A Study on the Direction of University Education to Achieve Sustainable Development Goals

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Abstract

UNESCO has been promoting Education for Sustainable Development (ESD) since 1992. UNESCO led the UN Decade for ESD from 2005 to 2014, and is currently leading the follow-up Global Action Programme (GAP). Global issues such as climate change urgently require changes in our lifestyle or the way we think and act. In order to achieve these changes, new skills, branches, and attitudes are needed to lead to a more sustainable society. The education system should respond to these urgent needs by defining ESD-related learning goals and learning content, introducing teaching methods that strengthen learners' capabilities, and urging educational institutions to include the principle of sustainability in their management structure. The new 2030 Sustainable Development Agenda (2030 Agenda for Sustainable Development) clearly reflects the vision of appropriate educational response. Education is clearly established as an independent goal of Sustainable Development Goals (SDGs), and numerous detailed goals and indicators related to education are also included in other Sustainable Development Goals (SDGs). Education is both a goal in itself and a means of achieving all other SDGs. Education is not only an essential part of sustainable development but also a key factor in enabling sustainable development. For this reason, education becomes an important strategy in pursuing sustainable development. Therefore, this study aims to provide guidelines and proposals for selecting and adjusting the direction of university education according to the situation to achieve the goal of sustainable development.

Keywords: SDGs, ESD, Sustainable Development Goals, Education for Sustainable Development, University Education

INTRODUCTION

Going on the path of sustainable development will require tremendous changes in the way we think and act, and we need knowledge, skills, values, and attitudes that can contribute to sustainable development. Therefore, education is very important to achieve sustainable development. However, not all forms of education support sustainable development. Education that only promotes economic growth can lead to an increase in unsustainable consumption patterns. The current approach to Education for Sustainable Development (ESD) strengthens learners' ability to make the right decisions and responsible actions to achieve an environmentally sound, economically viable, and just society for the present and future generations.

The goal of ESD is to develop the ability of individuals to reflect on their behavior in consideration of the social, cultural, economic, and environmental impacts of the present and future from a regional and global perspective. In addition, individuals should act in a sustainable way in complex situations and participate in political and social processes to strengthen their capabilities so that society can move toward sustainable development.

ESD should be understood as an essential part of quality education inherent in the concept of lifelong learning. From kindergarten to higher education, informal education, and informal education, all educational institutions should think that it is their responsibility to intensively deal with the problems of sustainable development and develop sustainability capabilities. ESD provides education that is important and actually relevant to all learners considering today's challenges.

ESD is a holistic and transformational education that encompasses learning content, learning outcomes, teaching methods, and learning environment. Therefore, ESD not only integrates content such as climate change, poverty, and sustainable consumption into the curriculum, but also creates a teaching and learning environment that is interactive and learner-centered. What ESD needs is a transition from teaching to learning. In addition, ESD requires action-oriented transformational pedagogy that supports self-directed learning, participation and cooperation, problem orientation, interdisciplinary approaches, and linkage between formal learning and informal learning. Only this pedagogical approach enables the development of the core competencies necessary to promote sustainable development.

ESD is making every effort to achieve SDGs with the overall goal of developing learners' cross-disciplinary sustainability capabilities. Accordingly, ESD contributes to sustainable development by promoting social, economic, and political changes as well as changing individuals' behavior. ESD can promote the achievement of SDGs by generating cognitive, socio-emotional, and behavioral learning outcomes for individuals to solve specific challenges of each SDGs. In summary, ESD allows all individuals to understand what SDGs are and to participate as citizens with information to contribute to the achievement of SDGs by having the necessary knowledge and capabilities to make changes.

Universities play an important role in practicing ESD. It is well known that universities as well as ESD have an important influence on SDGs' execution [1]. This is because universities, which are the center of education, research, innovation, and community leadership, can solve social problems. Naturally, all SDGs will be difficult to realize without the help of universities.

UNDERSTANDING ESD AND SDGs

The role of education in achieving sustainable development has been emphasized through various international conferences since the Stockholm UN Conference on the Human Environment (UNCHE) recognized the importance of education to solve environmental problems in 1972. This is because changes in mindset and practice need to appear worldwide in order to achieve sustainable development. In 1992, the United Nations Conference on Environmental Development (UNCED) in Rio, Brazil presented the concept of Environmentally Sound and Sustainable Development (ESSD) as a way to solve the problems facing the Earth, and adopted Agenda21 to implement it. Agenda21 emphasized the need to promote education, public awareness, and training to achieve sustainable development. Since then, 10 years (2005-2014) have been designated for ESD, and efforts and practices have been made worldwide.

