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Reconsidering Education for Sustainable Society: An East Asian Perspective

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Reconsidering Education for Sustainable Society: An East Asian Perspective*

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Abstract

Human society can no longer avoid and ignore ecological and sustainability issues. Is it impossible for human and nature to reconcile? Isn't there a way for human and nature to coexist properly together? Don't we need to make conscious efforts to find a way to construct a sustainable society? What can education do? A transition from a development-centered paradigm to an ecology centered paradigm is urgent. An East Asian perspective of education and learning offers a good framework from which to reconsider development-centered, industrial age-based education. An ecology-centered paradigm pursuing a harmonious relationship between mankind and the natural world and all of its living beings is a solution that enables man and nature to survive together. The realization of a way of living and social institutions that promote the co-prosperity of man and nature will require significant changes. Development of capability for sustainable living with nature and other beings encompasses aesthetic and integrative learning which involves stimulating sensibility of relatedness with nature and attunement of the beauty in being together.

Keywords: Education for sustainable society, East asian perspective, education and learning.

Reconsiderando la Educación para una Sociedad Sostenible: Una Perspectiva del Este Asiático*

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Resumen

La sociedad humana no puede evitar ni ignorar los temas ecológicos y de sostenibilidad. ¿Es imposible la reconciliación entre la naturaleza y los seres humanos? ¿No hay ningún camino para la coexistencia conjunta entre ellos? ¿No tendríamos que hacer esfuerzos conscientes para encontrar el camino para construir una sociedad sostenible? ¿Qué puede aportar la educación? Para ello, es necesaria una transición desde el paradigma centrado en el desarrollo al paradigma centrado en la ecología. Dicho paradigma centrado en la ecología persigue una relación armónica entre la humanidad y el mundo natural y todos sus seres vivos y aporta soluciones que permiten al hombre y la naturaleza sobrevivir conjuntamente. La realización de una forma de vida así como de instituciones sociales que promuevan la co-prosperidad del hombre y la naturaleza requiere de cambios significativos. El desarrollo de la capacidad para vivir sosteniblemente con la naturaleza y otros seres abarca aprendizajes estéticos e integrativos que traen consigo una estimulante sensibilidad relacional con la naturaleza y armonía con la belleza de la existencia conjunta.

Palabras claves: Educación para una sociedad sostenible, perspectiva del Este Asiático, educación y el aprendizaje.

Mankind is now living in an extremely bipolarized world. While we are enjoying the most affluent way of life ever, on average, we are caught up in anxiety over when earth's ecosystem will be destroyed irreversibly. In parts of the world, poverty and diseases are claiming countless lives. In other parts of the world, numerous people are suffering from nutritional excess.

Countries around the world have begun to prosper since the Industrial Revolution. Consequently, however, the earth's ecosystem was seriously damaged and the price is being paid by the entire humanity. The confrontation between human and nature is getting worse and nature's retaliation against humanity is intensifying. Human society can no longer avoid and ignore ecological and sustainability issues. Is it impossible for human and nature to reconcile? Isn't there a way for human and nature to coexist properly together? Don't we need to make conscious efforts to find a way to construct a sustainable society? What can education do?

Is Human Society Sustainable?

James E. Hansen, a climate scientist and former director of the NASA Goddard Institute for Space Studies, alerted the world when he testified before the US House Select Committee on Energy Independence and Global Warming on June 23, 2008 that "...now we have used up all slack in the schedule for actions needed to defuse the global warming time bomb" ([New York Times, 2008](#)). The international society was doubtful when Hansen warned twenty years earlier in his historic testimony to Congress on June 23, 1988 that global warming was underway. This time, however, people felt they had to heed his warning as there have since been a series of climate abnormalities including Arctic glaciers melting, the ozone layer depleting, and sea temperatures rising.

A report issued by the UN Environment Program (UNEP) confirms that about 50% of the world's wetlands have disappeared over the past century, 20% of the dry areas are on the brink of desertification, and

underground water is being depleted everywhere on the planet. Edward O. Wilson, a renowned American biologist, asserts that approximately half of the animal and plant species on Earth will become extinct by the end of the 21st century if the ecosystem continues to be destroyed at the current rate (Wilson, 2008).

