United Nations Educational, Scientific and Cultural Organization

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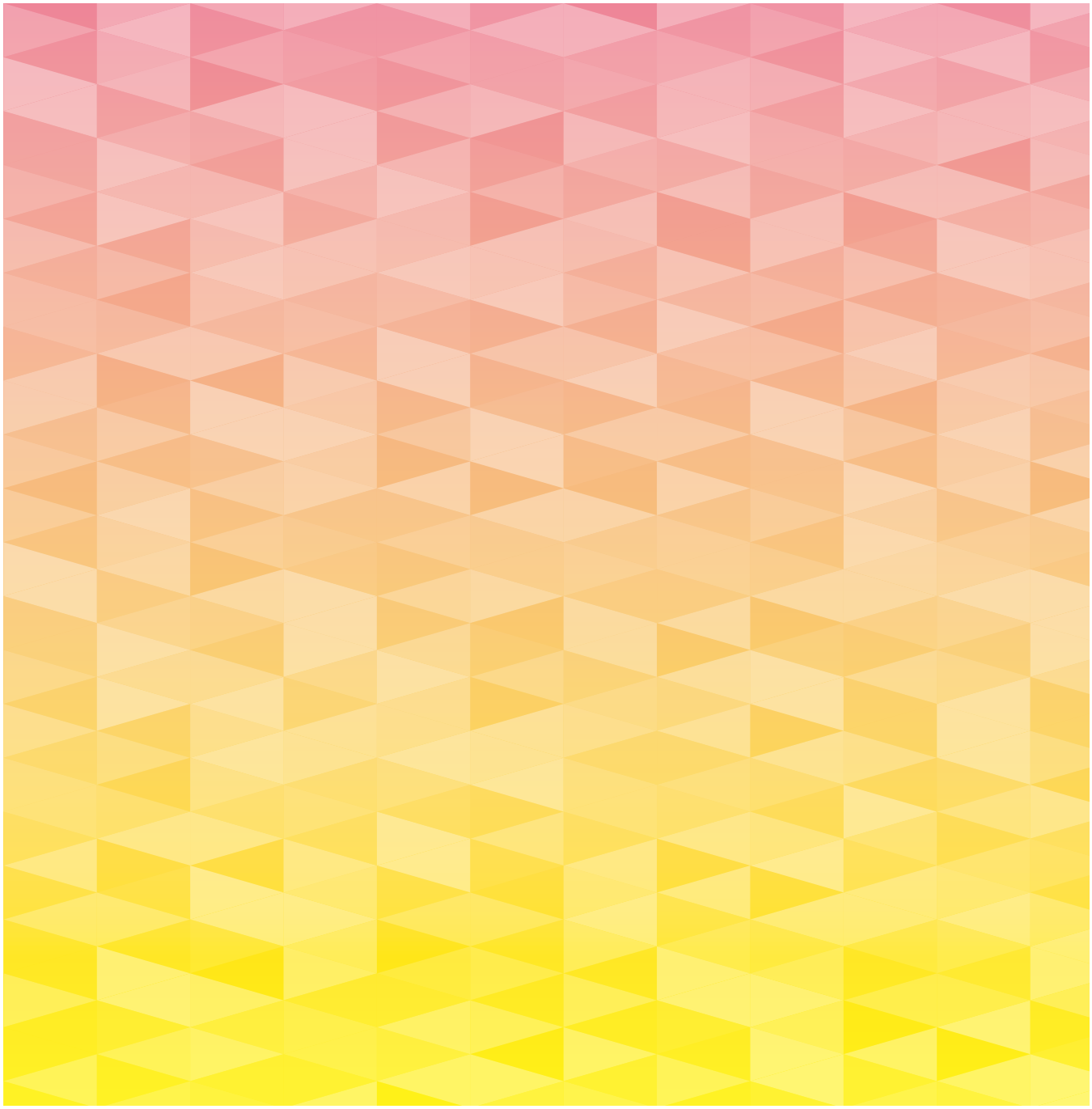
OKAYAMA UNIVERSITY



Guide for the Effective Dissemination of the Asia-Pacific ESD Teacher Competency Framework

The Second Report of the Project "Teacher Education for ESD in the Asia-Pacific Region"

Outputs of the Second Asia-Pacific Regional Meeting on Teacher Education for ESD: Towards Achieving the Sustainable Development Goals through Education

17-19 September 2019, Bangkok, Thailand

Organized by Okayama University, in cooperation with ACCU (Asia-Pacific Cultural Centre for UNESCO) and INTEI (UNESCO Chair at York University), with the financial support of the Japanese National Commission for UNESCO and UNESCO Bangkok and technical support of UNESCO Bangkok

