A Guide to Promoting Education for Sustainable Development (ESD) （Provisional Translation）

1. Purpose of this guide

As the COVID-19 pandemic drastically changes our society, including the ways people learn, there is an increasing need for human resources capable of driving social changes to accommodate the "new normal," as well as those who can see global issues as their own and proactively think about what they can do to address these issues. In this unprecedented situation, what is becoming more important is thus education that develops people's abilities to proactively look at the issues they face and independently think about ways to solve them.

Indeed, Education for Sustainable Development (ESD), proposed by Japan, **aims to help people acquire the abilities to take global issues as their own and take action to solve them.** Considering the current situation, it is necessary, more than ever, to acknowledge the importance of ESD and to promote ESD in each school to build a sustainable society.

In Japan, ESD has been promoted with UNESCO Associated Schools positioned as the focal points of ESD. These Schools promote peace and international cooperation to realize the principles of UNESCO set out in its Constitution. Meanwhile, the new National Curriculum Standards, which have been sequentially implemented since 2020, incorporate the principle of ESD into the preamble and general provisions, which state that the roles of school education and curriculum should be to enable students to become the "builders of a sustainable society". Based on the new National Curriculum Standards, **ESD needs to be promoted in all schools** from now on.

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) Japanese National Commission for UNESCO has developed guides to promoting ESD to help effective practice of ESD in school settings. These guides intended primarily for supervisors, who are responsible for planning and implementing ESD training at boards of education and education centers to promote it to schools, and for teachers in managerial positions who promote school-wide ESD initiatives. The present document, revised from the 2016 revised edition, serves as a **guide to promoting action and practice to achieve the Sustainable Development Goals (SDGs)**, while also considering the latest international trends of ESD and the revisions in the National Curriculum Standards.

This edition has been revised to focus on the **position of ESD in curriculum design** and the **promotion of cooperation within and beyond the school as key points for ESD practice**. The guide is also designed to be helpful to teachers, with specific examples of each step of the education process.

In order to practice ESD, it is important for not only pupils and students, but also

teachers themselves, to think proactively and learn from each other. We hope this guide will be used as a tool to improve education at each school.

2. Background: Significance of promoting ESD

■ ESD: A contributor to the achievement of the SDGs

As mentioned above, ESD aims to help people acquire the abilities to take global issues as their own and take action to solve them. It focuses on **raising their awareness** that various problems on this planet are **not just happening in distant countries but are closely related to their own lives**. Issues related to global sustainability are also related to local issues. Therefore, the **essence of ESD is to start taking action from close to us and expand the learning to change real life and the broader society**. The key here is to have a sense of connection between the global and the local.
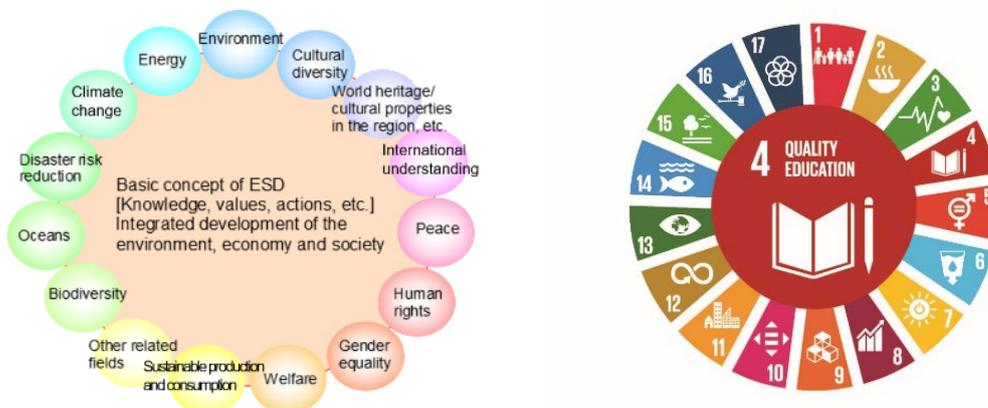
ESD is a concept proposed by Japan at the Summit Meeting for Sustainable Development in 2002. With UNESCO playing the leading role, it has been implemented internationally based on the "United Nations Decade of Education for Sustainable Development (UNDESD)" (2005 to 2014), an international framework adopted at the 57th session of the UN General Assembly also in 2002, and the "Global Action Programme on Education for Sustainable Development (GAP)" (2015 to 2019), adopted at the 37th session of the UNESCO General Conference in 2013.

At the UN Summit held in New York in September 2015, more than 150 world leaders adopted the "2030 Agenda for Sustainable Development", where the "Sustainable Development Goals (SDGs)" were set out. These are the international goals for the period of 2016 to 2030, that not only developing countries but also developed countries themselves should work towards. They consist of 17 goals and 169 targets to achieve a sustainable world, addressing various issues including poverty and hunger, energy, climate change, and peaceful society. ESD is placed under the Target 4.7 in Goal 4 of the SDGs: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

4.7 By 2030, **ensure that all learners acquire the knowledge and skills needed to promote sustainable development**, including, among others, through **education for sustainable development** and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship, and appreciation of cultural diversity and of culture's contribution to sustainable development.

On the other hand, ESD was acknowledged not only as one of the targets but also as a **contributor to the achievement of all the 17 SDGs**, as confirmed by the 74th

session of the UN General Assembly in December 2017. ESD, which develops the builders of a sustainable society, is seen as contributing to quality education that is essential to achieving the SDGs.

■ **ESD: International trends**

After the GAP, an international implementation framework of ESD between 2020 and 2030 titled *Education for Sustainable Development: Towards Achieving the SDGs (ESD for 2030)* was adopted at the 40th session of the UNESCO General Conference in November 2019 and approved at the 74th session of the UN General Assembly in December 2019. *ESD for 2030* aims to build a fairer and more sustainable world by strengthening ESD and contributing to the achievement of all the 17 SDGs. As for *ESD for 2030*, "UNESCO World Conference on Education for Sustainable Development (ESD)" was held in May 2021 and *ESD for 2030* was started substantially. In this conference, 2,800 people from around 160 countries including Education minister in each country participated and "Berlin Declaration on ESD" was adopted.

In addition, UNESCO launched the "Future of Education" initiative in September 2019, aiming to rethink education in the world of growing complexity, instability, and inequality. An international commission consisting of experts and other stakeholders was established as part of the initiative. Looking ahead to 2050, the commission has been discussing how education can be revitalized and transformed for a changing world, taking account of diverse opinions across the globe.

In order to ensure a fulfilling life for generations to come through the contribution of education, future ESD efforts will also play a critical role in achieving the SDGs by 2030, paving the way to the future. In Japan, academic conference of ESD has been established and it has begun to deepen theory and practical research of ESD.

ESD for 2030 Roadmap

■ Promotion of ESD based on the Second ESD Implementation Plan

The Second ESD Implementation Plan was formulated in line with the international ESD framework *Education for Sustainable Development: Towards Achieving the SDGs (ESD for 2030)*, striving to promote ESD in Japan. Based on this implementation plan, we will develop initiatives that contribute to ESD, involving all relevant stakeholders and ensuring cooperation among different government bodies beyond ministerial and agency boundaries. As a country advocating ESD, Japan aims to keep playing a leading role in activities for ESD across the globe through various efforts such a presenting best practice.