In fact, Hansen's claim that the opportunity to prevent the demise of the ecosystem and humanity has already been missed is hardly new. As early as two centuries ago, Thomas R. Malthus, an English scholar influential in political economy and demography, argued that a population growth exceeding the growth in food production would put human society in a grim situation. Countries around the world dismissed Malthus' claim as a groundless worry, though, because population growth was matched with enhanced agricultural productivity driven by the industrialization of farming and progress in farming technologies.

Industrialization continued to expand throughout the world. Then in 1972, the Club of Rome echoed the concern of Malthus with its report *The Limits to Growth* where the authors warned that if the current system of economic growth continued, it would soon go beyond the limits our planet could endure and humanity would ultimately cease to exist. The Club of Rome report raised considerable public attention on resource depletion and environmental destruction resulting from the pursuit of economic growth, prompting the research community to embark on a number of related studies and policymakers to seek for measures to conserve Earth's natural environment. In spite of a series of warnings and suggestions, however, mankind did not change its growth policies and ways of living. Consequently, the sustainability of human society is being jeopardized.

In the face of this stark reality, the international community convened the United Nations Conference on the Human Environment in Stockholm, Sweden. Since the UN Conference which marked a turning point in the development of international environmental politics, governments have adopted a wide range of resolutions and conventions through summit meetings, experts have come up with practical suggestions, and international NGOs have called on governments for action. Still the results are significantly disappointing.

World powers' passive attitude to addressing environmental conser-

vation and wealth-gap issues became clear at the Earth Summit which was held in Rio de Janeiro, Brazil, in 1992. The United States did not verify the 1997 Kyoto Protocol to the UN Framework Convention on Climate Change. At the 2002 World Summit on Sustainable Development in Johannesburg, South Africa, world powers took an ambiguous stance, drawing strong criticism from citizens around the world.

In 2008, the 34th G8 Summit took place in Hokkaido, Japan, for three days on such issues as global warming, soaring oil and food prices and poverty in Africa. At the Major Economies Meeting on Energy Security and Climate Change during the Summit, world leaders including seven African heads of state discussed ways to address Africa's poverty, and leaders of major CO₂ emitting countries including China and India agreed to develop a global plan to reduce greenhouse gas emissions that could take over the mandate of the Kyoto Protocol. But, the participating countries failed to reach a consensus which the world community had been looking forward to. This was because some leaders disagreed on measures that could weaken their own country's international competitiveness. So far, powerful countries have expressed interest in climate change, resource depletion and poverty issues but been very passive and skeptical in finding and implementing solutions. It is widely known that the United States is the strongest opponent of all.

While world leaders were wasting time, Arctic glaciers have melted at a faster rate and reports on signs of serious climate change in many parts of the world have increased. Accordingly, the world citizens' expectation on the 17th UN Climate Change Conference in Durban, South Africa, in December 2011 was great. At the Conference, country representatives discussed diverse measures to respond to climate change, but postponed a resolution on practical action plans including mandatory greenhouse gas reduction goals of each participating country. By doing so, they presented a huge disappointment to the world community instead of hope for Earth's future.

Countries around the world are competitively pursuing economic growth strategies while aggravating global warming and resource depletion. At the same time, the global wealth gap is widening: In some parts of the world, excessive consumption and nutrition are problems

while, in other parts, people are entrapped in poverty and diseases. Nonetheless, international politics is still obsessed with competition and confrontation. Meanwhile, world population has steadily increased to 6.6 billion today and is anticipated to reach 9.2 billion by 2050 testing Earth's capacity to sustain such a large population (Park, Glenn, & Godden, 2009).

