

The Past, Present and Future of ESD in Japan

—How to develop and disseminate ESD at School with the Network of the Local Community—

日本における ESD の過去、現在、そして未来
—地域コミュニティのネットワークを活用して学校で ESD を開発・普及する方法—

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要旨

日本の新学習指導要領では、「持続可能な社会の構築」の観点から各教科等の特質に応じた ESD の指導展開が求められている。国立教育政策研究所では、学校における持続可能な発展のための教育（以下、ESD）の定着と充実にむけて、カリキュラムや教材の在り方、指導方法の在り方、評価の在り方などを明らかにし、ESD の指導に関する参考となる資料（事例を含む）を提供することを目的に、平成 21 年 4 月から平成 24 年 3 月までの 3 年間でプロジェクト研究「学校における持続可能な発展のための教育（ESD）に関する研究」を行った。本論文は、その概要と成果について解説するとともに、日本の ESD の現状、ESD に関連する教師教育、学校教育以外での ESD について簡潔に説明した。

プロジェクト研究では、学校現場に ESD をわかりやすく紹介し、教員が ESD のカリキュラム開発や実践を行えるようになることを目指して、ESD たらしめている要件は何かということ明らかにするために研究を進めてきた。その中で、ESD の枠組みとして、持続可能な社会づくりの構成概念や ESD の視点に立った学習指導で重視する能力・態度などを明らかにした。

プロジェクト研究の成果として、「ESD の視点に立った学習指導を進める上での枠組み」を開発した。それは、ESD の 6 つの構成概念、ESD の視点に立った学習指導で重視する 7 つの能力・態度を顕在化し、ESD の視点に立った学習指導を進める上での 3 つの留意点を示した。

- (1) ESD の 6 つの構成概念は「多様性」「相互性」「有限性」「公平性」「連携性」「責任性」である。
- (2) ESD の視点に立った学習指導で重視する能力・態度は、「批判的に考える力」「未来像を予測して計画を立てる力」「多面的、総合的に考える力」「コミュニケーションを行う力」「他者と協力する態度」「つながりを尊重する態度」「進んで参加する態度」である。
- (3) ESD の視点に立った学習指導を進める上での 3 つの留意点を「つながり」というキーワードでまとめ「教材のつながり」「人材・施設のつながり」「能力・態度と行動のつながり」で示した。

最終報告書だけでなく、研究成果を簡潔に示した ESD リーフレット（8 ページ）は、全国の都道府県・指定都市の教育委員会や教育センター等に配布するとともに本研究所のホームページに全文を掲載している。現在、ESD リーフレットは多様な主体に利用されている。

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Abstract

In Japan, as stipulated in the New Course of Study, an instruction development of ESD from viewpoints of sustainable social-building is required. Practice of ESD in accordance with characteristics of each subject is expected.

For settlement and enhancement of education for sustainable development in schools (hereinafter referred to as “ESD”), the National Institute for Educational Policy Research (NIER) implemented the project research “ Research of Education for Sustainable Development (ESD) at School” from April in 2009 to March in 2012. This research would clarify the ideal curricular and teaching materials, as well as ideal teaching methods and evaluation, and provide reference documents (including cases) on ESD instruction. This paper interpreted the abstract and results of the research and explained the status quos of ESD in Japan, teacher training for ESD and ESD out of school simply.

This research was advanced to clarify what requirements make ESD unique, aiming to introduce ESD to schools in an easy-to-understand way and to let teachers develop ESD curricular and practice ESD. The research clarified the framework of ESD as follows; the six concepts of sustainable society-building and of ESD, the seven abilities and attitudes emphasized by the learning instructions for ESD, and three points to note to pursue learning instructions from ESD viewpoints at school.