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Education 2030

Preface

The second report of the project "Teacher Education for ESD in the Asia-Pacific Region" presents the final version of "Asia-Pacific ESD Teacher Competency Framework" and "Guide for the Effective Dissemination of the Asia-Pacific ESD Teacher Competency Framework" . The framework sets forth the required competencies for teachers engaging in ESD in the Asia-Pacific region and directs ESD teacher education programmes that teacher education institutions develop, implement and evaluate. Furthermore, the guide presents nine recommendations for disseminating this framework from the institutional, national and international levels, as well as good practices in line with the recommendations. This framework shows the ideals of teachers engaged in ESD, and the guide describes concrete steps to make those ideals a reality in various scenes of teacher education for ESD.

During 2018 to 2019, the project participants from the senior management level of teacher education institutions and Ministry of Education officials in charge of teacher education in 16 countries in the Asia-Pacific region participated in two regional meetings on ESD teacher education in Okayama, Japan and Bangkok, Thailand and a preparatory meeting in Bandung, Indonesia. Following discussions at these meetings, we completed the Asia-Pacific ESD Teacher Competency Framework and compiled nine recommendations for disseminating it. These achievements were announced at the "2019 Global Conference on Teacher Education for ESD" held in Okayama, Japan in November 2019, and greatly contributed to the discussion on new directions for ESD teacher education at the conference with 250 participants from 40 countries.

Scaling up ESD action through the implementation of "Education for Sustainable Development: Towards achieving the Sustainable Development Goals" (ESD for 2030) is a common task for all the educators engaged in ESD. We hope that the Asia-Pacific ESD Teacher Competency Framework and Guide for the Effective Dissemination of the Asia-Pacific ESD Teacher Competency Framework created in the Asia-Pacific regional context will usher in a new era of teacher education for sustainable development across the Asia-Pacific.

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Acknowledgement

We are deeply grateful for the significant contributions made by project participants from 16 countries in the Asia-Pacific region throughout the two years of working on the Asia-Pacific ESD Teacher Competency Framework and the Guide for the Effective Dissemination of the Asia-Pacific ESD Teacher Competency Framework included in this report. These countries include Bhutan, Cambodia, China, Indonesia, Fiji, Japan, Kazakhstan, Lao PDR, Malaysia, Mongolia, Myanmar, Nepal, New Zealand, Philippines, Republic of Korea and Thailand. We greatly appreciate the excellent technical support provided by Ushio Miura (UNESCO Bangkok), Kiichi Oyasu (ACCU), Charles Hopkins (UNESCO Chair at York University) and other resource persons. Our gratitude is also extended for the consistent project management and the directing for future development of the network provided by the faculty members of the UNESCO chair at Okayama University. Lastly, we would like to express sincere appreciation to the Japanese National Commission for UNESCO, UNESCO Bangkok and RCE Okayama for the funding they provided for conducting the fruitful meetings that finally led to this report.

Asia-Pacific ESD Teacher Competency Framework

The overview of the Asia-Pacific ESD Teacher Competency Framework is shown in Figure 1. Contents of each of the three domains—Capacity to Facilitate Learning, Capacity to Continue to Learn and Create and Capacity to Connect, Collaborate and Engage—are provided in the following subsections.

