A Collection of Exemplary Design of Elementary and Junior High School Facilities

Based on the Revision of Guidelines for Designing Elementary and Junior High School Facilities

June 2010
INTRODUCTION

In March 2010, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) revised the Guidelines for Designing Elementary and Junior High School Facilities. Prior to that revision, notification was made of the revisions to the Courses of Study for Elementary and Junior High Schools in March 2008. The revised Courses of Study was partially put into effect in fiscal 2009, and it will take full effect in 2011 for elementary schools and in 2012 for junior high schools. To respond to the revisions in the Courses of Study and to keep pace with various changes in social circumstances, the Guidelines were also revised.

For the purpose of preparing a booklet that collects case examples that clearly demonstrate use of the revised Guidelines for Designing Elementary and Junior High School Facilities, the Committee for Study of Case Examples in Response to the Revisions to the Guidelines for Designing Kindergarten/Elementary School/Junior High School Facilities was established in December 2009 at the request of MEXT.

The Committee selected five elementary schools and five junior high schools for onsite investigations and information gathering. Important perspectives enunciated in the revision had already been put into practice by these schools.

This booklet provides descriptions of school facilities. With the view to attracting greater attention to school facilities from those involved with the operation of schools, including school personnel and the parents of students, photos and diagrams are also presented, together with comments from school heads and staff members.

It is sincerely hoped that this booklet will be used nationwide for improving the educational environment on the basis of local circumstances, including the specific conditions found at each school.

Satoru Nagasawa
Chair
Committee for Study of Case Examples in Response to the Revisions to the Guidelines for Designing Kindergarten/Elementary School/Junior High School Facilities
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Based on Revision of the Guidelines for Designing Elementary and Junior High School Facilities

June 2010

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A project commissioned by the Ministry of Education, Culture, Sports, Science and Technology
Committee for Study of Case Examples in Response to the Revisions to the Guidelines for Designing Kindergarten/Elementary School/Junior High School Facilities
Revision of the Guidelines for Designing Elementary and Junior High School Facilities

Background

In March 2008, the Courses of Study for Elementary and Junior High Schools was revised with the aim of helping children to develop their “zest for living.” The revision was implemented on the basis of the education philosophy that was clearly defined in the Basic Act on Education when it was amended for the first time in sixty years. Three basic ideas underlie the revised Courses of Study: 1) developing children’s “zest for living,” 2) emphasizing the balance between the acquisition of knowledge/skills and the development of thought/judgment/ expressive power, and 3) nurturing spiritual wealth and maintaining the good health of each child through improvements in moral and physical education. Specifically, the educational content has been improved in language activities and in the education of math, science and foreign languages.

To keep pace with the revision of the Courses of Study for Elementary and Junior High Schools and also in view of social changes as well as environmental issues including global warming, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) started a review of the Guidelines for Designing Elementary and Junior High School Facilities in June 2009. The Guidelines were revised in March 2010.

Guidelines for Designing Educational Facilities

The Guidelines for Designing Educational Facilities provide points to consider in planning and designing school facilities such that they ensure the functionality that is essential for facilitating school education.

An Outline of the Revisions

- In response to the revision of the Courses of Study for Elementary and Junior High Schools

  Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”
  - Designing classrooms so that they are versatile enough to be adjusted to varied learning content, learning styles and developmental stages of children
  - Securing space for diverse activities of foreign language education (at elementary schools)
  - Improving facilities for enhancing safe and smooth implementation of traditional martial arts education (at junior high schools)

  Improving the environment for science and mathematics education
  - Designing rooms for science such as to facilitate the use of various experimental instruments/IT devices as well as to facilitate demonstrative experiments
  - Designing school facilities such that they take into account the integrated use of rooms for science, audio-visual classrooms and the school library for satisfying the needs of diverse educational methods

- In response to the changes in social circumstances

  Considering sustainability in terms of the environment
  - Designing school facilities to be built in an environmentally friendly way and with consideration for reduction in the environmental effects, so that the facilities themselves can be used as practical resources for teaching
  - Improving the school environment through efforts toward reducing GHG emissions

  Developing a comfortable environment in the indoor sports facilities
  - Designing school facilities such that sufficient ventilation, natural lighting, and comfortable room temperatures are ensured
  - Designing appropriate rest/changing/shower rooms and other such facilities

  Improving the provision of technologies information
  - Improving the information environment at school by making arrangements for using computers and information equipment at various places, including classrooms and open spaces

  Improving facilities such that they strengthen the ties between schools, families and regions
  - Improving rooms such that they are available for promoting cooperation with the local community (e.g.: preparing a common room for volunteers)
Key Points of Revision of the Guidelines for Designing Elementary and Junior High School Facilities introduced by this Collection of Exemplary Designs

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【How to use the case reports】

Basic data on the kindergarten (e.g.: the scale of the facilities and the numbers of students)

Figures and photos to briefly explain key points of the plan that were taken from the revised guidelines for facilities at elementary/junior high schools

Key points of the plan that were taken from the revised guidelines for facilities at elementary/junior high schools

Opinions by the principal, the architects and committees about the facilities
[Elementary Schools]
Nagareyama City, Chiba Prefecture

Oyama Elementary School, Nagareyama City

- No. of classes*: 14
- No. of children*: 387
- Owner: Nagareyama City
- Location: 97-1 Judayu, Nagareyama
- Site area: 21,139.19 m²
- Building area: 6,282.36 m²
- Total floor area: 9,042.68 m²
  (Gym: 1,263.28 m²)
- Structure and scale: Composite structure of steel and concrete with frame construction. Two floors above ground and one below ground.

*Numbers of classes and children are as of the end of Mar. 2010.

Teaching one-on-one or in groups:
Study environments change with the grades.

Ordinary classrooms are connected with a multipurpose space. To cater to children’s physical and mental growth as well as to changes in how they live and study over the course of six years, a distinctive area around the classrooms is laid out for each grade. In an IT-complete environment, children are provided with a place for “studying together.”

A study zone and an “open to the community” zone around Dan-Dan Hiroba square

Key points adopted in the plan from the revised guidelines

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Improving the provision of information technologies
Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”

Integration of a multipurpose space with ordinary classrooms

1. Artist’s impression of a learning space that integrates a multipurpose space with classrooms

2. Layout of a learning space that integrates a multipurpose space with classrooms (e.g., Middle Grades Unit)

A multipurpose space suitable for diverse learning styles

For the purpose of fostering children who are emotionally and intellectually sound, diverse teaching methods are practiced, whereby children are allowed to “study together” in a multipurpose space (an open space) that extends continuously from the classroom. This open space is used as a place for teaching one-on-one or in teams and for exhibiting study materials and work. Here, the communication ability of children develops through exchanges and socialization, thus enriching their school life. The space is very useful, as it converts into a meeting hall for groups of all sizes. (Figures 1, 2)

