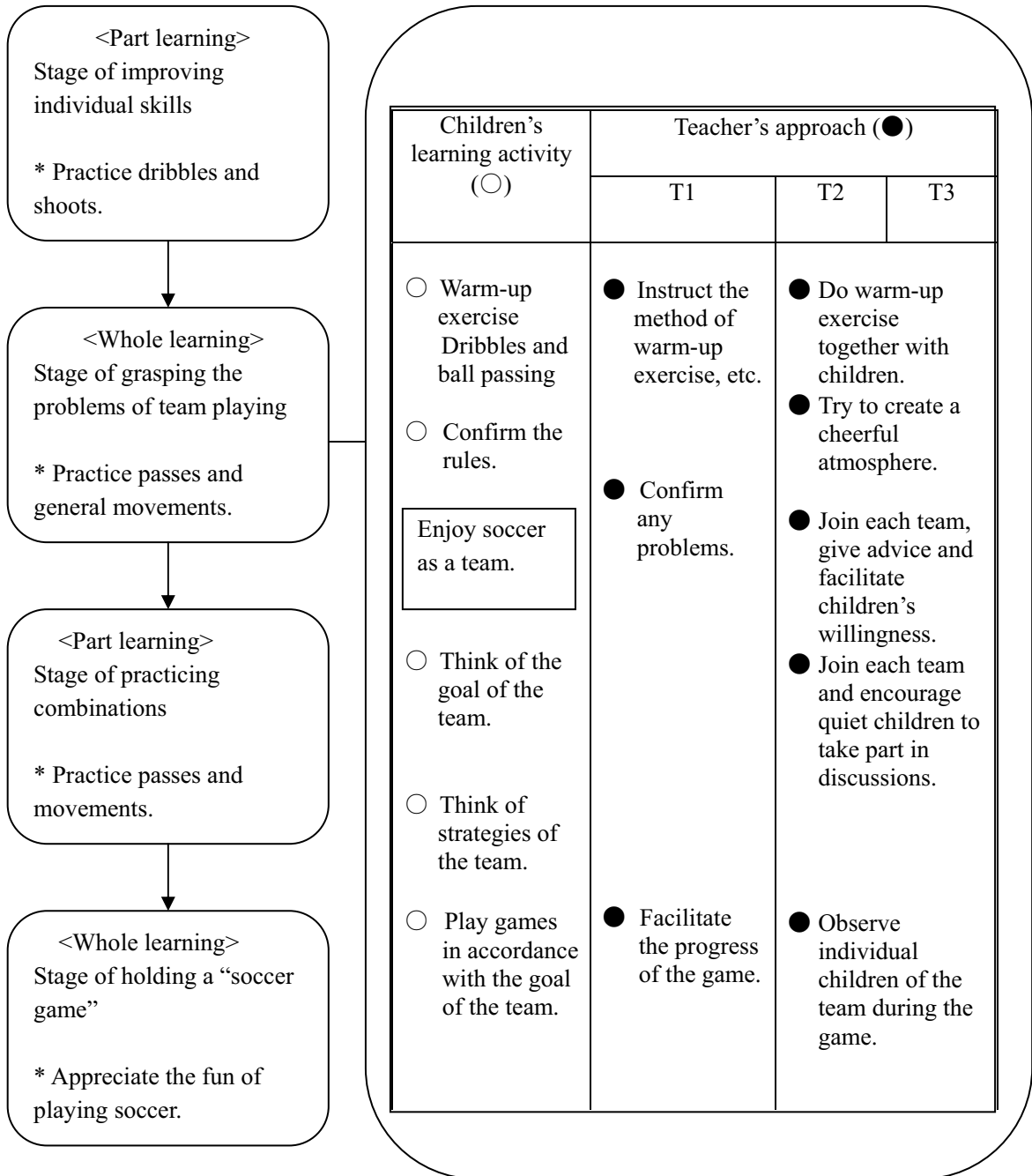
- Exchange information on changes of individual children.
- Review the teaching plan and method and consider improvement measures for the next year.