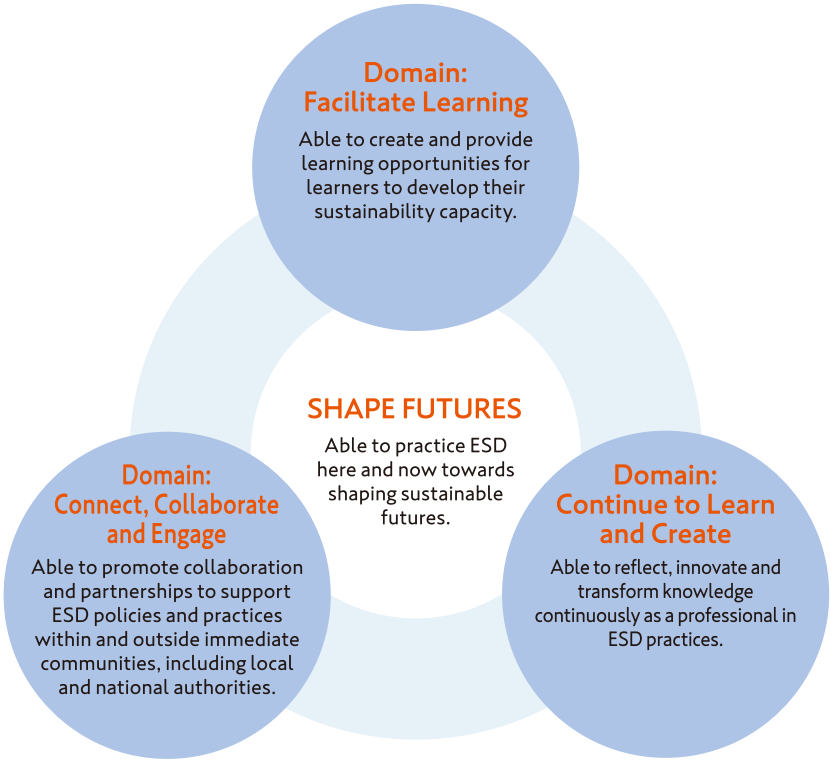
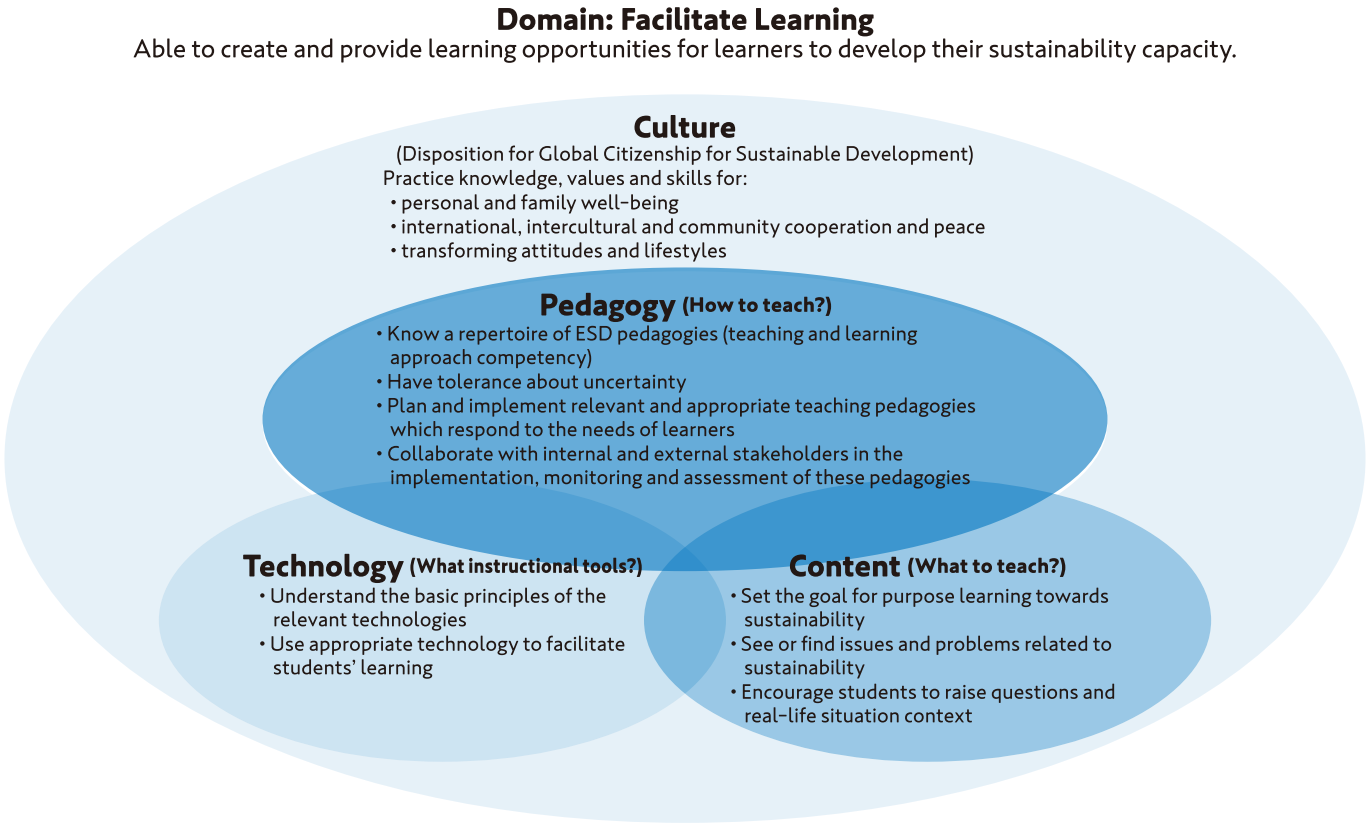