- (1) The Six concepts: Variety, Interdependence, Limitation, Fairness, Cooperation and Responsibility
- (2) The Seven abilities and attitudes: Critical thinking ability, Ability to predict future image for making plan, Ability to think in multifaceted and comprehensive ways, Ability to communicate, Attitude to cooperate with other people, Attitude to respect for connections and Attitude to participate willingly
- (3) Points to note to pursue learning instructions from ESD viewpoints: Linkages in teaching materials, Linkages in human and facilities and Linkages from abilities and attitudes to actions

The final research report and the leaflet for ESD (8 pages) were delivered all over Japan and enlisted in the home page of NIER. We hope they will be widely used as a reference document to promote ESD in schools.

1. Prologue

The concept of sustainable development was first introduced in international forums in the 1980s. “Sustainable Development: SD” is defined as “ development to fulfill the needs of the current generation, while assuring abilities that will fulfill the needs of future generations” and “improving the quality of human life, while encouraging lifestyles that are within the range of abilities of ecosystem that supports humans.” Education for SD is “Education for Sustainable Development (ESD).” That is, ESD is education for development and growth to bring a higher quality of life to all people, including the next generation, from environmental, economic, social and cultural viewpoints. ESD also aims to foster people who act to build a sustainable future and society.

In 2002 the Japanese delegation to the United Nations proposed designating a 10 year period from 2005 as the “Decade of Education for Sustainable Development (UNDESD)” to the 57th General Assembly. The proposal was adopted and in March 2006, the direction of implementation and strategy for promotion was clarified with the drafting of Japan’s *Action Plan for the “United Nations Decade of Education for Sustainable Development.”* Furthermore, in July 2008, the *Basic Plan for the Promotion of Education* called for the “promotion of initiatives related to education towards the creation of a sustainable society” as one key strategy to comprehensively and systematically address in the coming five year period. The Revised *Courses of Study*, or National Curriculum Standards, which were announced in 2008 and 2009, specified topics related to creating a sustainable society in portions of lower secondary school and upper secondary school subject areas; this will become more concrete moving forward.

ESD had been unknown in Japan until recently. According to the questionnaire for the Leader Teachers’ Training for Environmental Education (EE) and Education for Sustainable Development (ESD) at the governmental level, only about 20% of them knew ESD in 2008. Given this situation, the National Institute for Educational Policy Research (NIER) was requested to start to make a research to disseminate ESD for all schools in Japan in 2009. NIER decided to launch a project to disseminate ESD and show teachers how to implement ESD at schools under the national curriculum standard in Japan. The research is based on the trends and issues for ESD, and aims to develop the basic principles for integrating and implementing ESD in a school setting.

In 2009 NIER collected ESD-related materials in Japan and suggested a hypothesis for achieving the aim of NIER’s ESD research that teachers could develop and implement ESD if a good framework and guidelines were developed. NIER’s research team tested the hypothesis through examining the structure and implementation of actual lessons in 16 different schools from 2009 to 2011. Finally, NIER proposed the framework and guidelines for ESD and examined their effectiveness through implementing them in classes for three years.

2. ESD at School Education in Japan

(1) Curriculum for ESD

ESD involves a wide range of contents and all subjects, and all themes and topics can be related with ESD, considering the essence of SD and Sustainability. Therefore, NIER advanced to clarify what requirements make ESD unique, with the aim to introduce ESD to schools in an easy-to-understand way and to let teachers develop ESD curricula and practice ESD. The research clarifies the framework of ESD, which is composed of the conceptual components of sustainable society-building and of ESD, the abilities and attitudes emphasized in ESD and three guidelines from the viewpoints of ESD.

In 2011, ESD had been practiced, based on the final “framework necessary to design and develop the learning instruction process of ESD,” which was modified by making use of the results of the study in 2009 and 2010, and the usability of the final framework was demonstrated with 26 examples in the final

report of ESD.

The aim of ESD is: “All people enjoy the benefits of a high quality education, and principles, values and actions, which are required for sustainable development, are taken into all educational and learning processes, and transformation of actions is provided so that a sustainable future will be realized in environmental, economic and social aspects” (“United Nations Decade of Education for Sustainable Development” Liaison Committee among Ministries and Agencies, 2006).