■ **Position of ESD in the new National Curriculum Standards**

The Central Council for Education's *Report about Improvement of the National Curriculum Standards for Kindergartens, Elementary Schools, Lower and Upper Secondary Schools, and Schools for Special Needs Education and the Necessary Measures*, published in December 2016, states that "Education for Sustainable Development (ESD) is a fundamental principle throughout the revision of the next National Curriculum Standards". In the new National Curriculum Standards, revised based on the report, **"developing the builders of a sustainable society"** is added in the preamble and general provisions.

The Japanese National Commission for UNESCO understands that ESD, education that creates the leaders of a sustainable society, has been **incorporated as a fundamental principle across the new National Curriculum Standards** through this revision.

[Chapter 1 General Provisions]

I. FOUNDATION OF ELEMENTARY SCHOOL EDUCATION AND THE ROLE OF ITS CURRICULUM 3 When aiming to foster Competencies for Living in those pupils who are expected to realize the matters in 2 from (1) to (3), be equipped with rich creativity, and be the builders of a sustainable society, each school should clarify what kinds of competencies they are aiming to develop through instruction in school education overall and in all subjects, the Morality Period, […] the Period for Integrated Studies and Special Activities […] in order to enhance their educational activities.
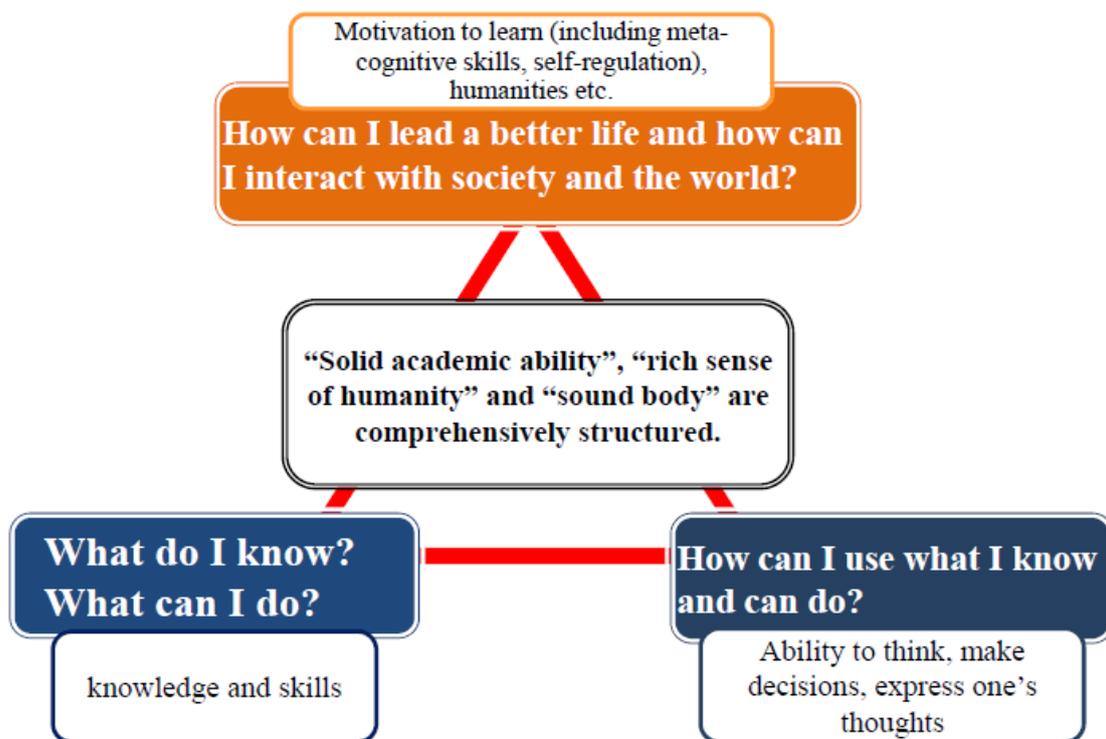
In working towards these goals, each school should ensure that each of the following is realized without bias, by taking into account the developmental stages and characteristics, etc. of the pupils.

(1) Ensure that knowledge and skills are acquired.

(2) Develop the pupils' abilities to think, make judgements and express themselves.

(3) Cultivate the motivation to learn and humanity

Excerpt from the new National Curriculum Standards for elementary and lower secondary schools (published in March 2017)

* The same content is included in the National Curriculum Standards for other educational institutions, including lower and upper secondary schools.

The new National Curriculum Standards reorganize the goals and content of all subjects with three pillars: **knowledge and skills** to be used in real life and society; **abilities to think, make judgements, and express themselves** to enable students to cope with unknown situations; and **the motivation to learn and humanity** to enable them to apply what they have learned to their lives and in society. The aim of this reorganization is to encourage creative and innovative classes and the improvement of teaching materials, while sharing the meaning of and reasons for studying each subject, in order to develop pupils and students' Competencies for Living including knowledge, morality, and physical health.

Motivation to learn (including meta-cognitive skills, self-regulation), humanities etc.

How can I lead a better life and how can I interact with society and the world?

"Solid academic ability", "rich sense of humanity" and "sound body" are comprehensively structured.

What do I know? What can I do?

knowledge and skills

How can I use what I know and can do?

Ability to think, make decisions, express one's thoughts

In addition, each school needs to look at the goals and content of subjects comprehensively, focusing on two things. First, it should enhance cross-curricular learning to develop competencies, particularly those serving as a foundation for learning as well as those required in identifying problems, solving them, and addressing a wide range of contemporary issues. Second, the school should also improve classes to achieve proactive, interactive, and authentic learning while paying attention to the content of and hours spent on units and subject matters in an integrated manner. In order to achieve these initiatives, the school as a whole needs to **strive for curriculum management aiming to maximize the effects of learning**, such as to properly understand the situations of its students, the school itself, and the community, and to enhance the quality of educational activities by effectively arranging

educational content and hours, securing the necessary personnel and facilities, and making improvements based on the curriculum implementation status.

Moreover, in order to achieve education that meets future needs through the curriculum, schools and society need to share the principle of building a better society through better school education. Therefore, the National Curriculum Standards stress the importance of **realizing a "curriculum open to society"**, i**n which each school cooperates and collaborates with society,** while clearly stating the methods of learning in the curriculum of how students enable themselves to learn what they need to learn and to acquire competencies.

When implementing ESD in schools, it is crucial to give consideration to curriculum management setting out in the new National Curriculum Standards, and the "curriculum open to society" which aims to provide school education in cooperation and collaboration with the local community.

■ Development of competencies and attitudes through ESD

Regarding the competencies and attitudes to be developed through ESD, the following six concepts (examples), presented in *Research of Education for Sustainable Development (ESD) at Schools (Final Report)*, published in March 2012 by the National Institute for Educational Policy Research (NIER), can be used as a guide to help you develop your own understanding on which concepts the classes you give deepened. . Based on these concepts, the report also shows seven competencies and attitudes as examples to be emphasized in teaching from the perspective of ESD.