In September 2008, the disruption of the Wall Street's financial system drove the global economy into crisis overnight. While experts had begun to send clear warning signals about an economic crisis at least one year earlier, people with vested interests who were enjoying immense wealth earned in an artificially booming economy cried "No regulations!" against measures aimed to prevent an economic crisis. And then the worry became a reality. Some said it is the "price for greediness." The global economic crisis stemming from problems with the world's financial system is still with us. Critical economists argue that the global economy may face a more fundamental crisis if the status quo of our current way of living and economic system is maintained. In summary, the survival of human society may be endangered if we stick to the conventional way of growth.

The idea of a "sustainable world" is to figure out how mankind can continue to survive without reaching a dead-end. The concept of sustainability, which began to draw public attention in the 1990s, is an attempt to escape from the obsession with quantitative expansion to adopt new growth strategies and international order that enable human to harmoniously coexist with nature (Joseph, Mahaffie, & Hines, 1997). In this sense, sustainability is a basic concept for the sustained survival of human society as well as Earth's ecosystem. Human society should grow in a manner that ensures a secure life for future generations. To achieve such growth, mankind should change its view about growth and ways of living.

Modern View of Nature and Education

Galileo Galilei claimed that the laws of nature are mathematical. René Descartes viewed nonhuman animals and the natural world as no more than machines and showed that all machines including artificial machinery could be explained by mathematical equations. Isaac Newton

clearly explained the laws of motion of every object with mathematical theories in *Mathematical Principles of Natural Philosophy*. All of these scientific findings with respect to the perception and treatment of natural phenomena were made in the 17th century and later led to the Industrial Revolution in the 18th century (Doren, 1995).

The invention of the steam engine, a new motive power of machinery, triggered the Industrial Revolution. Afterwards, a variety of machines powered by motors with significantly enhanced efficiency and capacity expanded the Industrial Revolution, opening up a new era of industrialization in human history. In this era, the dominant belief was that human reasoning will continue to advance by developing and utilizing natural resources with machines. Industrialization brought about new production methods, economic structures, social institutions, and ways of living. At the same time, a human-centered view of nature that humans are entitled to take advantage of the natural world for their happiness was emphasized. In other words, the era of industrialization was dominated by a development-oriented paradigm in which human views nature as a subject of exploitation. Each country pursued economic development through industrialization which was often an objective of national development.

The significance of education in an endeavor to promote national development through economic growth has been stressed since the early stages of industrialization due to the rising demand for skilled manpower for automated production lines. Skilled manpower required training. They not only needed training for skills that were required when working with machines, but also training for adaptation to new production systems based on the division of labor. In order to nurture skilled workers in large numbers, it was inevitable to set up schools that could offer systematic education. As industrialization coincided with the creation of nation states, countries needed to seek to nurture skilled workers as well as educated citizens. Establishing schools for systematic education was very suitable to the needs of the time. Accordingly, countries around the world created mandatory school education systems.

The contents of school education varied from country to country as well as from student group to group, even in a single country. However, the overriding purpose of education was by and large the same: Nurturing skilled workers for industrialization and educated citizens for

national development. Therefore, there was no difference between advanced industrial countries and less industrial countries in that the goal of school education was economic growth and national development, although the goal was more emphasized in less industrial countries. The characteristics of school education in the era of industrialization were summarized by Robert Hutchins as follows:

The common assumption of this period was that education was the road to national development and that efforts to build up schools and universities would almost automatically result in industrialization and prosperity... (Hutchins, 1968, p. 54)

Over the past two centuries, most of the countries which pursued industrialization succeeded in economic growth leading to a number of benefits. Warm and comfortable clothing, food and nutrition, improved housing, transportation, telecommunication, medicine, and life expectancy have made phenomenal progress. The median-income households in today's world are enjoying a high standard of living which was hard to imagine 200 years ago. At least half of the world population is leading the most affluent life in history.

However, industrialization also brought serious disasters to the planet, mankind and the natural world. The previous paragraphs may be sufficient to explain the seriousness of the disasters brought about by the economic growth-oriented policy of the industrialization era to Earth's ecosystem. The reality faced by the global ecosystem is putting mankind and other living species on Earth on the brink of extinction.