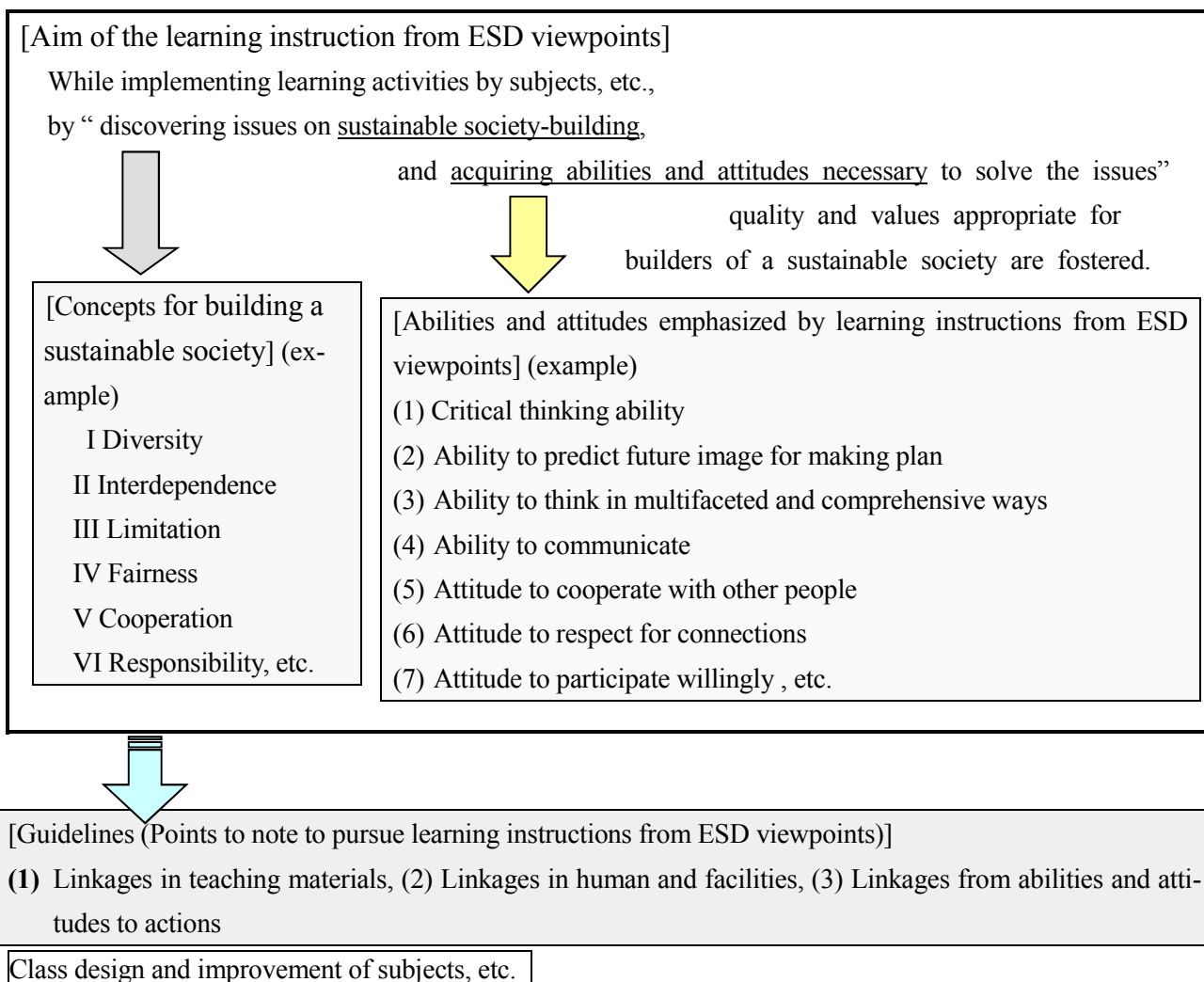


Figure 1 Framework necessary to design and develop learning instruction processes of ESD (NIER, 2012)

As the research was based on the premise that classes in each subject were developed from ESD viewpoints, the aim of ESD was carefully selected to be the minimum as follows: “To discover issues on the sustainable society-building and to acquire the abilities and attitudes necessary to solve the issues.” In learning activities in each subject, designing and improving classes aimed at achieving the goal of ESD would contribute to enhancing quality and values appropriate for builders of a sustainable society. Figure 1 shows the suggested framework necessary to design and develop the learning instruction process of ESD, based on the idea described above.