3. An open classroom viewed from a multipurpose space

A multipurpose space suitable for group study

The multipurpose space provides enough room for a few classes to assemble, thus enabling all children in a grade to do group study. The space functions as a place for exchanges between classes. The curriculum of this school includes local study, and people in the community are invited to talk about local specialties and to tell folk tales. (Figures 1, 2; Photo 3)
Classrooms are equipped with various facilities that cater to the children’s growth stages. For example, exclusive use of a terrace and a washroom is provided for each lower-grade classroom. Direct access from the classroom to the outer terrace allows children to enjoy outdoor activities for longer than before. They naturally fall into the habit of hand-washing and gargling upon returning to the classroom. (Figures 4, 5; Photos 6, 7)

Children can conduct research-based study individually or in groups by using computers at various places, through the school-wide wireless LAN. Because computers are readily available, study will be deepened as the scope of their interests expands. The wide-screen television in each classroom can be effectively used as a PC monitor during teaching. A fully equipped computer room has been installed for children to learn basic computer operation and to create presentation materials. (Photos 8 - 10)

Partitions, entrances and windows were fully worked out for open and continuous space from classrooms to multipurpose spaces and Hiroba squares. (Figure 2)

In light of how sound propagates between ordinary classrooms, ceilings were designed to absorb sound. In the multipurpose space between classrooms, measures such as the installation of a sound absorption wall were taken. (Figures 4, 5)

Ordinary classrooms and multipurpose spaces are designed and furnished distinctively between higher grades, middle grades and lower grades in response to activities and teaching methods. (Figures 4, 5)
The “Lower Grades Unit” is characterized by an L-shaped layout equipped with a workspace for integrated study, the “Middle Grades Unit” by a functional structure suitable for group study for each grade, and the “Higher Grades Unit” by a seminar classroom efficient in one-on-one teaching and teaching according to academic proficiency. (Figures 2, 4, 5)

The library and the computer room are placed in the middle of the school building to serve as a learning center. (Photo 10)

School-wide wireless LAN is installed so that children can use computers anywhere in the school. (Photos 8 - 10)

From the viewpoint of a favorable environment for diversified learning activities

Designing a multipurpose space that is integrated with ordinary classrooms enables the faculty to use diverse teaching methods and to provide children with opportunities for presenting their study achievements. As a result, children can study together and their communication ability develops in this improved environment.

Committee’s opinion

Spatial allocations such as a work space for lower grades, an open space suited to group study for middle grades and a seminar room for higher grades reflect flexible thinking about changes in student activities and teaching methods along with the growth of children.

From the viewpoint of introduction of information technologies

With the introduction of wireless LAN to the school and the placement of a computer room next to the library, computers are readily available, and an environment where children spontaneously carry on research-based study and creative activities is secured.
Tama City, Metropolitan Tokyo

Tama Daiichi Elementary School, Tama City

- No. of classes*: 18
- No. of children*: 637
- Owner: Tama City
- Location: 2-23, Sekido 3-chome, Tama
- Site area: 16,124.32 m²
- Building area: 6,105.80 m²
- Total floor area: 7,973.05 m² (Gym: 1,521.34 m²)
- Structure and scale: Composite structure of steel and concrete with frame construction. Three floors above ground.

*Numbers of classes and children are as of the end of Mar. 2010.

An ordinary classroom zone and a special classroom zone placed around an inner court

Key points adopted in the plan from the revised guidelines

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Improving the environment for science and mathematics education
3. Improving facilities such that they strengthen the ties between schools, families and regions

The cluster of special classrooms enables children to liberally pursue research-based study and hands-on study.

The special classrooms, which include a library, a computer room, a science room, a workshop and a sewing room for home economics, are made into a continuously unified space where children can enjoy research, experiments and experiences.
Providing an environment that fosters "improvements to teaching methods and diversification of lesson formats"

Efficiently renovated special classrooms

1. Workshop
2. Sewing room for home economics
3. Special classrooms are all placed on the north side of the 1st floor.
4. Computer room
5. Library

Facilities to help improve children's learning ability

A science room, a library, a workshop and a sewing room for home economics are integrated into an open space for children to easily carry out research-based study, experiments and other hands-on study. Experiments are done in small groups of children, so that their interests can be stimulated and heightened. They can discuss and present their experiences in a congenial atmosphere. As children gain comprehension, their motivation rises, which leads to an increase in their learning ability. (Photos 1, 2, 4, 5; Figure 3)

Spare classrooms and free space effectively used for study in small groups

In some subjects, academic proficiency differs greatly among children. To cultivate the learning ability of individual children, small-group guidance is provided effectively through the use of cram-free classrooms and free space. So that arithmetic can be better taught in the 3rd grade and over, the three classes in each grade have been reorganized into five groups.

Principal's opinion

Teacher's opinion

Use of a science room to develop the concentration of children

Work space has been integrated into the science room, where desks are placed such that all children face the teacher so that they can concentrate on study and so that the teacher can effectively demonstrate experiments. An adjacent deck is available for semi-outdoor experiments and observations. Moveable partitions may be drawn in to create a comfortable walled-in space, allowing children to concentrate on compiling their experimental results and on other work. (Photos 6, 8; Figure 7)
Improving the environment for science and mathematics education

A science room where children can devote themselves to observation and experiment

6. A fully equipped science room, with a sewing room for home economics right behind it

7. The deck adjacent to the science room, used to dry experimental tools and carry out semi-outdoor experiments

8. Work space between the science room and the workshop, used for displays and presentations

The inner wooden courtyard is open to community activities.

The school’s inner courtyard is planned to be open to community activities so that school activities can be supported by the community. The cylindrical yellow music room is designed to become an outdoor stage when its windows are open, providing a place for music concerts, social exchanges and other events. The audience can directly sit on the wooden deck. (Photos 9, 10; Figure 12)

Facility arrangement in accordance with curriculums and teaching methods

“Sakura Hall” connects the cooking room for home economics and the lunchroom; the Media Center connects the library and the computer room. “Sakura Hall” is a bright, open space big enough for all the children to have lunch together; it’s also used as a place for the presentation of study achievements. The Media Center is useful for research-based study. Thus, the facility arrangement is suitable for diverse teaching methods.

<Architect’s opinion>

All the rooms concerned were reviewed from the viewpoint of functionality. We proposed a new space design that integrates special classrooms for comprehensive use and reduces the floor area. (Photos 1, 2, 4, 5, 6, 8; Figures 3, 7).

We aimed at a safe universal design to broaden the domain of children’s activities by building the school structure low and widening the ground contact area. (Photos 1, 2)

In consideration of environmental harmony and structural longevity, this eco-school was designed with photovoltaic power generation, rainwater harvesting, wind power generation and green roof facilities. In preparation for a future decline in the number of children,
Improving facilities such that they strengthen the ties between schools, families and regions
Space for parents and local residents to socialize

9. The inner wooden court in the middle of the structure is used for events that are open to the community and for morning assembly (solar panels on the roof).

10. By opening the windows of the music room, it can be connected to the open stage in the courtyard (view from the music room toward the courtyard).