Some scientists argue that the current problems with the ecosystem could be addressed through new scientific and technological findings, and some capitalists and politicians agree. It is true that new technologies are reducing the emissions of air pollutants and innovative chemical products are contributing to relieving water and soil pollution. However, it should be noted that there is too much evidence suggesting problems with the ecosystem in spite of such hopeful achievements.

What we should focus on here is to reconsider the direction of education. Education geared for industrialization perceives human beings as tools for economic growth and thus concentrates on injecting knowledge and skills to students while moral, socio-cultural, and ecological aspects of human life

are neglected. Hutchins noted that economic growth-oriented education ultimately came down to inhumane education by saying as follows:

The aim [of education] most often emphasized was not to promote understanding or to raise the level of intelligence or to help people to become human through the use of their minds: it was economic growth. This aim... was nonhuman, inhuman, or antihuman (Hutchins, 1968, p. 54).

In a nutshell, our view of nature since the Industrial Revolution was that nature could be explained by a scientific method and that we could develop and exploit nature for our convenience. The ability of using powered machines to develop nature and provide economic growth became the barometer of a nation's development. Accordingly, nurturing skilled workers through school education became an essential element for national development. As a result, even mankind together with nature became resources and tools for economic growth.

Western and Eastern Views of Nature

What is the background against which Galileo, Descartes and Newton could make such significant scientific findings in the 17th century? Their scientific ways of thinking have their roots in ancient Greece. Philosophers of ancient Greece thought that they did not belong to their object of observation and explanation. Put differently, they separated themselves from their object. The premise was that truth is independent from the self who pursues the truth that is mankind itself.

From this viewpoint, nature is separate from man and object to analyze in a rational way, such as with mathematics. Often the goal is, to explain or dominate. The 17th-century scholars discovered this scientific methodology. The result was the start of the industrial revolution that developed and utilized nature. The industrialized human society "exploits" the natural world and views it as an object to dominate.

This Western view of nature is in contrast to that of the East (Nisbett, 2005). Confucian scholars in ancient China did not separate nature and man. Rather, they view them as one. Confucius believed that the natural world and all the living beings represent the essence of ethics that

maintain the order and harmony of the universe. Mankind is not an exception. He believed that human and nature are interconnected and should maintain a harmonious relationship.

According to the teachings of Buddhism which was born in India, all living beings are in the eternal cycle of birth, death and rebirth. Buddhism believes that a human being, in the current life, may be reborn as another kind of animal in the next life. Likewise, an animal in the current life could be reborn as a human in the next life. Therefore, the natural world and “I” are not separate but interconnected. Nature is not an object to dominate but part of me.

The difference in the way of viewing nature between the East and the West is often reflected in works of art. While Eastern artists painted landscapes frequently expressing communion with nature well, Western artists mostly expressed interest in the human body in their works. This point was mentioned by Ng as follows:

In the West, the human form is the point of central interest throughout most of its history, from the sculpture of the ancient Greeks to medieval and Renaissance paintings of the Holy Family and classical figures, to the Dutch interiors and portraiture of the 17th and 18th centuries in the French and English schools. Landscape as a major theme emerged comparatively late, in association with the romantic movement. In China, it is otherwise. Although Man is the main focus of Confucian philosophy, Chinese artists from the eighth century or earlier found their inspiration in Nature as a whole. Landscape painting... enables the artist... to feel a sense of communion with Nature, and to know himself as part of an orderly cosmos (Ng, 2001, p. 52).

The traditional Eastern view of nature, however, has lost its influence significantly as Western philosophies and knowledge paradigms prevail in today’s world. Since the 19th century of imperialism, things Western have dominated the world from ways of production and consumption to thinking and esthetic preference. At the same time, Eastern philosophies, thoughts and aesthetics are being regarded as something obsolete and feeble by many people even today.

As the moon waxes and wanes, there is a sign of change. There is no time left to resist such a change as a crisis of earth’s ecosystem is also a

crisis of mankind's survival. Departing from a viewpoint of seeing nature as an object to conquer, we should accept nature as an ecological partner necessary with which the crisis must be mutually survived. A transition from a development-centered paradigm to an ecology-centered paradigm is urgent. An East Asian perspective, especially, Confucius' perspective of education and learning offers a good framework from which to reconsider development-centered, industrial age-based education.