A wide range of elements become intertwined, encompassing many issues with regard to sustainable society-building. What is required in ESD is to develop learning, while such issues are addressed in multifaceted and comprehensive ways. Therefore, to promote ESD in schools, it is important to develop it through the entire curriculum of educational activities, such as incorporating it into existing subjects, rather than establishing a specific subject.

To promote ESD in Japan, NIER made use of the strategy to develop a framework for ESD. The framework was developed based on the book “Teacher’s Guide for Environmental Education (National Institute for Educational Policy Research, 2007)”.

The Framework is composed of six concepts and seven abilities & attitudes for ESD and three guidelines for ESD in school education.

1) Concepts of “sustainable society-building”

It is necessary to clarify the concepts to understand “sustainable society-building” in order to discover the issues on sustainable society-building”, which is one of the goals above.

This research analyzed concepts and keywords listed in Table 1 and categorized them into six concepts related to “sustainable society-building” as indicated in Table 2, with a classification into [1] Concepts related to the environment (nature, culture, society and economy, etc.) surrounding humans and [2] Concepts related to will and actions of humans (groups, regions, society and country, etc.).

Table 1 Concepts related to “Sustainable Society-Building” (NIER, 2012)

	Related concepts, etc.	Related keywords
Japan’s Action Plan for the United Nations Decade of Education for Sustainable Development (Liaison Committee among Ministries and Agencies, 2006)	Fairness among the generations, Fairness among regions, Equality between men and women, Social tolerance, Reduction of poverty, Maintenance and recovery of environment, Maintenance of natural resources, Fair and peace society	Coexisting, Cycle, Balance, Correlation, System, Diversity, Multifaceted nature, Limitation, Future, Limit, Lifetime, Time, change, Conservation, Human rights, Respect for life, Maintenance of health, Living standard, Right, Equality, Justice, Equality of opportunity, Non-exclusivity, Equity, Fairness, Voluntary, Autonomy, Responsibility, Duty, Future image, Decision-making, Citizenship, Tolerance Action, Transformation, Interdependence, Co-existence and co-prosperity, Cooperation, Collaboration, Harmony, Non-violence, Peace
Japan Council on the UN Decade of Education for Sustainable Development ESD-J(ESD-J, 2006)	Human dignity, Socially and economically fair society, Responsibility for next generations, Humans are a part of nature, Respect for cultural diversity	
ESD Resource Review Tool (Department for Education and Skills, 2005)	Interdependence, Citizenship and active involvement, Needs and rights of next generations, Diversity, Quality, equality and fairness of life, Environmental capacity, Uncertainty in actions and preventive measures	

Table 2 Concepts for building a sustainable society (example) (NIER, 2012)