ESD was defined as a society-oriented education in which everyone could benefit from high-quality education and learn the values, actions, and ways of life necessary for sustainable future and social transformation [2]. And ESD pursues re-recognition of the relationship between humans and the environment, economy, and social structure and re-creation of a culture of sustainable development by aiming for value as a study of living wisdom, not dead knowledge far from our daily lives. ESD is also based on principles and ideologies of sustainability such as intergenerational equity, gender equality, social tolerance, poverty eradication, environmental conservation, environmental restoration, natural resource conservation, and a fair and peaceful society. As such, ESD deals with all areas of life in an integrated manner and emphasizes the sustainable development of the present and future society. For example, the goal of elementary school ESD is not only to understand the concept through knowledge of sustainable development, but also to encourage students' thinking and attitude changes in sustainable directions across homes, schools, and society [2].

In September 2015, the UN General Assembly adopted the 2030 Sustainable Development Agenda, and 17 SDGs are at the center of the agenda. This is an international promise made by the world's UN member states through consensus. In order for ESD to be effective, it must be based on SDGs. This is a goal that the world should pursue together for 15 years from 2016 to 2030, consisting of 17 goals and 169 detailed goals. The aim of the 17 SDGs is to ensure a sustainable, peaceful, and equal life on Earth for everyone today and in the future, and these goals include important global tasks for human survival (UNESCO). And these goals are new goals that follow Millennium Development Goals (MDGs), setting environmental limitations, including global challenges important for human survival, and setting important thresholds for the use of natural resources.

SDGs' 17 detailed goals are no poverty, zero hunger, good health and well-being, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industry·innovation and infrastructure, reduced inequalities, sustainable cities and communities, responsible production and consumption, climate action, life below water, life on land, peace·justice and strong institutions, partnerships for the goals.

Based on these detailed goals of SDGs, a systematic educational program that can be realized by each school should be provided in connection with the development and curriculum of instructional models including SDGs for smooth ESDs in the school field. ESD programs to effectively achieve SDGs are widely distributed in school sites, providing a foundation for students to actively practice various methods for sustainable development in their daily lives.

ESD aims to develop capabilities so that individuals can reflect on their actions in consideration of current and future social, cultural, economic, and environmental impacts from a regional and global perspective. In addition, individuals aim to strengthen their capabilities to act in a sustainable manner and participate in political and social processes so that society can move toward sustainable development. Competency refers to specific attributes required for an individual to act and self-structure in various and complex contexts or situations, and includes cognitive, emotional, willful, and motivational elements, so competency is the interaction of knowledge, skills, motivation and emotional disposition. These competencies are not something that learners can learn, but must develop on their own, and are acquired in action through experience and reflection [3]. Therefore, when setting learning goals to achieve SDGs, related core competencies should be considered together.

EDUCATION FOR ESD AND SDGs AT UNIVERSITY

Quality education, the 4th goal of SDGs, targets first, 'for all'. This is the result of inheriting the spirit of Education for All before SDGs 4 and reflecting the goal of 'making sure no one is alienated' that is consistently emphasized in all areas of SDGs. Second, it pursues 'inclusive and fair' education. Third, the provision of 'quality' education is aimed at improving the quality of education as well as quantitative expansion of educational opportunities that were focused on MDG in the past. Fourth, SDGs 4 included 'promoting lifelong learning opportunities' in its vision, unlike MDG 2, which focused on 'achievement of universal primary education' in the past. SDGs 4 emphasizes securing an appropriate level of financial resources to achieve this, maintaining policy consistency, and cooperation to establish partnerships with various stakeholders. Unlike in the past, when the scope of opportunity security was limited to elementary education, SDG 4 expanded from early childhood education to higher education, vocational education, and lifelong learning. In addition, discussions on the quality of education, not just quantitative development, were included, and the content and achievements of education were emphasized.

In universities, ESD and SDGs education are consistent with the purpose of liberal arts education and innovation tasks of universities. College liberal arts education is the noble higher spirit of mankind seeking a better life and a better future. For the reason for the existence of universities and the future of higher education, liberal arts education must be constantly innovated [4], and universities play a special role in practicing the ideals of sustainable development education planned by Agenda 21. A special role is given to universities because a change of value and consciousness is required to carry out the principles of sustainable development, and universities train future decision makers and teachers.