Confucius' Perspective of Education and Learning

For Confucius, human life should be about attaining harmony and education and learning should be oriented towards that harmony. Confucius' concept of '*ren*' (love, benevolence, humanity) is a key concept to understand what it means to attain harmony in life and why education and learning are so directed. For Confucius, learning is a journey to attain harmony with the world and education should be oriented to help learners to take forward this journey. Confucius' concepts of '*li*' (ritual, propriety) and '*yi*' (appropriateness, rightness) are central to elucidate the nature of this journey which entails an integrative and aesthetic educational approach. In the following, based on the three concepts of *ren*, *li*, and *yi*, Confucius' perspective of education and learning will be illuminated, especially his orientation and approach to education and learning.

We begin with the concept of '*ren*'. The character of *ren* is a combination of person and the number two, so the notion of relationality is at the heart of the concept of *ren*. When asked to explain *ren*, Confucius answered "to love people" (*Analecets*, 1:2). Becoming a person of *ren* begins with the "will to benevolence" and requires consistent efforts to learn within the context of a community of relationships (Cheng, 2000, p. 35). Becoming a person of *ren* is, in a sense, a transformative, relational learning effort to become more human.

There are two aspects of *ren*: the internal and external. To examine oneself is internal transformative, relational learning and to love others including nature is external transformative, relational learning. With these *ren*-motivated transformative, relational learning efforts, mutual

respect and mutual benevolence is practiced, which leads to the creation of a social, moral, and ecological harmony. *Ren*-oriented learning emphasizes learning to flourish together with other beings in the community and the world.

Ren-oriented learning requires moving away from separated, individualistic, having-oriented living and towards learning for a relational, integrative, harmony-oriented living. A person can either realize harmony with life or merely struggle to win over others depending upon where one's mind is oriented and how serious and sincere one's will to learn for harmony with life. For Confucius, a good society encourages mutual flourishing, coexistence, and co-sustainability and is based on harmonious relations, through which a good life is fostered.

Confucius' concepts of *li* (ritual, property) and *yi* (appropriateness, rightness) are principal to elucidate the nature of the journey to attain harmony with the world, which entails the integrative and aesthetic approach to education and learning. When asked how to practice and develop *ren*, Confucius said it is "to subdue oneself and return to *li* (ritual)" (*Analects*, 12:1, Hsu, 2000, p. 331). Confucius' notion of "to subdue oneself" cannot be merely understood as the suppression of immediate pleasures but rather should be viewed as a conscious and consistent set of self-cultivation efforts.

Ritual (*li*), composed of deity and ritual vessel, originally, was understood to be the "rules of proper conduct in religious ceremonies" (Hsu, 2000, p. 336). Confucius extended ritual to include both good manners and an ideal social order. Later, the meaning of ritual was expanded to encompass "all established ethical, social, political norms of behavior, including both formal rules and less serious patterns of everyday behavior" (Li, 2007, p. 318).

What was Confucius saying when he said that "to return to *li*" is to practice *ren*? Does this imply that the way to practice *ren* is simply to follow or to conform to *li*? "To return to *li*" embraces self-initiated, voluntary, autonomous action because one makes a conscious choice whether to return to *li*. Moreover, being capable of performing a "return to *li*" requires self-reflective learning because superficial and incomplete returning leaves one in an uncomfortable position. A morally empowered, free person within a community context is required for a

successful “return to *li*.”

Li (ritual) can be understood as cultural grammar and *ren* (benevolence, love) as the mastery of a culture (Li, 2007). This implies that “community cultivates its members through *li* toward the goal of *ren*, and persons of *ren* manifest their human excellence through the practice of *li*” (Li, 2007, p. 311). This does not necessarily mean, however, that *li* leads to *ren* and that person of *ren* always follow the rules of *li*. Likewise, a person of *ren* may not always follow the *li*, because a person of *ren* would not be a blind follower of *li*. A person of *ren*, under some circumstances, may suspend or revise *li* (*Analects*, 9:3). To become a person of *ren*, a master of culture, a person needs to have deep understanding of culture and to be able to manifest the best way of living in that culture. A master of a culture is not only intellectually competent to ‘know that’ and ‘know how’ but also creative, exemplary, and influential in complying with *li* in that culture.