### ▼ Whole and part learning

It is important to implement appropriate **learning activities (part learning) at each school before and after ensemble learning**, to achieve the effect of **learning activities jointly by children of two or more schools (whole learning)**. It is thus necessary to position whole and part learning in the annual teaching plan of each school and clarify the relationship between them.

**Example** Flow of ensemble learning

**[Physical education 5<sup>th</sup>/6<sup>th</sup> grades “soccer”]**



→ Ensemble learning is considered significant since it can provide an opportunity for children to experience learning in a larger group and for teachers to have practical training in instruction.

## 8. Joint learning with other schools using an information communication network

Some schools with multi-grade classes are promoting learning jointly with other schools through information networks, with the purpose of further improving children's expressiveness and communication ability.

For example, exchange of e-mails, browsing of websites, lessons using TV screens (TV conference system) and other means can be used.

### ▼ Planning joint learning with other schools using an information communication network

From the conditions of students, analyze the abilities that are unlikely to be developed only by learning activities in their own school.



Make plans for the selection of a partner school with joint learning activities and methods based on the conditions of school, region and facilities.



[An example of a selection of learning methods using an information communication network]

#### Exchange of emails

- Inform the plans and conditions of learning.
- Ask questions to the partner school and answer their questions.

#### Browsing of websites

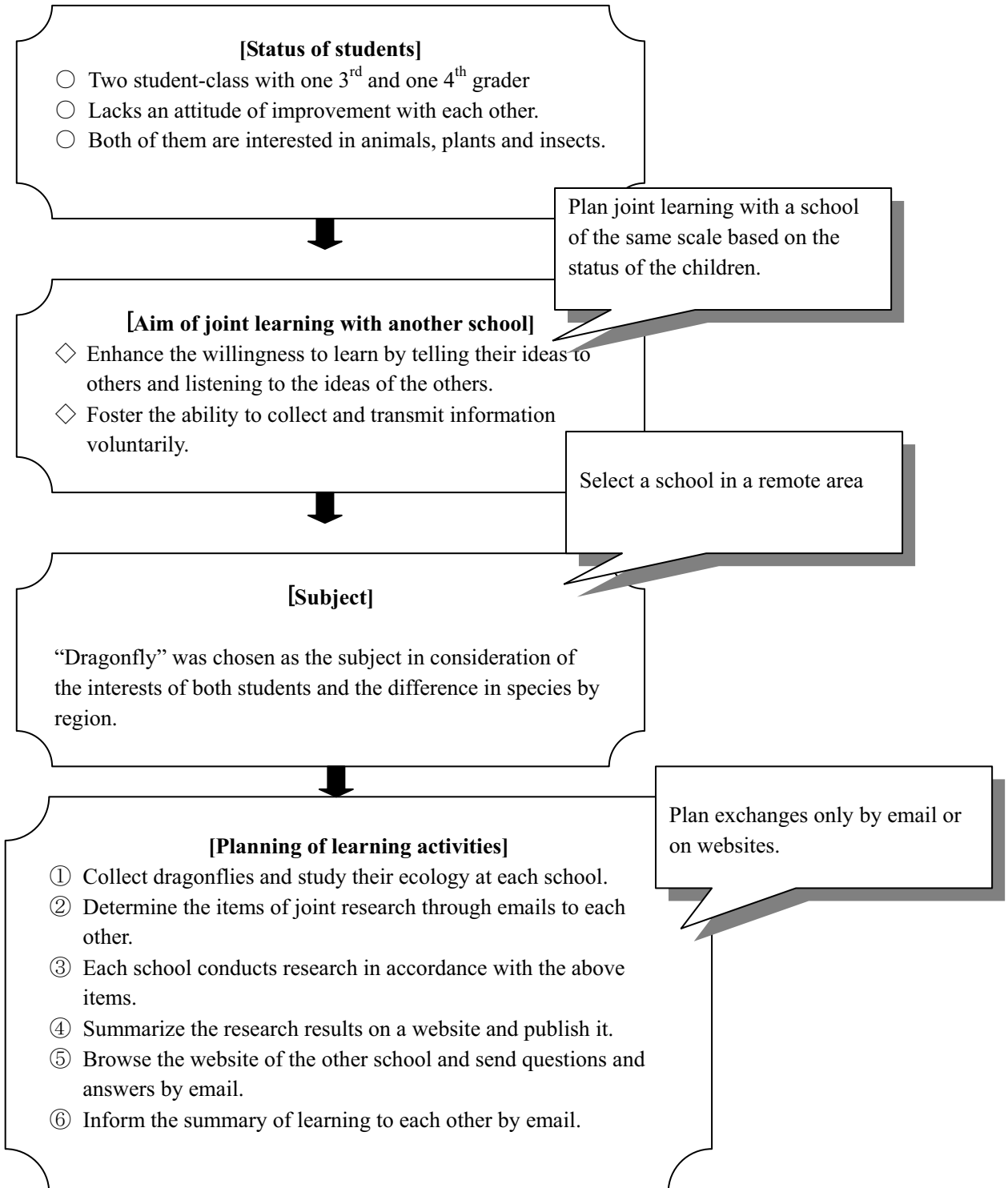
- Inform the summary and results of learning.
- Know the summary and results of learning of the partner school(s).