Concepts of building a sustainable society (examples)
I Diversity (difference exists)   IV Fairness (valuing everyone)
II Interdependence (relating to each other) V Cooperation (working together)
III Limitation (limits exist)   VI Responsibility (taking responsibility)

Competencies and attitudes to be emphasized in ESD (examples)
1) Ability to think critically
2) Ability to anticipate and plan for the future scenario
3) Ability to think in multidimensional and comprehensive ways
4) Ability to communicate
5) Attitude to cooperate with others
6) Attitude of respect for connections
7) Attitude of willingness to participate

Board of education of Hayashima town in Okayama Prefecture relates "concepts of building a sustainable society (examples)" with the pillar of "knowledge and skills", which is one of 3 pillars for perspective-based learning evaluation. They also relate "ability to think critically", "ability to anticipate and plan for the future scenario", "ability to think in multidimensional and comprehensive ways" and "ability to communicate" with the pillar of "ability to think, make judgements, and express themselves". Thus, to relate 6 "concepts of building a sustainable society (examples)" and 7 "competencies and attitudes to be emphasized in ESD (examples)" with 3 pillars of perspective-based learning evaluation, which correspond to 3 pillars of competencies in the National Curriculum Standards, promotes ESD in school education.

■ ESD: Contributing to address and solve current educational issues

The COVID-19 pandemic has rapidly spread across the world since 2020 and completely changed conventional social systems and lifestyles. The pandemic has also made the issues mentioned above more evident, with the ways to solve them becoming less and less clear. Sustainability is being tested now more than ever, and each of us are required to take action to build a sustainable society from a global perspective based on international solidarity.

Schools with experience of engaging with ESD have reported significant contributions made by ESD in various aspects, including the psychological development and self-esteem of pupils and students, their abilities to learn proactively and collaboratively, and promotion of school-community cooperation. It is therefore also important to see ESD as a solution to educational issues as well as a direction and measure for educational reform.
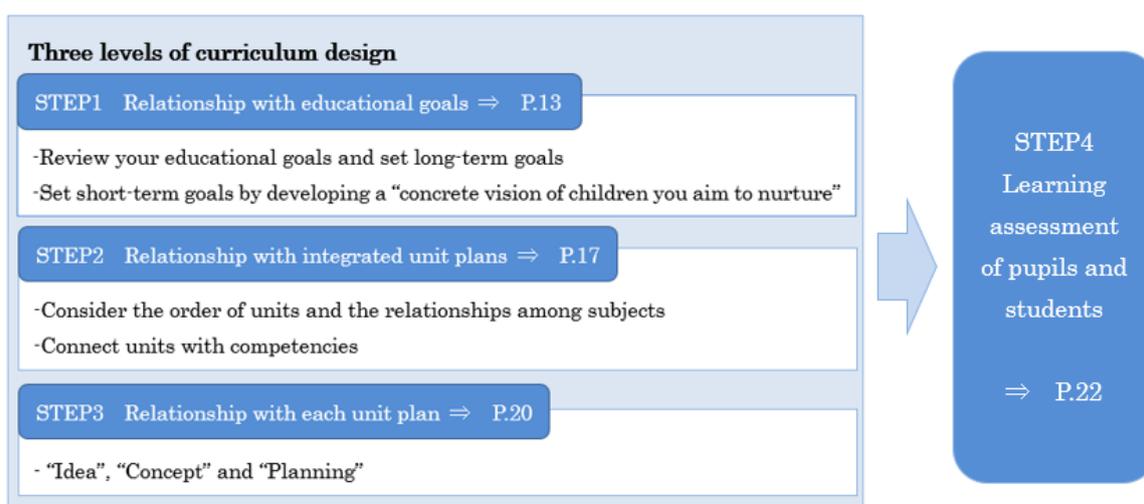
Promotion of ESD is also our commitment to the futures of countries across the world. Promoting the practice of ESD at schools in Japan, the country that advocated the United Nations Decade of Education for Sustainable Development, will also enable the nation to lead the world in education. Let us link our daily activities in school to the achievement of the SDGs and building a sustainable society.

3. Key points for ESD practice at each school

This section describes two points to keep in mind for the practice of ESD: (1) curriculum design for promoting ESD and (2) promotion of ESD through whole-institution approaches. Initiatives to practice ESD can take diverse forms, and **it should be noted that approaches may differ according to the circumstance of each community and school.**

(1) In this guide, curriculum design is defined as forming learning contents, etc. which is necessary to realize the purposes and goals of the education from a perspective that transcends subjects with giving consideration to the circumstances of the pupils and students, schools, and regions properly. Curriculum design for promoting ESD is divided into four steps: **1) relationship with educational goals, 2) relationship with integrated unit plans, 3) relationship with each unit plan, and 4) learning assessment of pupils and students**. And practices of the designated research schools of National Institute for Educational Policy Research are introduced in this section as the practices implementing four steps for curriculum design consistently.

This section shows a list of steps and points to consider when designing a curriculum to promote ESD. In addition, it introduces examples of unique approaches taken by individual schools. We believe that by following the key points of each case study, the points to design a curriculum and the examples can be linked together to further promote ESD.

Three levels of curriculum design

STEP1   Relationship with educational goals ⇒   P.13

-Review your educational goals and set long-term goals
-Set short-term goals by developing a "concrete vision of children you aim to nurture"

STEP2   Relationship with integrated unit plans ⇒   P.17

-Consider the order of units and the relationships among subjects
-Connect units with competencies

STEP3   Relationship with each unit plan ⇒   P.20

- "Idea", "Concept" and "Planning"

STEP4
Learning
assessment
of pupils and
students

⇒   P.22

(2) Regarding ESD through whole-institution approaches in the practice of ESD, this guide covers **1) the whole-school approach to ESD and 2) cooperation with the**

local community, universities, businesses, social education facilities, and more, from the view of how ESD can contribute to "Curriculum open to society".

Furthermore, it is essential that each process is collaborative process (bottom-up) based on the actual situations and developmental stages of pupils and students communicating with homeroom teachers of each grade, rather than taking a top-down approach, in which managers or head of research department draws up a plan and assigns it. This process enables all teachers to share their practices, which in turn motivates each teacher to develop inquiry-based learning programs in each grade, and to implement a systematic curriculum across all grades. This will then become a shared asset throughout school and will be passed on as a sustainable initiative with improvements made by each school's ESD, even when teachers are transferred to other classes or schools.

(1) Curriculum design to promote ESD

This section will generalize curriculum design to promote ESD, so that it can be used in any schools, and will provide steps and key points to follow.

STEP 1. Relationship with educational goals

■ **Three levels of curriculum design** to promote ESD

There are three levels in curriculum design to promote ESD. The first level is the development of a "Grand Design," where you draw up a concrete image of the children you want to nurture and compare the educational goals with the three pillars of competencies specified in the National Curriculum Standards. The second level is the creation of an "integrated unit plan". Here, you put together the annual teaching plans of each subject in each grade so that you can see the overall picture of annual educational activities on one page. The third level is to draw "unit plan", which gather a series of problem-solving as a one subject unit. This section starts with how to develop a "Grand Design" and how it is related to ESD.