SDGs are effective in four aspects: university education, research, spread of governance culture and ethics within the university, innovation in operation, and social contribution. SDGs can provide solutions for university and social innovation through interdisciplinary and interdisciplinary research. In addition, it is possible to maintain its unique status as a research institute by securing policy suggestions and implementation power at the international, national, and regional levels. Along with this, research capabilities can be built through multi-sectoral cooperation such as companies, local governments, universities, research institutes, and civil society organizations. In addition, education for sustainable development will help diversify university liberal arts and major education, realize the purpose of university liberal arts education, cultivate responsible and competent talents, practice SDGs led by dynamic students, and strengthen university capabilities. Above all, it is possible to innovate chronic old and bureaucratic university management and seek governance and operation linked to SDGs. And innovation activities of all universities can be evaluated by integrating them into university reports. Finally, it is possible to enhance its status as an important institution in solving social problems through multi-sector participation, dialogue, and behavior for social contribution.

CHANGES AND CASES OF UNIVERSITIES FOR ESD

Even if the existing system is maintained for ESD, universities have to change the way they operate quite a bit. This is because SDGs demand radical changes from each country, and each activity must be designed in detail to implement SDGs. In addition, the method of gradually changing the way the existing system operates is not enough to deal with urgent and complex SDGs challenges and bring about actual changes. Therefore, Waddell [5] said that there is a need for a system change that goes beyond simple gradualism. These changes in the system should also be applied to the operation of universities.

Universities and high educational institutions play an important role in creating new solutions through collaboration with several stakeholders. They can create mental and social operating systems by providing new platforms and capabilities [6], but for this role, institutions must embrace changes in size and depth.

Universities are old institutions that provide quality education, have complex systems for research, and are independent of political and social changes. These characteristics

can make it difficult for universities to follow radical changes. However, SDGs provide a new framework for this change. The following are changes and examples of four universities for ESD.

First, Universalad Politécnica de Madrid (UPM) recognized the need for structural changes to perform SDGs and realized that these changes were not taking place. The main reason for this is that there are obstacles that interfere with two-way communication within universities. The top-down plan, the government-approved university strategy, was not working properly due to the lack of low participation of faculty and students in unrealistic strategies, faculty members who did not want burdensome changes, and structures to evaluate the process and appropriateness. These obstacles make it difficult to make changes in universities. On the other hand, bottom-up plans designed by students and faculty are difficult to realize because various ideas are not connected to each other, there is no systematic approach, or because they do not receive sufficient political support from above. There must be an intermediate structure that connects the resulting top-down plan with the bottom-up plan. In this context, itdUPM [7] emerged the second operating system devised by Kotter [8][9] with the intention of solving the complex problems of sustainable development and developing practical solutions to supplement the organizational system. Since 2014, itUPM has become the center of innovative and educational projects through several projects. The second operating system was not traditional, but operated according to an open, horizontal, and organizational structure. As a result, it has developed into a space that integrates various research and education programs. It also tried to realize ideas and plans that had been previously isolated.

Second, Monash Sustainable Development Agency (MSDI) is an institution that studies and educates sustainable solutions to international problems and SDGs, and encourages learners to participate. MSDI is Monash University's second operating system and has carried out several innovative plans, including training for SDGs. In 2006, Monash University established MSDI. MSDI works with several undergraduate stakeholders to make plans to innovatively deal with the complex challenges presented by SDGs. Education for SDGs is central to MSDI. MSDI is conducting additional programs different from sustainable development education programs. As an undergraduate institution, MSDI has a unique location, structure, network, and capability. Based on this, MSDI provides a unique liver academic education program at Monash University to help participants bring about changes for sustainable development and develop practical skills, knowledge, and mindset.

Third, environmental sustainability is deeply rooted in Sunway University's DNA. Sunway University is part of an academic complex located on the edge of a place that was once a barren land of mined wasteland. Sunway University's Sustainable Plan reflects the 2015 UN's Sustainable Goals. Individual departments felt that they had to modify the way they used resources on their own, thereby preventing environmental degradation. In 2016, when SDGs were officially included in Sunway Group's mission, Sunway University introduced a second operating system. The Sunway Smart Campus Committee (SSCC) was established in 2017 and was created to devise, innovate, and recommend policies and plans on campus. Sunway University recognizes that

education is essential for a sustainable future. Therefore, Sunway University has become Malaysia's best university focusing on education and sustainable development.