#### TV conference system

- Listen to each other's presentations and have discussions in real time.

**Example** Planning of joint learning

[Hour for comprehensive studies 3<sup>rd</sup>/4<sup>th</sup> grades Subject “dragonfly”]



- ○ When using an information communication network, it is important to clarify the kind of ability that should be fostered and verify the achievement of such ability by children, rather than seeing the activity itself as a goal.
- It is important to encourage learning with places and opportunities for direct contact with people, rather than focusing only on learning using computers.

## 9. Hours for Integrated studies

During the hours for comprehensive studies in a multi-grade class, it is important to promote learning activities by taking advantage of the multi-grade class depending on the developmental stage of children.

### ▼ Concept of the hours for comprehensive studies in multi-grade classes

#### Aim of the hours for comprehensive studies

- (1) Foster children's abilities to find the problems, learn, think, make voluntary judgments and solve problems by themselves.
- (2) Foster children's abilities to acquire skills to learn and think, to engage in solution of problems and exploration activities voluntarily and creatively and to think about their own lifestyles.



**Children can display their ability to learn voluntarily, which they acquired in indirect instruction.**

**Children can make use of the attitude of learning from each other, fostered through involvement with children of different grades.**

### ▼ Relationship between life and environmental studies and the hours for comprehensive studies

- ① The goal of life and environmental studies and the aims of the hours for comprehensive studies are fundamentally different.
- ② In life and environmental studies, it is essential to cover 8 items of learning.
- ③ Developmental stages differ between 1<sup>st</sup>/2<sup>nd</sup> graders and 3<sup>rd</sup> graders.

**It is therefore necessary to understand that learning activities would not be exactly the same even if the subject is the same.**