■ **Developing a Grand Design: Key points**

Point 1: Review your educational goals and clarify long-term goals
Section II-1 of the National Curriculum Standards for elementary schools states the educational goals as follows. (The same content is included in the National Curriculum Standards for other educational institutions, including lower and upper secondary schools.)
"When forming the curriculum, each school should clarify the educational goals of the school taking into account the competencies it is aiming for through instruction in school education overall and all subjects and should be committed to ensuring that the basic policies regarding the formation of the curriculum are shared in the families and the local community. In working towards these goals, each school should aim for cooperation with the objectives stipulated based on Chapter 5 The Period for Integrated Studies II. 1."
This statement shows the significance of creating a "Grand Design" that can be shared not only with all staff members in school but also with the community and families, so as to ensure the development of children's competencies.
It also indicates that formation of the curriculum involves the clarification of educational goals, while taking account of the three pillars of competencies, as well

as coordination with the Period for Integrated (Inquiry-Based Cross-Disciplinary) Studies. This clearly shows that the Period for Integrated (Inquiry-Based Cross-Disciplinary) Studies has a direct relationship with the educational goals, and is the core of the link between the educational goals and the curriculum of the school.

Incorporating ESD in the curriculum is essential for the organized implementation of ESD. In order to develop the future leaders of a sustainable society, it is important for all teachers and staff members at each school to discuss and share the issues that are relevant to the local situation.

Point 2: Set short-term goals by developing a "concrete vision of children you aim to nurture"

The next step is to develop a concrete vision of children at the school you aims to nurture, as referring to the three pillars of competencies specified in the National Curriculum Standards.

Many schools seem to put their long-term educational goals into three categories: knowledge, morality, and physical health, such as "smart children", "caring children", and "strong children." However, it will be difficult to have concrete images of what "smart children" looks like and what competencies should be developed to help children become "smart." This step involves developing concrete images of what children will look like when the educational goals are achieved, by comparing with what children looks like for now. Once you get the images, organize the educational goals on knowledge, morality, and physical health, based on the three pillars of competencies to be developed (Figure 1).

The following matrix consists of nine cells for the three horizontal categories of knowledge, morality, and physical health which are related to educational goals and the three vertical categories of "knowledge and skills", "Abilities to think, make judgements, and express themselves"; and "The motivation to learn and humanity", which are related to competencies based on the Standards, but it is not necessary to fill in all the cells. As you fill in the matrix, you will see the actual situation of the children and the characteristics of the school.

By putting the information into the matrix, you can identify the strengths and characteristics of your school. The school's strengths can be found in the cells you filled in with little difficulty, while the weaknesses can be found in the cells you needed more time to complete. Once you have identified the strength, you can then address your weakness to be compensated; in this way, you will identify the competencies you like to develop in the short term.

Educational goals		
	Knowledge (Example: "smart children")	Morality (Example: "caring children")	Physical health (Example: "strong children")
Knowledge and skills		Organize the children's images in a matrix	
Abilities to think, make judgements, and express themselves			
The motivation to learn and humanity			

Figure 1: From Tamura, M. *Curriculum Management to Achieve Authentic Learning.* Bunkeido.

After completing the matrix, the next step is to integrate the information with the three pillars (Figure 2).

Educational goals		
	Knowledge	Morality	Physical health
Knowledge and skills			
Abilities to think, make judgements, and express themselves			
The motivation to learn and humanity			

Figure 2: From Tamura, M. *Curriculum Management to Achieve Authentic Learning.* Bunkeido.

By looking horizontally at the matrix across knowledge, morality, and physical health, you can have the concrete images of children's "knowledge and skills," "abilities to think, make judgements, and express themselves," and "the motivation to learn and humanity" that each school aims to develop, and you can then express the images in writing. These will become the school's short-term goals, which can be presented in several ways, including the following three methods.

1) Present each of the three pillars in one sentence (written in three sentences)
2) Present each pillar individually with concrete images (shown by elements)
3) Present all the three pillars in one sentence (written in one sentence)

With those clear images of the children, complete a "Grand Design" by considering the content and the amount of time to achieve the goals, including when to do,   what to do and in what way to do.

■ **Relationship with various abilities**

Your school may refer to the existing framework presented by NIER, namely the concepts of sustainable society-building (see page 9) as well as the competencies and attitudes to be emphasized in ESD, when identifying abilities to develop, such as "critical thinking", "logical thinking", "communication skills", and "social participation". In that case, as mentioned above, these abilities should be incorporated into one of the three pillars of competencies in the Standards.

For example, "logical thinking" can be included in the "abilities to think, make judgements, and express themselves," while "social participation" can be considered as a part of the "motivation to learn and humanity." The same step can be taken for other abilities as well.

In summary, each school should create a "Grand Design" by involving all teachers and staff members and building upon its own strengths, based on the competencies to develop specified in the National Curriculum Standards. This process will help the school achieve its "concrete vision of children it aims to nurture" through each class and activity.

STEP 2. Relationship with integrated unit plans

■ Significance of creating integrated unit plans

An integrated unit plan allows you to see the annual teaching plans of each subject on one page. Creating it helps teachers plan and carry out teaching and activities in an organized and deliberate manner. Through connecting the dots of children's learning, teachers can imagine how different competencies are interrelated. In other words, this process allows them to effectively use what students have already learned. For example, students may use the ability which they have cultivated in the Japanese class to express themselves, in other subjects such as science, social studies and the Period for Integrated (Inquiry-Based Cross-Disciplinary) Studies. This situation shows how competencies are "utilized and demonstrated" among multiple subjects. The process enables children to recognize the value of learning by repeatedly "utilizing and demonstrating" what they have already learned. Children may also develop more proactive attitudes toward learning as they find its helpfulness and usefulness of their competencies cultivated in other subjects. In other words, turning a grand design into an integrated unit plan on one page will make it easier to have a concrete image of the children the school aims to develop.

■ Creation of an integrated unit plan: Key points

Point 1: Consider the order of units and the relationships among subjects

It is helpful to consider where competencies can be "utilized and demonstrated" from the following three perspectives (Figure 3).