Fourth, Pretoria University is a research-intensive university that is an important part of society and focuses on developing people and generating knowledge to meet the needs of the present and future society. Recognizing the importance and complexity of SDGs achievement, the University of Pretoria has been actively participating in SDGs since setting goals for SDGs in 2015. The University of Pretoria integrated SDGs with the main functions of the university and conducted activities that could have a greater impact on SDGs-related activities beyond universities.

CONCLUSIONS

In 2015, universities began their activities with interest in SDGs. We have found and implemented ways to contribute to SDGs 2 across all academic and service functions, and further strive to develop new skills and resources to promote behavior. As a result, various publications, conferences, cooperative activities, reporting and funding plans related to SDGs were prepared. And many universities saw SDGs as an opportunity for researchers, professors, and students to start new activities based on SDGs, and are introducing SDGs to the university's strategic goals. This interest, innovation and experimentation are very important changes, but more effort is still needed to achieve SDGs. In particular, the part that needs further development is education for those who want to practice SDGs.

Universities are believed to have an important task of supporting education for SDGs by providing professional and personal skills and capabilities to members of society. What students learn in college directly affects the role of future citizens, experts, consumers, and businessmen. Therefore, universities should teach students the knowledge, skills, attitudes, and values necessary to grow into responsible experts and citizens.

Education for SDGs can be conducted in various ways within universities. There are several elements in education for SDGs, which can be provided to potential learners through various channels. There is no right way to realize ESD within universities, and each institution must find a way that suits them.

In terms of liberal arts education at Korean universities, the most basic practice of the spread of ESD and SDGs education is to open and gradually expand subjects related to sustainable development education. In addition, it is possible to consider how to open and operate a major in sustainable development education by organizing sustainable development education as a module in master's courses in liberal arts, education colleges, and graduate schools. In other words, Korea's special situation, conditions, and degree of cultural competency should be considered, but the premise is to establish ESD and SDGs promotion plans and strategies along with securing responsible performers within the university.

In order to solidify a sustainable future, a remedy for quality education and lifelong educational approach is needed at the local level. Meanwhile, promotion and

implementation plans for university and regional-level learning should be established to spread SDGs discourse at the international level. Although the top priority responsibility for achieving the goal of sustainable development lies at the national level, its implementation is not entirely under the jurisdiction of the central government and the Ministry of Education. Education implemented within universities is important to promote sustainable development. Excellent educational examples presented through the United Nations and UNESCO show that they are located in various contexts and stages of development of activities carried out in the field.

Universities should comprehensively check the design of ESD and SDGs curriculum and the establishment of governance for the implementation of university SDGs, detailed curriculum, human capacity formation, and partnerships with facilities. It is also necessary to actively seek missions and objectives of the education system that effectively conform to ESD and SDGs, complete ESD and SDGs education programs for senior education leaders, establish educational plans for schools to respond appropriately to sustainability, and prioritize ESD and SDGs education budgets.

REFERENCES

[1] SDSN Australia/Pacific. (2017). Getting started with the SDGs in universities: A guide for universities, higher education institutions and the academic sector. Australia, New Zealand and Pacific Edition, Sustainable Development Solutions Network–Australia/Pacific, Melbourne.

[2] UNESCO Korean Committee. (2008). 10-year international implementation plan for sustainable development education. Education for a sustainable future. Toward the 10th year of UN Sustainable Development Education. UNESCO Korean Committee, 16-45.

[3] UNESCO Korean Committee. (2019). Education-Learning Goals to Achieve Sustainable Development Goals. UNESCO Korean Committee, 6-35.

[4] World Watch Research Institute. (2018). Dreaming of Sustainable Education: The Future of Education for the Blue Star Earth, Environmental Foundation.

[5] Waddell, S. (2019). Achieving transformational change. Integration and Implementation Insights.

[6] Scharmer, O. (2018). Education is the kindling of a flame: How to reinvent the 21st century university. Huffington post.

[7] itdUPM. (2020). Innovative collaboration model: The experience of itdUPM. http:www.itd.upm.es/a-collaboration-model-for-the-innovation-in-sustainable development.

[8] Kotter, J. P. (1996). Leading Change. Boston: Harvard Business School Press.

[9] Kotter, J. P. (2012). Accelerate. Harvard Business Review, 90(11). 45-58.