11. The lunch room (Sakura Hall), which is connected to the cooking room

12. The inner court converts into a place for events held by parents and other local people.

Committee’s opinion

From the viewpoint of the effective arrangement of special classrooms

The relevance of study activities is taken into consideration through the integration of a science room, a workshop, a library and a computer room, in order for children to perform research-based study and experiments efficiently.

From the viewpoint of an improved environment for scientific education

The science room is designed with laboratory tables placed such as to facilitate demonstration experiments. Space for semi-outdoor experiments and observations is well organized. Thus, scientific activities can be done in a fully equipped facility.

plenty of adjustable partition walls have been used, in addition to structural walls, for easy change of use. (Photos 6, 8, 9)
The placement of classrooms on the north side and the installation of sloped roofs and high-side lights realized comfortable classrooms with great lighting and heating efficiency. (Photos 9, 11)
Ample opportunities to commune with nature and a diversity of eco-friendly facilities motivate children to learn about the environment.

The school is designed to encourage students to commune with nature. In natural settings that include a turf courtyard, they work the fields to grow plants, raise animals and learn of the importance of life. The facilities also intensively harness natural energy.

Key points adopted in the plan from the revised guidelines

1. Considering sustainability in terms of the environment

2. Developing a comfortable environment in the indoor sports facilities
Considering sustainability in terms of the environment
Spatial design offering easy access, for various natural experiences

1. The Green Passage provides for various experiences.

The terraces and the turf courtyard serve for hands-on learning.

The overall open school site includes a space in the middle called the Green Passage, and terraces and a playground south of the 1st grade classrooms. The passage and terraces are large enough for students to play with Japanese spinning tops and bamboo-copters in life environmental studies classes. The turf courtyard allows them to do whatever they like during breaks, such as running around, cartwheeling or sitting to chat. There’s an additional turf field in front of the 2nd grade classrooms. It’s so close that they don’t need to go to the main playground for casual outdoor activities. Those who are not accustomed enough to sports at the playground are instead able to practice in the courtyard: It hurts less to stumble or fall on grass, which means they’re able to overcome their fear and to cultivate various athletic skills. Such outdoor school activities enable them to experience nature in everyday life. (Photos 1, 2)

The first step in environmental education: Recognizing the importance of life

Within the school site, there is a field for crops and a rabbit hutch. Children cultivate the field, including by seeding and watering crops, and feed and raise rabbits. They learn the value of life and develop an affinity for life while closely watching animals and plants grow. They also see those smaller living things die, which is when they learn about another important aspect of life and nature. (Photo 3; Figure 4)
Considering sustainability in terms of the environment
Equipment to heighten interest in harmony with the environment

5. Eaves control sunlight, and light shelves project the sunlight deep into rooms.

6. Approximately 430 m² of green space on top of the building

7. Solar panel

8. The Path of Wind, situated at the sloped ceiling above the corridor and bringing heat to the entrance of the Pipe of Wind

9. The Tower of Wind, an exhaust of naturally drafted (gravity-ventilated) air

Teacher’s opinion

Light, wind and greenery make the classrooms comfortable all year round.

In summer, the eaves block sunlight when the sun is high. The windows don’t need curtains, so breezes blow into the classrooms. Wind blows through the Path, the Pipe and the Tower of Wind, keeping classrooms comfortable. Thirty percent of the building rooftops are covered with greenery, exceeding the minimum percentage specified by prefectural ordinance. This not only protects the building from strong summer sunlight, but it also provides children with a relaxing feeling, as the greenery is visible from the 3rd floor of the central stairway and from the corridors. In winter, light shelves bring daylight illumination deeper into the rooms. Solar panels and solar power monitoring devices are invaluable resources for environmental education. Through school life in which children become familiar with these environmentally friendly facilities that harness natural forces, they learn the basics of living in harmony with the environment. (Photos 5 - 10)

Accessible and enjoyable sports facilities for the whole community

In opening its gym and playground to the community, the school carefully considers accessibility by outside users and the comfort of these users. “Barrier-free” entrances and a well-ventilated gym equipped with changing rooms and a restroom are all available for community use. The restroom, which is equipped with a crib for diaper changing, is particularly user-friendly in that users can enter from the athletic field. (Photos 10 - 13)
Developing a comfortable environment in the indoor sports facilities
Making the gymnasium more comfortable

10. The gym, equipped with a gravity ventilation system that relies on the differences in air pressure that result from different temperatures between the inside and outside the gym.

11. The entrance, with no difference in floor height.

12. The “universal” restroom is accessible from outside.


<Architect’s opinion>

We designed a “green passage” extending north-south at which children are able to actively run around. (Photo 1)

The north building is longer than the separate south building, which creates pressure differences that bring southern breezes into northern rooms. When the wind blows from east to west or vice versa, pressure differences occur in the in-between “green passage,” and these generate breezes. Light shelves and eaves control and adjust sunlight for a comfortable lighting atmosphere. (Photos 1, 5, 8, 9)

Committee’s opinion

From the perspective of considering sustainability in terms of the environment

With a turf courtyard, rooftop greenery space and natural ventilation, the facilities are designed to reduce environmental burdens and achieve harmony with nature.

From the perspective of developing a comfortable environment in the indoor sports facilities

The facilities are designed with careful consideration of community use: The outdoor space is smoothly connected to the indoor sports space, and the facilities, such as the restroom, are carefully designed. The school ensures good ventilation in the sports space.

Design: Team Zoo Atelier IRUKA Co., Ltd.
Namerikawa City, Toyama Prefecture

Seibu Elementary School, Namerikawa City

- No. of classes*: 20
- No. of children*: 529
- Owner: City of Namerikawa
- Location: 471, Kamijima, Namerikawa
- Site area: 25,000 m²
- Building area: 7,169 m²
- Total floor area: 8,217 m² (Gym: 1,395 m²)
- Structure and scale: Composite structure of steel and concrete with frame construction. Three floors above ground
- Construction period: June 2004 - Aug. 2005 (extension)
  June 2006 - June 2007 (Phase I)
  May - Dec. 2008 (Phase II)

*Numbers of classes and children are as of the end of Mar. 2010.

A study environment warmly finished with wood makes children independent and cooperative, for more effective learning.

Extension of the ordinary classroom building and renovation of the existing school building, including seismic reinforcement, was an opportunity to develop the school building into one with some spaces that are designated for use by a certain class and other spaces that are used by children in multiple classes, according to developmental level. Information technology helps school children to work independently, as well as cooperatively with classmates and the community. The various activities nurture children.

The school seen from the outdoor playground (earthquake-proof building and extension)

Key points adopted in the plan from the revised guidelines

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Improving the provision of information technologies
3. Improving facilities such that they strengthen the ties between schools, families and regions
Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”
Open, multipurpose study space to meet a diversity of study activities

1. The stage at the work terrace is used for classes by guest lecturers and for story time by volunteers.

2. In the open space, movable furniture and partitions are used to screen the space for various purposes (higher grades).