1) "Utilization and demonstration" among different units
2) "Utilization and demonstration" among different subjects
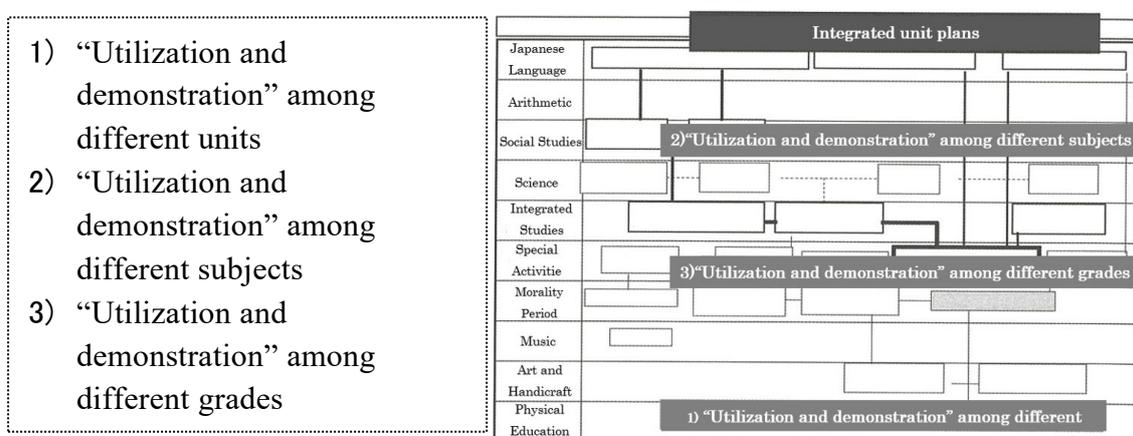3) "Utilization and demonstration" among different grades

Figure 3: From Tamura, M. *Curriculum Management to Achieve Authentic Learning.* Bunkeido.

Based on these relationships, you should examine whether you should change the order of units and whether you should link any of the units to other subjects. You should also consider where and how you can make a connection with another grade in competencies to develop.

When connecting these competencies, draw an arrow in the direction of "utilizing and demonstrating" what students have learned in the figure 3. However, if you try to make these connections in all subjects, the plan may look too complicated with numerous lines, which will rather hinder the achievement of the goals. In such cases, it is helpful to go back to the "grand design" and make a connection by focusing on the main competencies to develop and core subjects.

Point 2: Connect units with competencies

So, what does it really mean to connect units with competencies? The following shows how to connect them with three competencies.

When connecting units with "knowledge and skills," the actual learning activities and learning targets should be focused. You should identify the commonalities and linking between knowledge in learning activities and targets among different subjects. Suppose, for example, you are working on a unit in the Period for Integrated Studies aiming to learn "cooperation" in the concepts of sustainable society-building. Around the same time, students will also learn in social studies the cooperation among different stakeholders including producers, retailers, and managers as a creative way to sell goods. This coordination between the subjects will help children form the concept related to "cooperation," linking the knowledge they have gained in social studies to activities in the Period for Integrated Studies. In summary, "utilization and demonstration" in multiple, rather than single, subjects can help students conceptualize what "cooperation" is and skills by linking the competencies of "knowledge and skills" in different settings.

As for the "abilities to think, make judgements, and express themselves," they may appear in different ways depending on learning targets and activities. Consider what kind of ability to think you aim to have students "utilize and demonstrate", referring to the "techniques for thinking" specified in the section on the Period for Integrated Studies in the National Curriculum Standards. It should not be difficult to make connections between the competencies of abilities to think, make judgements, and express themselves, since the National Curriculum Standards cover thinking skills, such as "techniques for thinking," in sections on many subjects. For example, suppose you teach in a Japanese class how students should select the most important point they want to present while comparing and categorizing information they collected. Then, you should create a scenario in the Period for Integrated Studies, where they can "utilize and demonstrate" "the abilities to think, make judgements, and express themselves" they have cultivated in the Japanese class. Identifying commonalities between subjects and deliberately designing learning experiences

should help students develop a more universal ability to think, which can be used anywhere and anytime.

As for the development of "the motivation to learn and humanity", a long-term perspective will be helpful, such as having an image of the development over a year, for it cannot be "utilized or demonstrated" in a short period of time. Consequently, you may not need to draw a line for this aspect in the integrated unit plan.

■ Creation of an integrated unit plan: Points to consider

An integrated unit plan is helpful in developing children's competencies.

It is important to carefully organize the plan to ensure whether the timing and amount of time allocated to each unit are appropriate. The plan should also be flexible, allowing revisions in case things do not go as scheduled. Moreover, it will be helpful to consider the effective use of educational resources as well. You can improve the quality of learning by utilizing a wide range of human resources, community facilities, and organizations.

STEP 3. Relationship with each unit plan

■ Creation of a unit plan: Key points

After the integrated unit plan is completed, the next step is to create a unit plan while paying attention to a cohesive set of problem-solving process. In this guide, unit planning is organized into three stages: "idea", "concept", and "planning."

Point 1: Create a unit plan: its process and relations with ESD

The "idea" stage involves drawing an overall picture of the unit. First, understand the situation of the children you work with, including their main interests as well as the knowledge and experiences they have already acquired. Next, clarify what kinds of children's competencies you aim to develop as a teacher, from the perspective of ESD. Lastly, decide on learning activities and learning materials (teaching materials) that can cover the overlaps between these two while considering their characteristics.

The "concept" stage may take two different forms. A unit may be conceptualized based on experience, prioritizing children's interests, or on teaching materials by prioritizing the teacher's wishes. It does not mean that you should choose one or the other. The key is how to find a good balance and harmony between the two. The balance differs depending on the developmental stage of children as well as the characteristics of each subject and unit. No matter which unit is used, the important point is to organize learning activities and learning materials (teaching materials) that will ensure the development of the competencies the teacher aims to nurture, and to take account of both the interests of the children and the teacher's wishes.

In the "planning" stage, these numerous learning activities developed at the "concept" stage are arranged as a problem-solving process. It is important to make sure that these activities are arranged in line with children's thinking process. At this stage, you should develop a teaching plan while taking account of its feasibility as a concrete unit plan, including the number of hours, learning environments, and teaching systems. You need to give broad consideration, paying attention to relationships with other subjects as well.

Point 2: Value the learning process

In creating a unit plan, it is particularly important to make sure that the learning activities are organized as a coherent process. Section III-1 of General Provisions in the National Curriculum Standards emphasizes the importance of class improvements toward the realization of proactive, interactive, and authentic learning while "anticipating the integration of the contents such as the units and subject matter, and the hours", which suggests the importance of valuing the learning process. You should create a unit plan while connecting different subjects and areas,

with the Period for Integrated Studies as the hub. In particular, you should ensure the repeated and developmental process of inquiry comprising (1) identifying issues, (2) collecting information, (3) organizing and analyzing, and (4) summarizing and presenting.

STEP 4. Learning assessment of pupils and students

■ Learning assessment based on the three pillars of competencies: A viewpoint

One of the main features of the National Curriculum Standards is that they also organize learning assessment based on the three pillars of competencies: knowledge and skills; abilities to think, make judgements, and express themselves; and the attitude to learn proactively. This is expected to make it easier to clearly see the learning outcomes of "what competencies the pupils and students have acquired," based on which teachers will be able to improve their work performance. At the time of the curriculum assessment, it is important that the curriculum would be created, implemented and improved with the learning outcomes of "what competencies the pupils and students have acquired" based on the three pillars.

■ Teaching and assessment as part of curriculum management

Educational activities are developed at each school as classes ("learning guidance") based on teaching plans, which are created under the curriculum formulated in accordance with the National Curriculum Standards while taking account of the situations of the pupils, students, and the community. The school assesses the learning situation of pupils and students in classes on a daily basis. Its results are then used to make improvements, including students' learning, teachers' teaching methods, the school-wide curriculum, and organizational management such as the division of school duties. Through this process, the school as a whole strives aims to improve the quality of educational activities in an organized and planned manner. Therefore, "learning guidance" and "learning assessment" form the basis of educational activities at schools and play a core role in curriculum management.