Concepts related to environments (nature, cultures, society and economy, etc.) surrounding humans	I Diversity <i>There is a variety of things.</i> [Diversity]	Nature, culture, society and economy are comprised of a diversity of components whose origins, quality and status vary, and a diversity of phenomena (events) occur among them. <hr/> Nature, culture, society and economy show different aspects in their formation process and a diversity of things and phenomena exists. It is important to respect such ecological, cultural, social and economic diversity as well as see and consider things and phenomena related to nature, cultures, society and economy in multifaceted ways. Example) ♦ Living things have different colors, shapes and sizes. ♦ Each region has its own characteristics in land features and weather. ♦ There are many kinds of nutrient necessary for bodies.
	II Interdependence <i>Interdependent</i> [Interdependence]	Nature, culture, society and economy work with each other, and material objects and energy move and circulate and information is transmitted and distributed among them. <hr/> Nature, culture, society and economy are systems where they work with each other. Material objects and energy move are consumed and circulated in the system. It is important that humans connect with the system and to recognize that they also have connections with each other in the connection with the system. Example) ♦ Living things live connecting with surrounding environment. ♦ Electricity can be changed into light, sounds and heat. ♦ Some foods are imported from foreign countries.
	III Limitation <i>There is a limitation.</i> [Limit]	While nature, culture, society and economy are supported by limited environment factors and resources (material objects and energy), they irreversibly change. <hr/> Environment factors and resources (material objects and energy), which make nature, culture, society, economy possible are limited. It is necessary to make use of those limited material objects and energy for the next generations. Also, it is important to recognize that society is supported by limited resources. Example) ♦ The amount that materials dissolve in water is limited. ♦ The land changes due to volcanic eruption and earthquakes. ♦ Systematic use of materials and money should be considered
Concepts related to humans' will and actions (groups, regions, society and countries)	IV Fairness <i>Respect for every individual</i> [Fairness]	A sustainable society is based on equity, fairness and equality of the security of the basic rights and enjoyment of benefits from nature, etc. among regions and generations. <hr/> The basis of a sustainable society is that a high quality of life and health for all people are guaranteed, maintained and promoted. To do that, it is necessary that human rights and life are respected, and security of rights and enjoyment of benefits are fair, without the expense of others. These should be maintained beyond regions and counties and in generations. Example) ♦ Food, exercise, rest and sleep which keep us in good health are guaranteed. ♦ To respect mutual rights. ♦ To be fair and equitable without discrimination.
	V Cooperation <i>Together</i> [Cooperation]	A sustainable society is built while various subjects adopt and harmonize in accordance with circumstances and interrelationship and the subjects cooperate and collaborate with each other. <hr/> Building and maintaining a sustainable society cannot be realized without the cooperation and collaboration of various subjects. It is important to solve problems by adjusting to circumstances, harmonizing in a tolerant attitude, and cooperating with each other, even in positions where opinions differ and interests conflict. Example) ♦ Local residents cooperate with each other to prevent disasters. ♦ To respect opinions and positions which are different from own opinions and positions with a humble heart. ♦ To exercise ingenuity in one's own life in consideration with relationships with neighbors.
	VI Responsibility <i>Responsibly</i> [Responsibility]	A sustainable society is built by changes and improvement of various subjects toward future images while having a responsible vision of an ideal future. <hr/> To build a sustainable society, it is necessary that each individual is aware of their own responsibility and duties, and willingly acts, not entrusting it to others. To do this, it is important to have a responsible vision for an ideal future image based on grasping the current circumstance in rational and objective ways while making decisions. Example) ♦ Japan has played an important role in the international society. ♦ To understand importance of work and willingly work for everyone. ♦ To be able to do share of work at home.

Note 1) The mark “[]” means abbreviation of practice cases

Note 2) The upper area of each section is a definition of concepts and the lower part is its supplementary explanation.

2) Abilities (Skills) and Attitudes fostered in ESD, etc.

To promote and develop ESD through education in schools, it is necessary to link those various abilities and attitudes with a “zest for living” for organization. Table 3 shows simplified relationships between the abilities and attitudes, and a “zest for living”. It presents that many composition elements of “a zest for living” overlap abilities and attitudes emphasized by ESD. Also, some relate to “Enriched humanness” as well as “Solid academic capabilities”.