3. A den-styled locker space separates classrooms from open space (lower grades).

4. Open spaces warmly furnished with wood

An adjustable space that focuses on cooperative learning

The open space serves as a place for communication, encouraging school children of different grades to study together. The space is large enough for grade meetings and open enough for children to interact actively, because there are no fixed walls to separate classrooms from corridors. The school space is variable enough to fulfill several purposes: some classes share open space with dens partitioned with furniture, while others arrange space for discussions and presentation activities.

Each floor has a “work terrace” equipped with a stage, encouraging children to voluntarily and vigorously speak and make presentations in front of others. They exchange opinions with those of other grades and classes, and foster mutual understanding. A library, located in the open space, makes children more familiar with reading as well as stimulating enthusiasm for learning. (Figures 1, 4; Photos 2, 3, 6)

Team teaching that makes the most of the classroom space

The front corridor is not partitioned off from classrooms, which creates more space for small-group studies. The space also accommodates diverse study tasks and group meetings, encouraging increasing numbers of children to speak out. The wall-free space allows people to see children’s work hung on partitions from the corridor, which helps different children of different grades and classes to interact. (Photo 3)
Improving the provision of information technologies
The computer room and library are connected.

5. The spacious, open IT room, built after the school building was improved and reinforced

6. The library is accessible from open space on the 2nd and 3rd floors.

7. The library, adjacent to the computer hall, has an open atmosphere.

A computer room that accommodates individual and group study

Whether questions are easy or difficult, solving them requires sufficient time. Accordingly, the open IT room (computer room) provides children with a relaxing atmosphere. Computers have been added and arranged so that children are easily able to work on them with friends and teachers. (Photo 5)

Children’s intellectual curiosity is enhanced by the linkage of facilities.

Having the library adjacent to the computer room allows children to satisfy their inquisitiveness. A child who has a question while reading a book is able to go to the computer room and do a search. The child is able to go to the library, too, when searching on the computer and wanting to look for references at the library. (Photos 6, 7)

Facilities for the care of schoolchildren’s minds

Heart Room, a school counseling room on the 1st floor, is directly connected to the infirmary and provides children with a place for individual counseling. Counseling services are also available for the community at the meeting room. Several of the school restrooms are multipurpose ones, with universal design. (Photos 9 - 11)
Improving facilities such that they strengthen the ties between schools, families and regions
Facilities open to the community, and adequate counseling space

8. The improved lunch room, on the 2nd floor, allows children to have meals with their families.

9. The meeting room is open to people in the community.

10. The multipurpose restroom, adjacent to the meeting room, is open to people in the community.

11. The Heart Room (counseling room) is directly accessible from the infirmary.

<Architect’s opinion>
We’ve designed a library that’s open to everyone, so that all children, regardless of grade, can easily look for books to read and can freely study. (Photo 7)

The multipurpose restroom is close to the meeting room, because many people visit the school for educational consultations in the meeting room, in addition to attending events at the work terrace. (Figure 1; Photos 9, 10)

Committee’s opinion
From the perspective of providing an environment that fosters “improvements to teaching methods and diversification of lesson format

The school is designed to provide an environment in which various activities can take place. This has been achieved by building stage-style space for presentations and classes of community volunteers, and by equipping the open space with movable partitions in order to serve for individual and group study.

From the perspective of improving facilities such that they strengthen the ties between schools, families and regions

In creating a counseling room with a warm atmosphere, the school has given attention to the mental health of children. Counseling rooms also can be used by local residents. In this way, the school building fulfills the needs for counseling.

Design: TAC TOYAMA
Musashino City, Metropolitan Tokyo

Ohnoden Elementary School, Musashino City

Diverse study spaces have been constructed. Facilities have been installed to enhance environmental education.

Spaces are designed to suit the developmental stages of children in lower grades and of those in middle and higher grades. The multipurpose lecture theater and the multipurpose hall meet the needs for diverse lessons. Facilities were constructed to focus education on the environment, science and mathematics.

Key points adopted in the plan from the revised guidelines

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Considering sustainability in terms of the environment
3. Improving the environment for science and mathematics education

The school building is positioned along a line of Japanese zelkova.
Providing an environment that fosters "improvements to teaching methods and diversification of lesson formats"
Introduction of the latest open-space classrooms that vary by grade

1. Multipurpose open spaces that vary by grade (The open space in the photo is for 1st graders.)

2. Classroom

3. Multipurpose Hall

4. Multipurpose lecture theater "Keyaki Hall"

Principal’s opinion

In constructing space, the differences between children by grade have been taken into consideration.

The behavior, body size and learning environment of elementary children differ substantially by grade. At this school, the open space in each grade zone is different. For lower grades, each classroom is a single multipurpose open space. The open spaces for mid to upper grades are varied and continuous. These spaces suit the educational program of each grade and allow children to look forward to advancing to the next grade. A colorful interior and warm wooden floors and walls have been used, because children spend most of the day in those spaces. Additionally, furniture that suits the space and fosters and enthusiasm for study has been installed. Children enjoy discovering how to combine furniture elements for better use. (Photos 1 - 3)

At Keyaki Hall, children can show their activities to local residents.

Taking ties with the local community into consideration, Musashino City constructed the Educational Support Center, the Chiiki Kodomo Kan and the Ohnoden Kodomo Club on the east side of the school to ensure access by local residents. A special classroom building was constructed on the east side. The multipurpose lecture theater “Keyaki Hall,” which is used for children's presentations was positioned to face east, toward the road, so that children’s activities and the school atmosphere can be seen. (Photo 4)
Considering sustainability in terms of the environment
A facility that raises awareness of the importance of harmony with the environment

5. A biotope where children can experience nature

6. Eaves made of semi-transmissive solar cell panels

7. The 4th grade classroom’s terrace, whose roof is gardened

8. Natural ventilation and pipes for cold water laid under the floor enhance air-cooling.

Teacher’s opinion

Various facilities that raise awareness of environmental issues

Environments for children to commune with nature are provided at various places, such as at the biotope and the rooftop garden; also, facilities using natural ventilation have been installed. This makes children immediately aware of environmental issues. For example, because the eaves above the poolside and the terrace, whose roof is a garden, are equipped with solar-power generators, children can understand and become interested in the consumption of electricity and the mechanism of electricity generation. (Photos 5 - 7; Figure 8)

A library linked with a computer room, enhancing ease of use

The library, which is provided with bookshelves for large books, has a research-based study space and a reading space, making it easier for children to use. The database in the library is linked with that in the adjoining computer room, thus allowing the library to be used as a media center. This is expected to improve the research environment for teachers as well as the study environment for children. (Photos 9 - 11)

Learning is made more effective by allowing experiments to be observed in groups.