Curriculum management refers to the efforts to improve the quality of educational activities at each school in an organized and planned manner based on the curriculum. Curriculum management is implemented with following 3 points by properly understanding the situations of pupils, the school, and the community.

1) To develop the necessary educational content for achieving the purposes and goals of the education from a cross-curricular perspective,

2) To assess curriculum implementation and make efforts to improve implementation, and

3) To secure the necessary personnel or physical system to implement the curriculum and make efforts to improve the system. Of these three, the second point means establishing the PDCA cycle of the curriculum consisting of formulation, implementation, assessment, and improvement. It is based on the idea of integrating

teaching and assessment; that is, conducting learning assessment and effectively using its results to improve learning guidance.

(2) Promoting ESD through whole-institution approaches

STEP 1. Development of whole-school (whole-institution) approaches

■ Importance of whole-school (whole-institution) approaches

ESD for 2030, the new international framework of ESD, also advocates the effectiveness of "whole-institution approaches," the organization-wide efforts to promote ESD, in its second priority action area. Within this framework, school-wide efforts on ESD are called whole-school approaches by UNESCO. This is an extremely important perspective in order to develop learning environments for ESD in school education, to improve the quality of ESD practice, and to achieve sustainability and development of the initiatives.

Considering its purpose and goals, ESD requires deliberate, well-planned, long-term, and systematic educational practices to achieve results. To this end, as mentioned above, the school should make organization-wide efforts to share the principle of ESD "education to build a sustainable society." Meanwhile, through ESD practice, each teacher should also understand the educational value and significance of ESD, including the contribution of education to a sustainable society and the role of ESD in improving the quality of education. Then, these teachers should demonstrate their unique strengths and abilities according to their roles and work together as "one team." The whole-school approach is possible when all of these are practiced.

■ Whole-school (whole-institution) approaches: Key points

Point 1: Develop and implement a systematic ESD program

First, as described in (1) Curriculum design to promote ESD, you need to develop a curriculum to practice ESD. Based on the existing educational practices, each school should formulate a school-wide curriculum by developing its unique and systematic learning program, while taking account of its educational goals as well as the community's strengths and challenges.

Point 2: Build cooperation between the school system and the local community / relevant institutions

The next important thing in the whole-school approach is to establish a system to promote ESD. ESD is interdisciplinary (cross-curricular), experiential, inquiry-based, problem-solving, and practical learning rooted in community and

international issues. Since teachers cannot manage every part of it individually, organization-wide efforts play a critical role in promoting it. In that sense, it is essential to build systems to promote ESD, including collaboration and cooperation within the school and with the local community. In particular, the foundation of this initiative is to build a system within the school.

<Initiatives to build a system within the school (examples)> (* See STEP 2 for cooperation with the local community)

i) Promoting ESD training for teachers, mainly through in-school training
ii) Sharing information on ESD practice among teachers and grades
iii) Organizing events to present the learning of and research on ESD
iv) Improving the evaluation, including learning programs in each grade and the school-wide curriculum
v) Taking creative measures to visualize the initiatives (e.g., effectively using classrooms/hallways, setting up a place to introduce ESD, and organizing ESD meetings)
vi) Organizing programs with other schools to exchange practices and learn together

Point 3: Leadership and school management by managers

As the name suggests, the whole-school approach takes place under the school management. Managers, especially principals, therefore, have a significant role to play. It is no exaggeration to say that the promotion of ESD at the school heavily depends on whether its manager properly demonstrates leadership based on the principle of ESD and carries it out with smooth school management. School management under the leadership of managers is also a key point in terms of ESD governance.

<Examples of managers' leadership>

i) Clarifying the educational principles and school management policies based on ESD
ii) Taking the initiative in understanding the educational value and significance of ESD, and communicating and sharing it with teachers
iii) Respecting the individuality and competencies of teachers, and bringing out their motivation and ideas for ESD
iv) Giving consideration to teachers' ESD practices and efforts with empathy, and providing them with advice and encouragement
v) Organizing the division of school duties, such as assigning teachers in charge of ESD and setting up a department to promote ESD
vi) Providing teachers with the latest information, practical examples, and materials related to ESD on a regular basis
vii) Providing teachers with opportunities outside the school (in other prefectures

and countries) for training and presentations on ESD

 viii)Introducing the benefits and effects of ESD initiatives to parents and local residents to gain their support

 ix) Linking teachers and staff members to resources, such as the local community and external institutions, to improve the quality of practice

■ Whole-school (whole-institution) approaches: Development and effects

There are various ways to develop the whole-school approach. The following introduces four of these methods and their expected effects.

1) ESD through the entire curriculum

ESD is not something developed separately in each subject. Its activities can be developed more widely and deeply through cross-curricular efforts. In particular, you can make ESD more inquiry-based and constructive by coordinating subjects with the Period for Integrated Studies and practicing cross-cutting learning. You can also develop more practical ESD by promoting ESD in club activities, school events, and student councils' activities, for they help pupils and students take the initiative and change their behavior.

2) Systematic ESD initiatives through cooperation among different grades

The whole-school approach not only encourages the school-wide ESD initiatives but also promotes the connectivity of learning among different grades, thereby helping the development of more systematic and organized ESD based on students' developmental stages. In this process, you can make an "ESD story map" (also called a program chart and a nautical chart of learning in some communities), in which you organize and visualize learning by creating a story of ESD in each grade (horizontal axis) and identifying connections and development among different grades (vertical axis). This map is very effective as it helps the entire school to have a shared understanding of ESD, including its learning content and connections among different grades, and develop a sense of unity.

3) ESD to change school and learning environments

When promoting ESD, it is important to encourage cooperation and collaboration among teachers. Yet, ESD initiatives can also go beyond classroom learning by changing the school environment and children's learning environment based on the shared goals and views within the school. The key point in this process is to involve not only teachers, who guide students' learning, but also other staff members including administrative, maintenance, and nutrition workers. They can work together based on the ESD principle to promote sustainability in

the entire school management in such activities as developing school facilities and equipment, procuring and using goods, and reducing school lunch waste.

From the perspective of children's learning environment, ESD can play an important role in creating an environment that helps pupils and students to become aware of environmental issues and sustainability such as climate change, biodiversity, and sustainable production and consumption, in everyday school life. Examples include introducing green curtains, biotopes, and trash containers for sorting and recycling.

4) ESD beyond the school

ESD can be expanded beyond educational activities within the school by incorporating the perspective of ESD in events/activities of the PTA and local community. Pupils and students can have opportunities to learn and directly contribute to a sustainable community by participating in activities outside the school, including PTA's 3R (Reduce, Reuse, Recycle) initiatives, local planting and beautification programs, and community development councils.

In this way, the whole-school approach indeed leads to the second priority action area "transforming learning environments" in *ESD for 2030* through the practice of ESD by the school-wide system and cooperation among teachers.