Table 3 Relationship between abilities and attitudes emphasized by a “zest for living” and ESD (NIER, 2012)

“Zest for living”		Japan’s Action Plan for ESD(2008)	ESD-J (2006)	ESD tool kit (2002) ¹	Resource review tool <U.K.> (2005)	Ability and attitude emphasized in learning instructions from ESD viewpoints
Solid academic capabilities	Ability to think	Ability to think of alternative ways (Ability to criticize)	Ability to feel and think for oneself	Critical thinking ability	Critical thought	→(1)
	Ability to judge		Ability to see the essence of problems			
	Ability to express oneself	Ability to communicate	Ability to express feelings and thoughts	Ability to communicate		→(4)
		Systematic ability to think		Ability to understand the system Ability to use various inquiring process	System thinking	→(3)
	Ability to find issues		Ability to picture own ideal society	Ability to predict and plan future	Future thinking	→(2)
	Ability to solve problems		Ability to re-build ways of doing things		Skills to handle problems	
		Ability to collect and analyze information				
			Ability to understand environment capacity			
Enriched humanness	Aptitude for autonomy		Ability to practice willingly	Ability to act	Action skill	→(7)
	Cooperativeness		Ability to bring forward with cooperation	Ability to act by cooperating with others		→(5)
	Emotional heart			Ability to develop sensory reaction		
Others		Respect for diversity and non-exclusivity	Ability to respect various values	Ability to differentiate quantity, quality and values		→(6)

Note) Original sentences of some of the description of the ability and attitude in the Table are simplified.

This research extracted seven abilities and attitudes and set them as abilities and attitudes emphasized in learning instructions from ESD viewpoints. They were organized by connecting the seven abilities and attitudes with key competency (Table 4; OECD, 2005) which have received attention as the international standard for academic abilities. Table 4 shows its results. Learning instructions from ESD viewpoints could be developed through adding or connecting items, which are based on the results, to aims of the unit (theme) and aims of the classes for each subject.

Table 4 Relationship between abilities & attitudes with examples for ESD and Key Competency
(NIER, 2012)

Ability and attitude emphasized by ESD			Key competency
(1)	Critical thinking ability <<Criticism>>	Ability to see the essence based on reasonable and objective information and fair judgment, and to think and judge things in constructive, cooperative and alternative ways. Example) ○ Ability to adopt opinions of others and information after due consideration and understanding. × Attitude to accept obtained data and way of thinking without questioning. ○ Ability to think of better solutions in proactive and constructive ways. × Attitude to think in passive and negative ways and give up in a short time. Attitude to get only answers.	Tools are used in interactive ways.
(2)	Ability to predict future image for making plan <<Future>>	Ability to predict and expect ideal future images (visions) based on the past and future, and to plan things by sharing the ideal future. Example) ○ Ability to make plans with prospects and a sense of purpose. × Attitude to do things without plans and extemporize. ○ Ability to make a plan while imaging how others perceive the plan. × Attitude to do things in egotistic ways.	
(3)	Ability to think in multifaceted and comprehensive ways <<Multifaceted>>	Ability to understand connections, involvement and systems of humans, things, events, society and nature, and think of them in multifaceted and comprehensive ways. Example) ○ Ability to see waste materials as resources in some ways. × Attitude to think that useless things are unnecessary. ○ Ability to think by associating various things with each other. × Attitude to have perspective in unfocused and disconnected ways.	
(4)	Ability to communicate <<Communication>>	Ability to communicate one's own feelings and thought as well as respect feelings and thoughts of others and proactively communicate with others. Example) ○ Ability to organize own ideas and communicate the organized ideas elliptically. × Attitude to point out faults of opinions of others and not to tell own ideas. ○ Ability to adopt opinions of others into own ideas. × Attitude not to listen to opinions of others.	Interacting in heterogeneous group.
(5)	Ability to cooperate with other people <<Cooperation>>	Attitude to hold the same position as others and sympathize with ideas and actions of others as well as to do things in cooperation and in collaboration with others. Example) ○ Attitude to act in consideration of positions of others. × Attitude to only think about oneself. ○ Attitude to act in a team while encouraging teammates. × Attitude to act in self-centered and non-conformity ways.	
(6)	Attitude to respect for connections <<Connection>>	Attitude to have interest in own connections and involvement in humans, things, events, society and nature and to respect and value them. Example) ○ Attitude to have interests that we connect with various things. × Attitude to have interests in only what surrounds one's self and is directly connected to one's self. ○ Attitude to appreciate that we exist thanks to various things. × Attitude to believe that I live by myself.	Acting autonomously.
(7)	Attitude to participate willingly <<Participation>>	Attitude to take responsibility for our words and deeds in groups and society and to participate in things voluntary and independently, based on understanding of one's own roles. Example) ○ Attitude to take responsibility for what I say and keep promises. × Attitude to act in irresponsible ways and to disobey rules. ○ Attitude to willingly act for others. × Attitude to only do what will benefit self	

Note) The mark "<<>>" means abbreviation of practice cases.