For science education, this school has an open space in addition to two science rooms and an experiment preparation room. There’s a space in the center of the science room for experiments and discussions; thus, learning is enhanced. Portable furniture allows space to be made for experiments, enhancing the joy of experimentation. Moreover, the planetarium installed in the ceiling fosters scientific thinking in children, who like science and the cosmos. (Photos 12, 13)
Providing an environment that fosters "improvements to teaching methods and diversification of lesson formats"

Improving the environment for science and mathematics education

The plan to improve science rooms for better observation and experiments

10. The computer room, whose computers are linked with those in the adjoining library

11. A round space for reading, situated in the library

12. Science rooms designed with an open space at the center for children to observe experiments easily

13. An open space installed with a planetarium adjoining the science room

We intended to create a comfortable environment amidst the greenery of the Musashino area. We kept in mind that the school exists together with the local community; the schoolhouse is positioned just south of a row of Japanese zelkovas, so that it does not shade the neighboring residences. From the classrooms, children can appreciate verdant landscapes. (See the photo showing the schoolhouse.) Floor heating/cooling that provides coolness as if one were under a tree has been installed in the classrooms. The system does not overcool children wearing short-sleeves and shorts. (Figure 8)

During breaks and when moving from one place to another, the children can appreciate the seasons, thanks to being amidst nature, as seen in the Japanese zelkova trees in the courtyard, the biotope and the rooftop garden. (Photos 5, 7)

Committee’s opinion

From the viewpoint of providing an environment that fosters "improvements to teaching methods and diversification of lesson formats"

The spaces are designed to suit the development stage of children. For the lower grades, each class uses its own space for all subjects. For middle and higher grades, the open space is shared between classes and used for multiple purposes. In selecting furniture, close attention is paid to the size and materials according to the children’s growth stage.

Considering sustainability in terms of the environment

By installing a biotope and a garden roof above the terrace, this school has secured nearby spaces at which children can commune with nature. For the spaces most commonly used by children, wood is used as a material wherever possible, and solar cell panels are installed where children can easily notice them. The design is intended to allow children to familiarize themselves with the natural environment and to raise awareness of the importance of living in harmony with the natural environment.
Well-designed and Well-equipped Spaces for Foreign Language Activities

**A room exclusively for foreign language education**

Our school has a foreign-language classroom, which is not very common in elementary schools. Used exclusively for foreign language education, this classroom is very helpful in motivating pupils to take an interest in foreign languages. Because open space is necessary for children, who tend to learn by moving their bodies, there are no desks in the classroom, and the chairs are stacked against a wall and used only when necessary. The room is carpeted, so children sitting comfortably on the floor can enjoy talking with an assistant language teacher in a relaxed manner.

*(Photo 1) Chuo Elementary School, Toyama, Toyama Prefecture*

**A versatile space for foreign language education and other activities**

Foreign language education at elementary schools should focus on listening and conversation. Our multipurpose hall, which is equipped with a projector and sound facilities, plays an important role in foreign language education, because English teaching materials heavily depend on sounds and images. The layout and the soundproofing of this hall were carefully designed so that any activities taking place there would not interfere with other classes. The commodious space in the hall is useful for language activities that require pupils to move in sync with sounds and projected images.

*(Photo 2) Tama Daiichi Elementary School, Tama, Metropolitan Tokyo*

**<Architect's opinion>**

**Versatility for facilitating various learning activities**

A space that facilitates various kinds of foreign language activities was aimed at. An open space was secured, and the room was carpeted for pupils, who tend to learn through movement and who tend to sit on the floor during class. *(Photo 1)*

**Consideration of the acoustic environment**

Because listening and conversation are important in foreign language education, consideration was given to the layout of the classroom and the application of sound-absorbing materials to ensure good acoustic insulation.

*(Chuo Elementary School, Toyama, Toyama Prefecture)*

**Principal’s opinion**

A classroom, which had been unused, is now used exclusively for foreign language activities. The lockers at the back of the room store English learning materials, which pupils can use any time. Colorful posters related to English learning are put on a bulletin board to catch children’s attention. National flags of some countries are displayed outside the classroom so that pupils will feel more connected with foreign languages and will take a greater interest in them.

*(Photo 3) Shimizu-ihara Elementary School, Shizuoka, Shizuoka Prefecture*
[Junior High Schools]
The open design of the school facade creates a welcoming atmosphere for the community.

**Key points adopted in the plan from the revised guidelines**

1. Developing a comfortable environment in the indoor sports facilities
2. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
3. Improving the environment for science and mathematics education

The functions of indoor sports facilities and an evacuation site are enriched and integrated. An environment for independent learning is created.

A gym and a martial arts hall are adjacent to the main school building. Year-round sports facilities and an emergency evacuation site have been merged. Special subject classrooms and plazas are linked with the library and the computer room to serve diverse learning styles.
Developing a comfortable environment in the indoor sports facilities

Indoor sports facilities improved to serve also as an evacuation site

1. A space called Big Roof. Even on snowy or rainy days, sports can be played.

Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”

An improved martial arts hall

3. A martial arts hall that is used as a secondary gym

Principal’s opinion

Improvements to indoor sports facilities based on lessons from the Chuetsu Earthquake

In planning the gym and sports facilities, we focused on also giving them the advanced functions of an emergency evacuation site. When the Chuetsu Earthquake occurred, we had the experience of being an evacuation site. Therefore, we have located the gym close to the martial arts hall and lunchroom, based on lessons learned from the disaster. When these facilities are used as an evacuation site, the two big spaces are very helpful, since they are flexible enough to address any situation.

A semi-outdoor space that’s called Big Roof, because it’s covered with a big roof, serves as an emergency entrance and exit or as a workspace for sorting relief goods. On normal days, Big Roof is used as an all-weather indoor sports facility for running; on rainy or snowy days, it’s used for other sports. It supports improvements in the athletic abilities of students. (Photos 1, 3)

An environment for the daily practice of judo

The judo gym is floored with tatami mats. Students don’t have to bring out and set up tatami mats for their judo lessons, so they don’t have to worry about their fingers getting pinched by the mats. Students can warm up quickly, and they can focus intensively on judo practice. When the kendo gym is vacant, it can be used as a secondary gym for other sports, such as table tennis. Students enjoy sports there. (Photo 3)

Improvements to a running track such that it enhances the physical ability of students

A running track on the 2nd floor of the gym makes a 140-m circuit. It’s effectively used for club activities, such as track-and-field, baseball, tennis and so on.

The floor is made of a high-cushioning material that places less burden on players’ knees and affords safety. It effectively enhances student’s athletic ability. (Photo 2)
Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”

An advanced learning environment centered on the library and the “subject plazas”

4. The wellhole school library

5. Notebook computers in the subject space

6. Students can peruse various English materials at the English Plaza. This space is managed in liaison with the school library.

7. The home base is the basic unit of space for school life, a place where a student’s sense of belonging to a class is fostered.

Teacher’s opinion

Enhancing students’ motivation for learning by introducing subject-oriented teaching

With subject-oriented teaching, students move to each subject room for lessons. The desks and chairs in those classrooms are not their own; therefore, students can gain a sense of sharing. We have subject rooms for Japanese, social studies, mathematics, English and other subjects. Each subject room has its own next-door media space, called a plaza. And we have spaces called “home bases” that enhance the unity of each class.