STEP 2. Cooperation with the local community, universities, businesses, social education facilities, and more

■ Significance of cooperation with various actors outside the school through ESD

ESD means "educational activities aiming to build a sustainable society." It would contribute to the realization of "Curriculum open to society" which the new National Curriculum Standards aims to realize to share the principle of ESD not only among whole school but with various actors inside and outside school. It is important schools and society share the goal to build a sustainable society through ESD. It is also important to clarify what kinds of competencies pupils and students need to build a sustainable society and to realize school education, while cooperating with the local community and society in order to develop the competencies,

Especially, in practice of ESD, it is important to cooperate with various actors (people, organizations, and institutions) outside the school and effectively integrate such cooperation into learning, while utilizing the human and physical resources necessary for educational activities. This will enrich the practice of ESD.

The following lists some concrete examples of cooperation. The key is to incorporate them effectively according to the purpose and stage of learning.
   i) Cooperation to support the enhancement of experiential activities that promote awareness and discovery among pupils and students
   ii) Scientific and professional cooperation to support the deepening of inquiry-based learning
   iii) Cooperation to support exchange of learning experiences and mutual learning
   iv) Cooperation to help present learning outcomes and put them into action

Since the beginning of ESD in school education, schools in Japan have developed ESD practices in cooperation with people and relevant institutions in the local community, as well as social education facilities including museums and community centers. There have also been reported cases of ESD practices in cooperation with universities and other specialized institutions, schools in other countries, and international institutions as needed. Through cooperation and collaboration with various actors and resources at local, national, and international levels, these schools have accumulated rich and extensive educational practices, some of which are rooted in the community while others take place on the international stage. In summary, schools have accumulated and developed the experiences, methods, and mechanisms of building a better society in cooperation with actors in the community and society through the practice of ESD. Such assets will enhance the quality of school education.

■ Cooperation with the local community, universities, businesses, social education facilities, and more: Its significance and effects

We can expect the following effects from cooperation with the local community and external institutions in the promotion of ESD. Promote cooperation as needed keeping these effects in mind.

1) Learning that is rooted in the strengths and challenges of the community and is in line with its context

By cooperating with people and relevant institutions in the community, pupils and students can recognize the strengths and challenges of the community and engage in learning in accordance with its context. It will also enable the development of ESD rooted in the community by, for example, allowing pupils and students to participate in community activities.

2) Participatory and hands-on learning through experiential and exchange programs

By cooperating with local institutions, businesses, social education facilities, non-profit organizations (NPOs), and non-governmental organizations (NGOs), schools can incorporate experiential learning activities and exchange programs they would not be able to provide by themselves. Such participatory and hands-on ESD learning will increase pupils and students' motivation to learn.

3) Learning multifaceted perspectives through involvement with different actors

Cooperation with various actors can enable pupils and students to see issues from multiple angles/perspectives and think critically.

4) Authentic learning utilizing scientific and specialized knowledge

You can make learning more inquiry-based and authentic by cooperating with universities and specialized institutions and incorporating their expertise and research outcomes.

5) Creation of rich learning through the participation and cooperation of various actors

By cooperating and collaborating with various actors, you can build an ESD platform where the school as well as various people and organizations can participate and learn together.

6) Supporting crisis response, recovery, and reconstruction in the event of a disaster

Promoting cooperation with various actors, such as the local community and

external institutions on a regular basis will help build a support network for the school, pupils and students in the event of a disaster, including crises response as well as recovery and reconstruction efforts.

■ Methods for building cooperation with the local community, universities, businesses, social education facilities, and more

There are several routes and methods that can help schools obtain the collaboration and cooperation of various actors such as local stakeholders, universities, businesses, and social education facilities. Some examples are listed below. Select points of access while considering the purpose and content of the support you need as well as the accessibility of the support, and request them to help you build collaboration and cooperation.

1) Through ESD Resource Centers
ESD Resource Centers have been jointly established by the Ministry of the Environment (MOE) and the Ministry of Education, Culture, Sports, Science and Technology (MEXT), aiming to support ESD activities throughout Japan. They consist of a national center (in Tokyo) and eight regional centers (in Sapporo, Sendai, Tokyo, Nagoya, Osaka, Hiroshima, Takamatsu, and Kumamoto), and mainly engage in i) information sharing, ii) activity support, iii) promotion of exchanges and cooperation, and iv) human resource development. You can contact the Center nearest to your school and ask for information on ESD, relevant activities, how to obtain resources, and other support.

About ESD Resource Centers
https://esdcenter.jp/english/

2) By participating in an ESD consortium
"ESD consortia" has been established, striving to promote ESD at a local level throughout the country. Each consortium is a network where various actors (organizations) participate and collaborate to promote ESD. While universities and boards of education play the main role, the consortium also has other members including schools such as UNESCO Associated Schools, businesses, social education facilities, NPOs, and NGOs. By participating in the local ESD consortium closest to your school, you may find institutions to cooperate with, schools to exchange experiences with, and other useful information.

3) By utilizing the United Nations University RCE

　　The United Nations University RCE is a global network of Regional Centers of Expertise on ESD (RCEs), organized by the United Nations University headquartered in Japan. There are eight certified RCEs in Japan (Hokkaido Central, Greater Sendai, Yokohama, Chubu, Hyogo-Kobe, Okayama, Kitakyushu, and Omuta), and each of them consists of universities and various other actors (organizations) in the region. As in ESD consortia, RCEs may also help you find a connection with various organizations/institutions and also obtain professional support from specialized institutions such as universities.

4) Through ESD councils and ESD clubs in the community

　　Organizations and networks have also been established at a local level as ESD promotion councils and ESD clubs. Boards of education tend to play the main role there. Since they are often rooted in the community and voluntarily engage in activities, they are likely to provide effective cooperation when you promote ESD at a local level to address the issues facing the community.

5) By utilizing social education facilities (e.g., museums)

　　Social education facilities such as aquariums, zoos, art and science museums, and community centers also provide effective support when promoting ESD beyond the school. By utilizing these facilities, you can secure places for various experiential learning activities and incorporate specialized knowledge, thereby expanding the learning of pupils and students. One example is participating in workshops hosted by these facilities. You can also take advantage of their outreach programs, such as having facility staff come to the school to give a class.

■ Promotion of ESD in cooperation with UNESCO programs, etc.

　　UNESCO has a number of registration systems and programs that certify valuable natural and cultural assets, including World Heritage site and others summarized below. UNESCO encourages people and organizations to take advantage of these programs to promote ESD in their communities. ESD, also developed in cooperation with programs by UNESCO and other entities, can be seen as an important approach in terms of preserving the valuable assets shared by all human beings, passing them on to the future, and creating a sustainable society centering around them.

　　In Japan, as in other countries, efforts toward the achievement of the SDGs have also been stepped up by the government, businesses, and local municipalities since the SDGs were adopted. ESD is an essential element in achieving all of the SDGs. Based on the international framework *ESD for 2030*, we strive to build a fairer and more sustainable society through the enhancement of ESD and contribution to achieve all of

the SDGs.