Table 4 indicates concrete examples (“○” means preferable abilities and attitudes, “×” is not preferable abilities and attitudes) as well as definitions of each ability and attitude. As with the concepts, it should be noted that abilities and attitudes are not limited to the seven elements and these are only examples. Transformation of values is needed in ESD; however, it is important to make consideration in classes from ESD viewpoints so that students themselves will acquire values on sustainable society-building in the processes of discovery, inquiry and solution of concrete issues.

3) Guidelines for ESD

As to how to learn and how to teach in line with ESD, “Japan’s Action Plan for United Nations Decade of Education for Sustainable Development” (“United Nations Decade of Education for Sustainable Development” Liaison Committee among Ministries and Agencies, 2006) emphasizes the following: (1) To promote concrete actions through development of interest, understanding, attitude and ability to solve problems, (2) To have a participatory approach which emphasizes experiences, common sensation, inquiry and practice, and (3) To withdraw willing actions of learners during activities.

These reveal that it is important to link teaching materials (learning tasks, contents of learning) in terms of content, space and time, link learners with each other, link learners with people in other positions and generations, and link learners with regions and society, and link acquired abilities and attitudes to concrete actions to pursue learning instructions from ESD viewpoints.

This research focuses on “linkages” which is an important keyword featuring ESD, and places great importance on development of learning in consideration of the guidelines (points to note (three “linkages” viewpoints)) mentioned below.

a) Linkages in teaching materials (Guideline 1)

ESD requires inquiry of issues on sustainable society-building in multifaceted and comprehensive ways. Therefore, it is important to note that the teaching material (things and phenomena, themes and issues) dealt with in a subject are connected with teaching materials dealt with in other subjects, and other types of schools, or with actual life and society, to have an interest in and recognize such connections, as well as to see and consider things by associating them with one another. That is, it is necessary to pursue learning while promoting “linkages” of teaching material contents and subjects, spatial “linkages” of classrooms and schools and regions, society, countries and the world, and “linkages” in time, such past, present and future.

b) Linkages in humans and facilities (Guideline 2)

In ESD, it is important that we all learn with each other and connect to each other by sharing time and space in learning processes. During those processes, students are expected to feel the importance of talks and communication and acquire the abilities and attitudes necessary to sympathize with the actions of others, which will lead to the creation of new ideas and actions. To achieve this, hands-on learning in which “linkages” among students are adopted is developed and opportunities where students experience “linkages” with people in various positions and generations are prepared, while “linkages” with regions (including domestic and overseas, especially developing countries as well as

immediate regions) are promoted. In addition, it is necessary to exercise ingenuity in classes so that “linkages” with future generations and past generations can be imagined, in accordance with developmental stages of students.

c) Linkages from abilities and attitudes to actions (Guideline 3)

In ESD, it is important to put the acquired ability and attitude into action and put them into practice in actual life and society as well as increase interests and broaden the recognition. For this, it is important to promote instructions with continuous and practical “linkages”, to approach classes in a way that instructions could be “linkages” with real problem solutions, while responding to issues in accordance with actual conditions of each school, each region, and each student, and enhancing their “linkages” with learning and activities in subjects, etc. and their “linkages” between schools, home, and local communities.