The two concepts, *ren* and *li*, are dynamically related. The concept of *yi* (appropriateness, rightness) plays a crucial role in this dynamic relation. *Yi* is the integrative, aesthetic dimension of *li* (ritual) learning. Confucius said “*junzi* (a person of *ren*, an exemplary person) is neither bent for nor against anything; rather, he goes with what is appropriate (*yi*)” (*Analects*, 4:10; Chan, 1970, p. 26). For Confucius, a person of *ren* acts on one’s sense of what is appropriate (*yi*). To do so extends the human way. Under some circumstances, *yi* may require us to depart, to suspend or to revise *li* in order to be true to *ren*. Confucius promotes the aesthetic cultivation of *li* rather than its rigid obedience. Such rigid obedience would deny *yi*’s personal, creative, reflective, and contextual appropriation. Absent of *yi*, *li* (ritual) education and learning degrades to rigid formalism and strict moralism.

Appropriateness or *yi*, for Confucius, cannot be derived from a universal moral calculus but, rather, derives from a careful process of personal discovery with consideration of other beings in the community and the world. *Yi*, which emphasize personal appropriation and discovery, can be seen as the moral expression of synthetic reason, and its creative aspects further augment the aesthetic dimension of ritual(*li*) learning. Persons who cultivate and realize a *ren*-oriented relational self are virtuoso performers who use their *yi* to create their own unique appropriation of their community’s social and ecological patterns. *Yi*

strengthens the integrative, aesthetic dimension of moral and ecological self-cultivation because it results in the “embodiment of the good *li* and the personal creation of an elegant, harmonious, and balanced soul” (Gier, 2001, p. 292).

What is crucial in ritual(*li*) learning for ren-living is to awaken the integrative, aesthetic sensibility. This sensibility entails the process of inspirational stimulation directed toward emulation and culmination rather than a process of cognition-oriented learning.

One’s intrinsic relatedness through ren, when adequately cultivated and resonated, puts a person in definitive communication with others—something an isolated self can never do (Tan, 1999, p. 117). Confucius queried “Is ren so far away? If I want it, it arrives here instantly” (*Analects*, 7:29; Kim, 2006, p. 112). The reason why ren seems so far away is because one’s sensibility is not attuned to its beauty. If one’s sensibility is in sync with the beauty of ren, he or she would naturally want it. A person who can see and sense the beauty of ren can also seek and enjoys it (Kim, 2006, pp. 112-113).

Confucius said, “To know it (learning or the Way) is not as good as to love it, and to love it is not as good as to delight in it” (*Analects*, 6:18; Chan, 1970, p. 30). Confucius makes an important distinction between being able to know, being able to like or love, and being able to enjoy, the way. Knowing is related to objects for knowing; liking or loving is related to the relationship between knower and the known; enjoying is related to the unity of the knower and the known. For Confucius, the highest level of understanding or learning is the attainment of integration of self, the knower and the world, the known. This is the reason why Confucius regards the person of humanity (*ren*) higher than the person of knowledge (*chih*) by saying that “The man of humanity is naturally at ease with humanity. The man of knowledge cultivates humanity for its advantage” (*Analects*, 4:2; Chan, p. 25). The natural ease of the ren person is rooted in her being able to attain a harmony of self and the world. On the other hand, the person of *chih* (knowledge) is the person who knows what needs to be known but has not yet arrived at a harmony between the self and the known. What is implied is that cognitive learning and knowing is limited for a person to fulfill ren living and to attain harmony with life.