In the home base space, students in a class do activities together and talk with each other about various topics, such as school, learning content, club activities, hobbies, games and so on. Since subject-oriented teaching was adopted, several satisfied comments have been heard from students: “I’ve been more motivated to learn,” “I can concentrate in the subject room” and “I like the home base space best.” (Photos 5 - 7)

An environment that allows students to search for information easily and to become familiar with science experiments

Each subject plaza is equipped with two computers (ten computers for five subjects). They are used together with the computers in the computer room. Teachers and students can easily use them to search for information. To improve science lessons, we have two laboratories in addition to the science room. Also we have a science equipment room to support smooth science experimentation. At the Science Plaza, students can use the materials and equipment for their own learning during recess; also, the exhibitions there of the results of experiments attracts student interest. (Photos 8 - 12)
Improving the environment for science and mathematics education

A science room where one can observe and do experiments with thorough preparation

Based on lessons learned from the Chuetsu Earthquake, we improved the school’s ability to serve as an evacuation site for local people. The gym, which is the core of the evacuation site, the martial arts hall, the cooking room, the circuit running course and the semi-outdoor Big Roof are located close to each other and facing the athletic field. (Photos 1 - 3)

Big Roof and the running track are valuable spaces for exercising during winter. These have two functions. One is as an evacuation site and the other is as an open school area for daily school activities. Those functions enable this school to be used by students for daily school activities, including learning activities, and by local people. (Photos 1, 2)

A subject center consists of a subject room, subject plazas and teachers’ sections. Also, the media center and the main stairs are at the center of the building. When students move from their home bases to each subject center, they go through this wellhole space, where school activities are conducted. (Photos 4 - 12)

There’s no need to worry about bad weather when we can exercise at the indoor running course. There’s also a semi-outdoor exercise space called Big Roof. The plan has been to improve the sports environment. In the martial arts hall, the area with tatami flooring and that with wooden flooring are completely separated. Judo, kendo and other martial arts can be practiced safely and smoothly.
Kumano City, Mie Prefecture

**Arima Junior High School, Kumano City**

- No. of classes*: 9
- No. of students*: 244
- Owner: Kumano City
- Location: 1398, Arima cho, Kumano
- Site area: 15,562 m²
- Building area: 4,097 m²
- Total floor area: 5,171 m² (Gym: 1,074 m²)
- Structure and scale: RC school building. Three stories above ground. RS gym on the ground floor.
- Construction Period: July 2003 - Mar. 2005

*Numbers of classes and students are as of Mar. 2010.

**Practicing environmental education amidst the natural environment of Kumano cedars. Advanced information technology leads the students to the world.**

Kumano cedars are intensively used as indoor materials for the school building. Students can learn the importance of nature and environmental issues by utilizing natural energy. They also learn about some topics together with students in foreign countries through the Internet.

An eco-friendly design, such as louvers and a pent roof for controlling sunshine

**Key points adopted in the plan from the revised guidelines**

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Improving the provision of information technologies
3. Considering sustainability in terms of the environment

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**School Layout**

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1. Kumano cedars are used as the material for the ceiling, walls and lights in the music room.

2. The warm atmosphere at the washbasin in the restroom

Improving the provision of information technologies
A computer room linked with the school library

3. The indoor sports facility uses Kumano cedar and is filled with warm, natural light.

4. International interaction is possible in the computer room.

Principal’s opinion

Finished in Kumano cedar, the school main building fosters peace and serenity in students.

Even the restrooms serve as a place for warm communication among students.

Promoting international exchanges with advanced information technology

Under the mayor’s policy, we are actively promoting information education. As of 2000, all elementary schools and junior high schools in the city were connected by intranet. We have a computer room next to the school library. In such an environment, students can use computers and books to search for information. Also we have international exchanges with American university students through the Internet three times a year. Twenty students who wish to participate in this activity are allowed to do so. It’s a valuable experience for the students. (Photo 4)
Providing an environment that fosters "improvements to teaching methods and diversification of lesson formats"
The warm atmosphere of wood in the school library makes students relaxed.

5. A school library with a serene atmosphere

6. A comfortable tatami space in the library

7. Students enjoy reading books on the roof terrace.

8. A meeting room filled with rich natural light

Teacher’s opinion

The space fosters “relaxed minds” among the students.

We teach students the idea of “cherishing one’s belongings and the rights of others.” We think the idea of “relaxed minds” is the basis for that idea. Students with “relaxed minds” can reflect on themselves and care for their friends. To foster “relaxed minds” in students, we have students engage in activities. First is ten minutes of reading every morning during the homeroom session. The warm atmosphere of Kumano cedar makes all the school facilities suitable for reading in. The school library is equipped with benches and tatami spaces so that students can read books there comfortably. Also they can read in a meeting room filled with natural light or on a planted roof terrace on sunny days. The various reading environments provide students with enough time for reading and foster mental calmness and relaxation. (Photos 5 - 8)

Enhancing student interest in environmental issues with solar power generation and light control of school facilities

Various devices among the school facilities support environmental education for students. The toilets are bright without lighting, because of the top light windows. Louvers are installed outside of the windows to prevent the temperature from rising in classrooms. The roof terrace is planted and has solar panels. Also, a power generation monitor is installed in the nearby entrance hall. The monitor is effective in enhancing student interest in environmental issues. (Photos 9 - 12)
Considering sustainability in terms of the environment
Various devices enhance environmental awareness.

9. Solar panels installed on the roof

10. A monitor that shows the energy output of solar power generation in classrooms

11. Louvers prevent the temperature from rising.

12. Bright toilets with natural light from high windows

<Architect’s opinion>

Featuring the warm atmosphere of Kumano cedar, the school was designed to offer modern space. The vivid contrast between natural light and brightly colored panels is an example of how this is a modern space with warm atmosphere (Photos 1, 3, 5, 6).

The restrooms are designed as a refreshing space that offers efficient flow of students. Students use clean toilets amidst the warm atmosphere of Kumano cedar. (Photo 2)

The computer room has space for study meetings. (Photo 4)

Committee’s opinion

From the perspective of environmental sustainability

Local Kumano cedars are intensively used as a material for the school main building and for the gym, giving the facilities a calm, warm atmosphere. Also, the school facilities were constructed under the idea of placing less burden on the environment and of using environmentally friendly devices, such as windows that let in the greatest possible amount of natural light.

From the perspective of providing an environment that fosters “improvement to teaching methods and diversification of lesson formats”

The school library is equipped with benches and tatami space. The computer room is near the library. This plan provides students with comfortable spaces for reading and researching. It promotes full use of the school.
Shimonoseki City, Yamaguchi Prefecture

Houhoku Junior High School, Shimonoseki City

No. of classes*: 10
No. of students*: 245
Owner: City of Shimonoseki
Location: 1244-36, Osara-takibe, Houhoku-cho, Shimonoseki
Site area: 39,851 m²
Building area: 8,545.55 m²
Total floor area: 10,372 m² (Gym: 1,321 m²)
Structure and scale: Steel construction and RC construction. Two stories above ground.

*Numbers of classes and students are as of Mar. 2010.

A local library is at the center of the school. The school serves as a base for community interaction, learning and sports.