(2) Teacher Training (Capacity Building) for ESD

1) Pre-Service Level

There are a lot of programs for pre-service teachers at many universities but they are not well systematized. 169 universities have departments/divisions that are related to the environment (26.1% of total), and 139 universities have schools and programs that include the word “environment” in their name (National university directory survey, 2007). While many universities provide environmental courses in basic education, they are mainly provided in the form of non-compulsory lectures and seminars. It has been pointed out that due to the large number of students attending, such courses are given in the lecture style in a large classroom, which is mainly intended to provide information. As a result, the environmental courses have not been integrated and reached the level of developing the strong motivation and leadership skills that are required to become environmental leaders. It is expected that students will acquire specialized knowledge and skills on environment/ sustainability through the courses involving fieldwork and field studies that are deemed effective in obtaining expertise in specialized areas. Recently some universities promoted Environmental Leadership Initiatives for Asian Sustainability (ELIAS) in industry-university-government-civil society collaboration.

2) In-Service Level

There are numerous in-service teacher training programs at the national, regional, local, and school levels. The Ministry of Education, Culture, Sports, Science and Technology had carried out a four-day intensive teacher training program at national level until 2010. Many prefectural teacher training centers had some capacity-building programs for EE and ESD. The prefectural educational centers in Wakayama and Aichi implemented the teacher training program in reference to the framework which was developed by NIER and developed some case studies from elementary to upper secondary levels. The local teacher training programs in Okazaki, Hiratsuka, Kesenuma and Nara cities implemented systematic teacher training programs and developed many good practices for ESD. Many teacher training programs for ESD in schools have been implemented all over Japan. Recently there has been an increasing trend for in-service teacher training programs being supported by social facilities, NPO, NGO and private sectors

and so forth.

(3) Partnership and Network between Schools and Out-of-School Organizations for ESD

Out-of-school organizations have worked together with schools for ESD and contributed to implementing ESD at schools. There have been recently established good partnerships and networks between schools and out-of-school organizations.

3. ESD out of School Education

Many NPOs, NGOs, organizations and companies are contributing to ESD. The Asia-Pacific Cultural Centre for UNESCO (ACCU) is a non-profit organization for Asia and the Pacific regional activities established in line with the principles of UNESCO, working for the promotion of ESD. It has developed a lot of teaching materials and collected good practices undertaken by UNESCO Associated Schools. Sompo Japan Insurance Company has been promoting internships for undergraduate and graduate students in the environmental sectors of civil society organizations (CSOs). It aims to raise awareness about environmental issues and improve the state of civil society through internships. Sompo Japan supports the development of ELIAS which plays a leading role in the future generations.

4. Epilogue

NIER hopes that this framework and three guidelines will be widely used as a reference material in the promotion of ESD. Recently many schools in Japan have started to make use of the framework and guideline to develop ESD. Some teacher training centers and boards of education have implemented the teacher training programs on the basis of the framework and guideline, and modified them for improvement. NIER has developed the framework and guideline which are simple, easily understandable and user-friendly, and expects many schools all over Japan to make use of them and develop innovative curricula for ESD without difficulties.

The ASPnet (UNESCO Associated Schools Project Network) works to achieve the ideals put forward in the UNESCO Charter. As of April 2012, 489 pre-schools, elementary schools, lower secondary schools, upper secondary schools and teacher training colleges and universities in Japan participate in the ASPnet. The Japanese Government provides support for various activities designed to promote ESD, primarily at UNESCO Associated Schools. Some UNESCO Associated Schools have developed their curricula for ESD by using the framework and guideline developed by NIER.

Now the framework and guideline have been used in schools and the leaflet for ESD, in particular, has begun to be distributed to disseminate ESD in Japan. The framework and guideline will be revised to give even more user-friendly explanation in the near future as not only teachers but also other stakeholders put it to use. In the future there will be needs to develop quality education such as ESD. Such education needs good teachers who can develop ESD, which is interdisciplinary, children-centered, and inquiry-based. It is important and effective to build the educational system to nurture qualified good teachers through their life-long learning activities. It will be necessary for all stakeholders including schools,

governments, municipal boards of education, museums and institutes, NPOs & NGOs, corporations to cooperate and collaborate with each other to nurture such quality teachers.

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