Educational and learning orientation is embedded in people’s perspec-

tive of what life is or should be about. And people's perspective about life and learning are deep-seated on socio-cultural, political, historical contexts. For Confucius, most big and small problems and issues in life and the world have much to do with people's incapability to live together in mutually flourishing, and co-sustainable ways. This issue of co-sustainability in life, for Confucius, is a matter of relations with the world including nature. Therefore, settling this issue of co-sustainability, which becomes a global issue with environmental challenges, incorporates cultivating the capability to make harmonious relations with the world.

Confucius' view of transformative, relational learning to attain harmony with life requires the learning efforts to "return to li". An appropriate "return to *li*" entails an integrative and aesthetic approach, in which the concept of *yi* plays a crucial role. Learning to "return to li" includes transforming unfair, incongruous, and disharmonious relations with nature, other beings, and the world into harmonious relations. This transformative, relational learning encompasses holistic, aesthetic, and integrative nature which transcends individualistic, and cognitive approaches to learn.

Education for Sustainable Society

An ecology-centered paradigm pursuing a harmonious relationship between mankind and the natural world and all of its living beings is a solution that enables man and nature to survive together. The realization of a way of living and social institutions that promote the co-prosperity of man and nature will require significant changes. Accordingly, the will to achieve the goal should be equally strong.

The starting point for such changes is education. The first change needed is in the mind-set and our behavior. Therefore, we need to change the direction of education first. Efforts should be made to break away from the education of the industrial era. The paradigm of education should be shifted from nature-exploitative education to new one, namely 'nature-friendly education'. Most countries have used school education as a tool for economic growth, and consequently school education was mobilized in conquering and exploiting nature. Now the direction of school education should be reset toward nature-

friendly education. In this attempt to shifting paradigm in education, Confucius' *ren*-motivated education and learning proffers a satisfactory perspective.

Nature-friendly education should be promoted in a close linkage between school education and adult education. Adult education should be a primary focus. While the effect of school education becomes apparent only after a long period of incubation, the effect of adult has immediate impact. Moreover, adult learners could form groups to exert a strong influence on each segment of society as well as the government. To build a society that promotes the co-prosperity of man and nature, the participation of diverse civic groups is absolutely necessary.

School and adult education as well as a wide range of other learning activities should offer the contents listed below to the target learners properly in accordance with the students' level of interest and proficiency. Here, nature as a subject for teaching/learning should be understood as including forests, fields, mountains, wetlands, deserts, lakes, rivers, and oceans as well as the plants, animals, water, soil and air that exist in them. Also required are new curricula for schools and adult education programs, and teaching/learning materials.

- 1) Contact with nature: Inspire interest in nature through interaction with nature felt with the five senses including vision and hearing.
- 2) Understanding nature: Help to understand nature's way of survival and the inter-dependency of all living beings, especially human beings, and the natural environment.
- 3) Experiencing life in nature: Provide opportunities to experience living in the natural environment with minimum civilized tools either in a group or individually.
- 4) Integrated self: Enlighten students on the fact that a human being, an element of the complicated global ecosystem, is also a part of the entire network of lives.

Development of capability for sustainable living with nature and other beings encompasses aesthetic and integrative learning which involves

stimulating sensibility of relatedness with nature and attunement of the beauty in being together. It is urgent to nurture and re-educate teachers and adult educators who can provide nature-friendly education. At the same time, diverse facilities and tools should be prepared that enable students to contact and experience nature.

The policy direction a government chooses for education is very important, as the government's influence on decision making and budget allocation is significant. Therefore, the only way to make a policy desirable by citizens is to reinforce the civil society's power over the government. It is important to exert such power through elections. Putting consistent pressure on the government through civic groups can be also effective. For a new paradigm such as nature-friendly education to be achieved, it is essential that the citizens practice their collective influence to that effect. International organizations could have influence on a government's policymaking to a certain extent by raising points for the reform of education and winning public support. Cities are obliged to prepare diverse learning opportunities for the citizens for their empowerment to switch from nature-exploitative education to nature-friendly education. Doing so would open a road toward an era of reconciliation and co-prosperity of man and nature, through which sustainable society can be constructed.

Notes

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