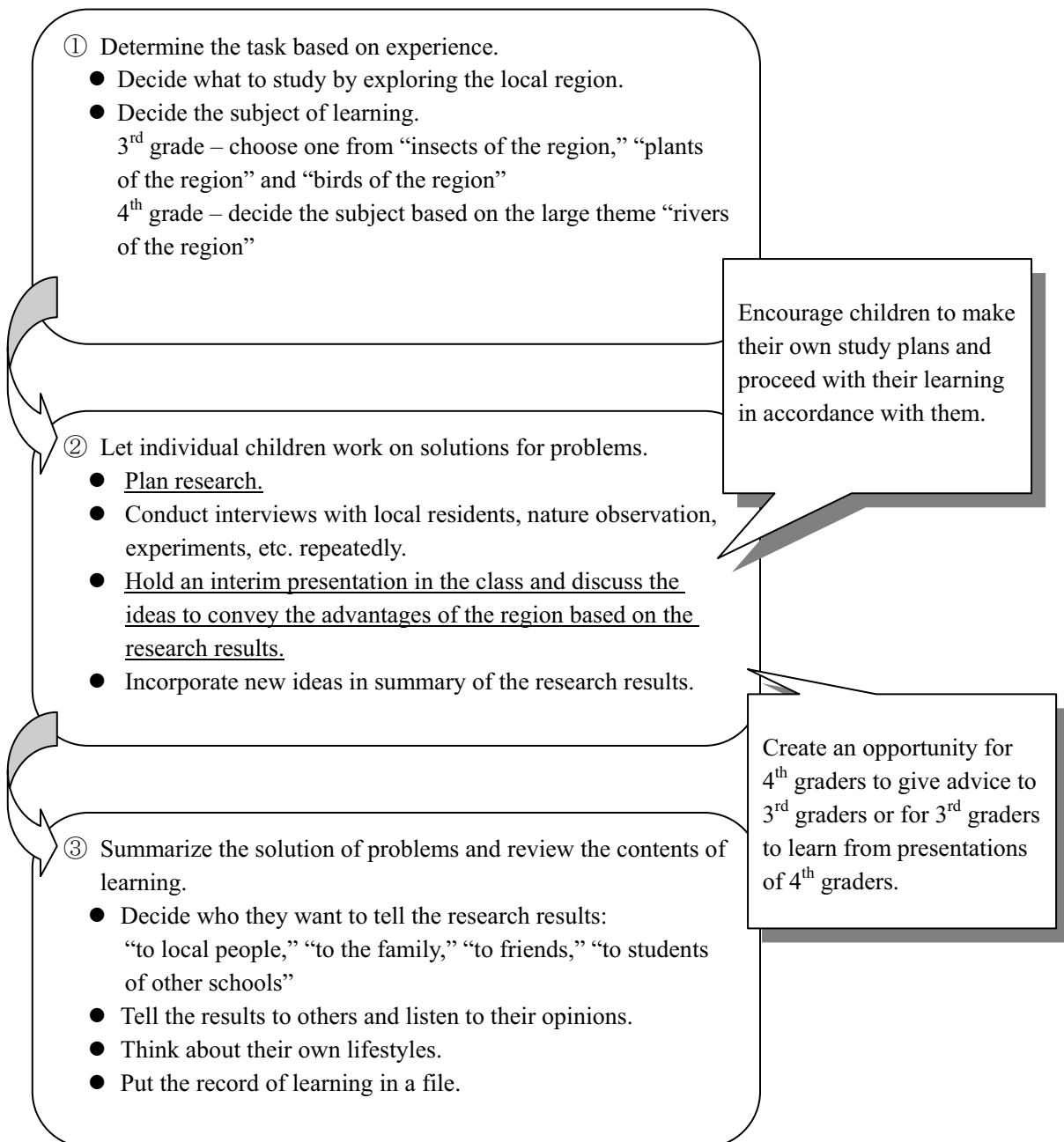
**Example** Hours for comprehensive studies in a multi-grade class

[3<sup>rd</sup>/4<sup>th</sup> grades “Let’s introduce the good points of the local community”]

<Goals of the unit>

Viewpoint	3 <sup>rd</sup> grade	4 <sup>th</sup> grade
Ability to set a task	Be able to choose a task.	Be able to set their own tasks.
Method of learning	Be able to study in accordance with the task.	Be able to study willingly in accordance with the plan.
Communication ability	Be able to have the will to communicate in an easy-to-understand manner.	Be able to think of ways to communicate in an easy-to-understand manner.
Personal lifestyle	Be able to reexamine themselves.	Be able to think of what they can do.

<Flow of learning activities in the unit>



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- For freshman or inexperienced teachers

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