1) ESD utilizing World Heritage site (natural and cultural heritage)

In Japanese communities with registered UNESCO World Heritage Site, learning programs have been developed on the theme of World Heritage site, aiming to protect the rich nature and culture. By incorporating the perspective of ESD into this learning, you can reaffirm the value of precious nature and culture within and outside Japan as shared assets. You can also promote ESD through World Heritage site by deeply exploring the relationship between these assets and human life, which enables the learning for creating a sustainable future.

For example, the city of Nara, blessed with many World Cultural Heritage Sites, has been promoting ESD through programs to learn about World Heritage site. The city of Omuta in Fukuoka Prefecture, with "Sites of Japan's Meiji Industrial Revolution" registered as a World Heritage Site, also develops ESD focusing on local history and marine education by utilizing the sites related to coal mining such as Miike Port.

2) ESD utilizing Biosphere Reserves and Geoparks

Biosphere Reserves are the model areas with rich ecosystems to promote sustainable economic activities, utilizing their local natural resources. There are currently 10 such areas in Japan. While World Natural Heritage Sites aim to rigorously protect the nature with universal value, Biosphere Reserves aim for sustainable development that strikes a balance between nature conservation and the lives of people in the community. Geoparks aim for the coexistence of nature and humans in harmony and for sustainable development. To this end, these parks protect geological heritage with international significance, deepen the understanding of its contribution to the natural environment and local culture, and use that knowledge for science, education, and local development. In Japan, there are currently nine UNESCO Global Geoparks certified by UNESCO and 43 Japanese National Geoparks certified by the Japan Geopark Committee.

Biosphere Reserves and Geoparks are both in line with the principle of the SDGs, namely, sustainable development aiming for harmony among the environment, economy, and society. They are therefore suitable programs and fields for the promotion of ESD. For example, the town of Tadami in Fukushima Prefecture is certified as a Biosphere Reserves. All the elementary and lower secondary schools in the town have become UNESCO Associated Schools and engage in ESD in the biosphere which embraces the abundant natural resources including the beech forest, rivers, and the sea.

3) ESD in cooperation with UNESCO Creative Cities Network

UNESCO Creative Cities Network aims to revitalize cities by strengthening

cultural industries and to enhance the understanding of cultural diversity. To this end, it develops partnerships among cities in the fields of literature, film, music, art, and other creative areas; encourages them to share their experiences and knowledge with each other; and promotes cultural products while utilizing its international network. In Japan, seven cities have been certified so far.

This program aims to promote the development of sustainable cities through cooperation among them by leveraging their unique strengths, including their traditions and cultures. It is indeed in line with the philosophy of the SDGs. By promoting ESD based on relevant themes such as art, culture, and food, while utilizing this network of UNESCO Creative Cities, you can foster students' learning for the development of a sustainable community as well as their sense of cooperation and collaboration from a global perspective.

4) ESD in cooperation with the SDGs Future Cities

Over the last several years since their adoption in 2015, the SDGs have rapidly penetrated into Japanese society in a wide range of fields, including the economy, education, and politics. In order to accelerate this movement, the Japanese government selects "SDGs Future Cities" from among the cities and communities working to promote initiatives in line with the philosophy of the SDGs. These high-potential Future Cities are expected to achieve sustainable development through the creation of new value in three areas: the economy, society, and the environment. By cooperating with the initiatives of SDGs Future Cities and making contributions from the standpoint of human resource development, you can take advantage of opportunities to face local challenges and engage in more practical ESD in the local community.

■ **Cooperation with MEXT programs**

Due to the wide range of issues addressed by the SDGs, a cross-cutting perspective is required to promote ESD. For this reason, it is expected that each school can also work on ESD while utilizing programs by MEXT, such as Super Science High School (SSH) and Support for the Establishment of Worldwide Learning (WWL) Consortium.

■ **ESD: fostering an international perspective in cooperation with overseas schools and international institutions/programs**

While ESD can be provided within the community and country, that may not be sufficient. As is evident from climate change, the global financial crisis in 2008, and the COVID-19 pandemic, the world is interconnected, and the challenges we should address spread beyond national borders. Therefore, international cooperation and

collaboration are essential in order to solve these challenges.

When working in partnership at an international level to promote ESD, a major challenge is finding partners in other countries. However, it is often difficult at the individual school or teacher's level to find them. In such cases, you will need institutions, networks, or international programs that can link you to potential partners. The following examples of institutions may serve as hubs that connect schools and the global community. Please contact them according to your needs and the current situation of your school.

i)   International exchange through the network of UNESCO Associated Schools
ii)   International exchange with the support of ASPUnivNet (an interuniversity network supporting the UNESCO Associated Schools)
iii) Participation in international programs of the National Federation of UNESCO Associations in Japan and the Asia-Pacific Cultural Centre for UNESCO
iv)   Participation in international exchange and cooperation projects through the United Nations University RCE
v)   Participation in exchange programs of international organizations such as UNESCO, the OECD, and the Fulbright Memorial Fund

You can use the programs of these networks/institutions and integrate ESD initiatives within and outside the country. Please take advantage of these resources, which will help your ESD to "think globally and act locally."

◆Establishment of ESD as a designated school subject based on the learning contents for "Modern Society" Courses◆

Key point: Promoting ESD utilizing MEXT's Super Science High School (SSH)

Designated as a Super Science High School (SSH) in 2020, Kobe University Secondary School is addressing the research theme of "Education for 2070 — Fostering Human Resources with Perspectives of "Arts and Science" Who Will Create New Values Throughout Their Lifetimes." Within this theme, the school is aiming to realize interdisciplinary learning for acquiring the elements of "Science, Technology and Innovation for Sustainable Development" (STI4SD).

In particular, ESD has been set as a designated school subject for fourth-year students (equivalent to first-year high school student.) Based on the conventional "Modern Society" curriculum framework, the school is creating curriculum and lessons that enable students to consider new values in a "sustainable society" through interdisciplinary learning.

	Overview of classes and curriculum for FY2020 (initial year)	
	Course name	Main learning contents (□ learning contents ■ discussion)
1	International Politics	□ International sovereignty and international law/Roles and issues for UN/From the MDGs to the SDGs ■ Discussion of pros and cons of Japan becoming a permanent member of the UN Security Council
2	Problem of Energy Resources and Sustainable Society	□ Basic knowledge on energy resources/Nuclear power and related problems/New energy sources ■ Burden on localities hosting disposal sites for highly radioactive waste materials and fairness of burden on future generations (based on case of Suttsu Town, Hokkaido)
3	International economics	□ Global trade and international balance of payments/International currency system ■ How to build global economic ties (FTAs, EPAs, TPP, etc.)
4	Ethics in Science and Technology	□ Science and Technology and ELSI (Ethical, Legal and Social Issues)/Science and Technology and Ethics and the Law/Science and Technology for sustainable societies ■ Can we leave our futures to AI? (Including reports)
5	Philosophy and Ethics in the Present Age	□ Learning from ancient philosophers/Image of sustainable societies using the "veil of ignorance" (thought experiment class)/Global order created by GAFA ■ What is "philosophizing?"/ Understanding the issues of refugee from the perspective of "distributive justice"
		Created based on Worksheets and SSH 1st Annual Report