The school library and the community library have been unified and located at the center of the school. The school serves as a base for community interaction, where local culture and history are passed on to the next generation. With subject-oriented teaching, students are motivated to learn for themselves. And the several open spaces are effective for interactive activities among students.

Varied elevations at different parts of the site were used for effective placement of facilities.

Key points adopted in the plan from the revised guidelines

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Improving facilities such that they strengthen the ties between schools, families and regions.
3. Considering sustainability in terms of the environment

![School Layout](image)
Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”
Many spaces which boost interaction among students and teachers

1. A terraced space in a multipurpose space for various activities, such as student presentations and group study
2. Multipurpose space in front of the subject room (open space)
3. Corridor in front of a home base
4. A multipurpose space that can be used as a lunchroom

Principal’s opinion

Designing spaces where the student flow is tailored to subject-oriented teaching

We have adopted subject-oriented teaching to provide students with advanced, specialized lessons. To enhance the effectiveness of lessons, each of the five zoned spaces (the library, the school administration zone, the subject rooms, the special rooms and the home bases) has a clear purpose as a learning center. In the morning, students first go to their homebases on the 2nd floor, attend the morning homeroom session, check their lesson schedule for that day and move on to their classrooms. After the morning session in the teacher’s room, teachers prepare their lessons in each study room and move on to their classrooms. Moving from their home bases to their classrooms rekindles in the students a refreshed attitude toward learning. Warm and comfortable spaces, such as open home bases, stairs and other open spaces foster in student the motivation for learning. (Photos 1 - 4)

Teacher’s opinion

Various study spaces that enhance interactions among students and between students and teachers

Terraced open spaces are suitable for group study and presentations. They’re also suitable for interactive activities among students. Open spaces for subjects are suitable for small group work and research work. These diverse facilities promote various study activities and foster interactions among students and between students and teachers. (Photos 1, 2)
People from the community watch over the growth of students.

The library is managed by the city government, and the lounge next to the library enables interactions between the school and the community. A gym, a music room, an art room, a technical arts room and a home economics room are designated as an “open zone for the community,” and these rooms are used for music lessons, volleyball events and so on. We strongly feel that these interactive activities enhance the awareness that the local community is watching over and fostering students. (Photos 5 - 7)

Utilization of guest lecturers and of the local environment for education

Many people in the community have expertise that the teachers don’t have. We regard these people as educational assets and invite them to school as guest lecturers. Open spaces, the kendo gym and the Arena can be places where guest lecturers give lessons; therefore, we have located them near the entrance, for easy access. (Photos 5 - 7)

<Architect’s opinion>

Our plan aims to realize an “eco-school that achieves harmony with the global environment,” in order to save energy and to conserve natural resources. We planned for the school to have lower maintenance and management costs than before. We considered lighting and ventilation when we chose a location for the inner court and the school main building. High windows are adopted for the library, and large glass windows are installed in some parts of the school building, where community interaction can be done. (Photo 5 - 9)
Considering sustainability in terms of the environment

Use of clean energy reduces greenhouse gas emissions.

8. The inner courtyard, a source of light and of air for ventilation

9. An art room with a top light window

10. Ground source heat pump system

11. Air outlet of the cool/heat pit

12. Solar power generation system

13. Solar power generation monitor

Committee’s opinion

From the perspective of improving facilities such that they strengthen the ties between schools, families and regions

The environment has been improved with the installation of a terraced space for student interaction, a library situated near the entrance hall and a connection between the lounge and the library. The aim is to boost interactions among students and between students and the community.

From the perspective of considering sustainability in terms of the environment

Lowering the burden on the environment and coexistence with nature were considered when this school was built. We designed the inner courtyard such that it would let sunlight into the school, and we installed equipment for good ventilation. We also installed high side lighting, a cool/heat pit system and a solar power generation system.

We have intensively used cedar and Japanese cypress from the local forest as materials for the school facility, and we took care to reduce emissions of greenhouse gasses and to save energy when the construction materials were transported. (Photos 6, 7, 9)

An energy-saving environment is achieved by the installation of a solar power generation system, a cool/heat pit system, ice storage air-conditioning, water-saving equipment and energy saving lighting. (Photos 10 - 13)
Shimin Junior High School, Fukui City

- No. of classes*: 14
- No. of students*: 412
- Owner: City of Fukui
- Location: 65-20 Minamiemori-cho, Fukui
- Site area: approx. 33,000 m²
- Building area: 11,149 m²
- Total floor area: 11,135 m² (Gym: 2,720 m²)
- Structure and scale: RC structure. Two floors above ground.

*Numbers of classes and students are as of Mar. 2010.

Places for cross-grade interaction and mutual learning foster students.

Under the concept of “passing on an inheritance to younger generations,” places are made for exchanges where more senior students can be role models for more junior students, and the “subject classroom system” is used for a better learning environment. Such improvements create a virtuous cycle of learning.
Providing an environment that fosters "improvements to teaching methods and diversification of lesson formats"
Open spaces break down barriers between teachers and students, and between more senior and more junior students.

1. “Home bases,” where students of different grades assemble

2. The English Space, where students talk with teachers

3. The “Lounge,” a place for exchanges at the center of the home bases

Principal’s opinion

Setting up open-plan home bases, which promote cross-grade cooperation

Our school has introduced the “subject classroom” system, and we have a special home base layout where each class has a morning meeting, an end-of-day meeting, and lunch. Home bases consisting of one homeroom class from each grade combine into multi-grade groups, and we call these groups “clusters.” At school events, such as the chorus contest and the marathon, each cluster participates as a unit. (Photo 1)

A facility layout that lends distinctiveness to each Subject Area

Each Subject Area is distinctive and presents learning materials and student work to increase student motivation. Each Subject Area has a Subject Station staffed with the teacher of that subject, so that students can easily visit to ask questions and consult. This has created a virtuous cycle of learning, and it produces better learning outcomes. (Photo 3)

“Subject Plazas” that enhance interactions among students in each subject, which gives good influence on learning

A “Plaza” is established for each subject. Sometimes classes are held in a “Subject Plaza” that is created by removing partitions between classrooms and the hall. Being inspired by students in other grades and being watched by other students lead to better learning of the subject. (Photo 2)
Facilities for improving science and mathematics education
Plan for Science Rooms for satisfying observations and experiments

4. Science Space, equipped with observational and experimental instruments

5. Outdoor Science Room for outdoor experiments

6. Open-plan Science Room

7. Science Station, to deepen exchanges with teachers

Teachers' opinion

A practical facility layout that fosters an interest in science

For science education, there are two Science Rooms, two Science Labs, and an outdoor Science Room. These provide places for long-term observations and for demonstration experiments to verify facts and test theories. Also, students grow and observe plants in a field made in a small depression. Lessons that cannot be given in an indoor classroom spark student interest in science. (Photos 4 - 7)

The Happa Area, for interaction between students and local people

The Arena, which faces a foyer, is open to social and athletic community activities. The Happa Area includes the Atelier, labs, the Life Design Studio, and the Kitchen Studio as well as a space for exhibition; it is open to the public. In the Happa Area, exhibitions, workshops and seminars are held by local people, high schoolers and college students from the neighborhood, and such events greatly enlighten students. (Photos 8 - 10)

<Architect's opinion>

Under the theme of a new style of learning for the future, this school has established a series of classrooms whose size can be increased and decreased, partitions that can be used as bulletin boards or white boards, and walls and ceilings that can accommodate various types of notices and displays. (Photos 1 - 3)
To make a place for various cooperative activities centered on cross-grade clusters, four home bases have been arranged around an open space, and each of these home bases is loosely connected to a Subject Area and an open space for locals. (Photos 1 - 7)
Improving facilities such that they strengthen the ties between schools, families and regions
Planning of a space open to local life and cultural activities

8. Citizens hold a seminar at Happa Hall (music hall).

9. The open ceiling space of Happa Area

10. The Arena, which faces the foyer, is open to locals.

11. Shimin Hall is often used by locals.

Committee’s opinion

When the school plan was drafted, workshops were held for students, teachers, and local people. The workshops led to the development of a concept which holds that schools play a role as local community centers, and this also led to the establishment of the Arena, the gym, and Shimin Station and Shimin Hall in the Happa Area near the entrance; these are used for exchanges with people in the community. (Photos 8 - 11)

From the point of view of providing an environment that fosters "improvements to teaching methods and diversification of lesson formats"

Open spaces are a response to the diversification of lesson activities, such as group activities in each subject and activities conducted in cross-grade groups.

From the point of view of facilities for improving science and mathematics education

To motivate students to learn science, the Science Space, the outside science classroom and the field were established. These serve as good places for easily carrying out observations and experiments.

From the point of view of improving facilities such that they strengthen the ties between schools, families and regions

The Arena is situated in a place that is linked to a foyer, and the Happa Area, which has the Atelier, the Kitchen Studio, the Hall and other places for community exchanges, is near the entrance. These spaces for exchanges between students and local people were planned in consideration of visitors’ convenience.
Sambu Gun, Chiba Prefecture

Yokoshiba Junior High School, Yokoshibahikari Town

- No. of classes*: 14
- No. of students*: 410
- Owner: Town of Yokoshibahikari
- Location: 3-1 Sakataike, yokoshibahikari, Sambu Gun
- Site area: 38,709 m²
- Building area: 2,612 m²
- Total floor area: 10,416 m² (Gym: 3,636 m²)
- Structure and scale: Composite structure of steel and RC with frame construction.
- Three floors above ground.

*Numbers of classes and students are as of Mar. 2010.

Various learning activities in spaces large and small

Three big spaces for multipurpose use, a comfortable environment finished with wood, and small spaces for small-group study and counseling: This user-friendly environment enhances learning.

A school building whose contrasting green and white stand out amidst the peaceful scenery

Key points adopted in the plan from the revised guidelines

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Improving facilities such that they strengthen the ties between schools, families and regions

Key points adopted in the plan from the revised guidelines

1. Providing an educational environment that facilitates the learning of diverse content and styles through various activities
2. Improving facilities such that they strengthen the ties between schools, families and regions

A Collection of Exemplary Design of Elementary and Junior High School Facilities -- Based on Revision of the Guidelines for Designing Elementary and Junior High School Facilities
Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”

Spaces of various sizes enable various activities.

1. An audiovisual room with removable seats

2. A well-equipped hall that can be used as a gym

3. Each grade has a meeting room like this.

4. A small space for small-group study

Principal’s opinion

With removable seats, each space can be used flexibly.

The audiovisual room has electrically retractable seats so that it can be flexibly used as a place for student meetings, school festivals, PTA meetings, workshops and seminars, and as an ICT-equipped study room. Thanks to these removable seats, the room can be used for various purposes. (Photo 1)

Multipurpose space supports a wide range of learning activities.

In consideration of the cooperation with the neighboring athletic park, the gym has a large space that can also be used for community activities. Each large space in the Audiovisual Room, the Hall and the Drill Hall is used for its own particular purposes, and these spaces also function as places where all three grades can have grade meetings at the same time. Those large spaces are very useful for various learning activities. (Photo 2)

The many kinds of small spaces secure diversity of study.

Each grade has a meeting room that can function as an interview room, a personal study room and a private teaching room. There are two small-group study rooms for each grade. Spaces for the posting of displays and notifications have been improved so that teachers can show displays more attractively. Such multipurpose spaces enhance learning. (Photos 3, 4)
Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”

Well-thought-out spaces that encourage student exchanges

5. The lounge is a place for exchanges with local people.

6. The multipurpose room at the entrance is used for exchange events.

7. Choir practice in an open space after school

8. A bench in front of the restroom

Teacher’s opinion

Places that make school life enjoyable

A lounge with two big benches is next to the entrance. It’s used as a meeting spot or as a place for exchanges with local people. A restroom with benches and a stylish washbasin is a good place for students to chat. With several places where students can get together and spend time comfortably, the school building makes for pleasant school life. (Photos 5, 6)

Music activities in a relaxed atmosphere under the big sky

It’s very important to have a good place for cultural activities and study presentations. The music room is a place for study and practice, but we’ve also put pianos in the Hall and in the Audiovisual Room, so that students can practice music there too. We thought that the stage for presenting study results needs a special environment, even though each subject has a different learning content and a different style. We set up an open-air stage outside the music room and we use the stage for presentations of all kinds of subjects. (Photo 9)

Efforts to foster smooth communications between parents and children

A counseling room and a consultation room stand side by side, so that counseling for children and consultations with parents are linked organically and more precise advice can be given. This realizes smoother communications than before between the school and the students, between the school and the parents, and between the children and the parents. It also gives students mental stability and an improved environment that allows students to feel secure about going to school. (Photos 11, 12)
Providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”

The unique development of special classrooms

9. Open-air stage linked to the music room

10. Shelves for Japanese musical instruments

Improving facilities such that they strengthen the ties between schools, families and regions

A space that’s ideal for counseling

11. Counseling room for students

12. Consultation room for parents

<Architect’s opinion>
This large area conveys a sense of openness. It adjoins small, vividly colored spaces. Such a configuration easily allows for multipurpose use.
(Figure 1; Photos 2, 3, 11, 12)

The space inside the school building conveys a sense of openness and cheerfulness. And thanks to its places for exchanges, such as the tables in the multipurpose hall and the benches in front of the lavatories, the facility fosters close relations with the community. (Photos 5 - 8)

Committee’s opinion

From the perspective of providing an environment that fosters “improvements to teaching methods and diversification of lesson formats”

The audiovisual room, which has electrically retractable seats, is a large space that is used for student meetings and school festivals. Also, each grade has a meeting room that can be used for private study, interviews and other purposes, and small rooms for small-group study. Such a layout responds to the diversification of lesson formats.

As evidenced by the Hall in front of the entrance and the benches in front of the restrooms, there are good places for students to easily get together and enjoy exchanges.
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