Figure 1. Overview of the Asia-Pacific ESD Teacher Competency Framework

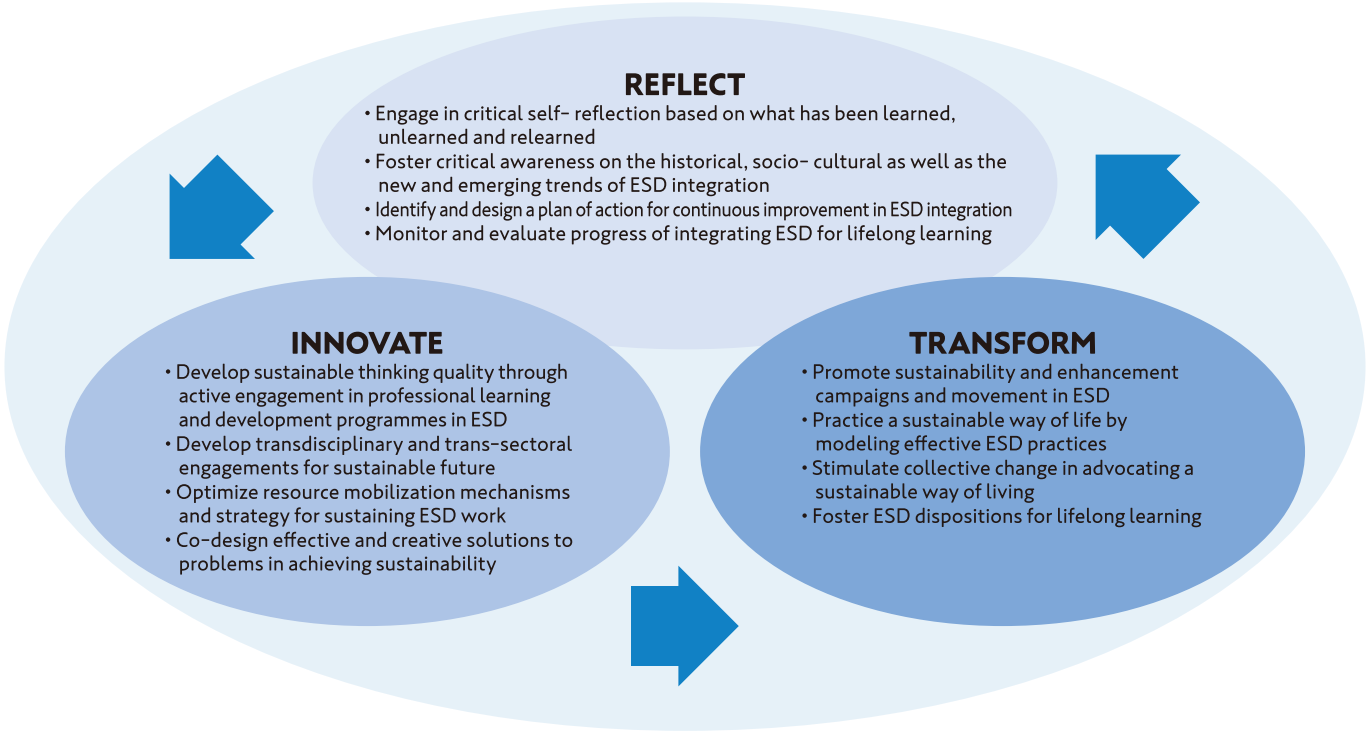
1. Domain: Facilitate Learning



2. Domain: Continue to Learn and Create

Domain: Continue to Learn and Create

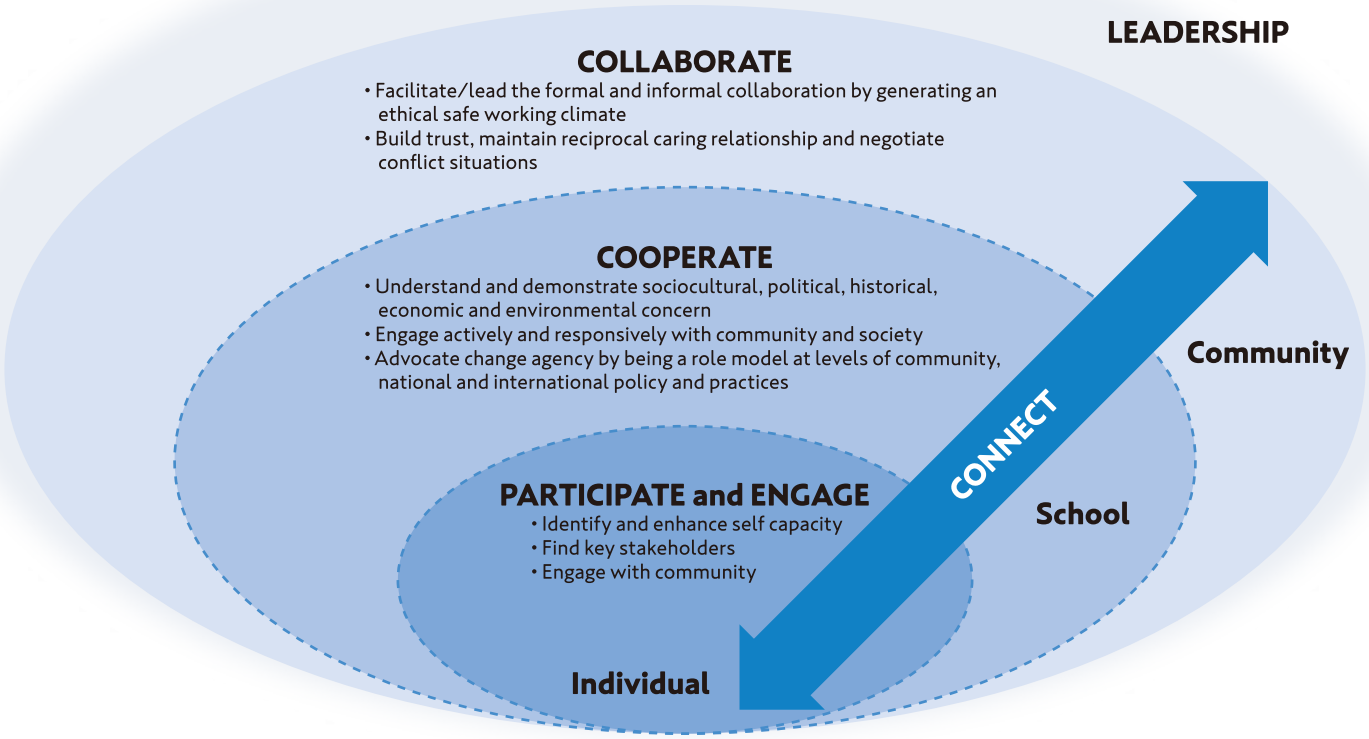
Able to reflect, innovate and transform knowledge continuously as a professional in ESD practices.



3. Domain: Connect, Collaborate and Engage

Domain: Connect, Collaborate and Engage

Able to promote collaboration and partnerships to support ESD policies and practices within and outside immediate communities, including local and national authorities.



4. Novelty of the Developed Framework

Various models have been proposed for the competencies required of ESD teachers. Sleurs' (2008) model is one of the key examples, as it is the result of a project of the United Nations Economic Commission for Europe (UNECE). Named "Dynamic model for ESD competencies in teacher education," it incorporates ESD into the curricula of teacher education institutions. Teachers are seen not only as instructors, but as persons in dynamic relationships with students, colleagues and the wider society. Teachers' competencies for ESD are described at the intersection of: (a) three professional dimensions: teachers as individuals, teachers in the educational institution and teachers in the society; (b) three overall competencies: teaching, reflecting/visioning and networking. The ESD competencies that shape the learning process for sustainable development are knowledge, system thinking, emotions, values/ethics and action. The "KOM-BiNE" (Competences for ESD in Teacher Education) model proposed by Rauch, Streissler and Steiner (2008) consists of three behavioral areas for teachers: instructional setting, institutional setting and society at large. This is similar to the professional dimensions of the Sleur's (2008) model. The competency elements for ESD are, in order from the center of the circle: 1) knowing & acting and valuing & feeling, 2) communicating and reflecting and 3) visioning, planning & organizing and networking. Subsequently, Bertschy, Künzli and Lehmann (2013) proposed the ESD-specific professional action competency in kindergarten and primary school, referring to UNECE's (2012) and Sleur's (2008) ESD competency models. Bertschy's model focuses on the knowledge found in complex and multifaceted topics of ESD, and on the ability to turn them into teaching/learning materials, as well as to constructively cope with conflicts associated with such topics. In addition, Bertschy's model highlights ethical judgment as an educational goal and as a central part of the co-creation competency that students should develop.

Another influential teacher competency model for ESD was derived from UNESCO Bangkok's project "Integrating Education for Sustainable Development (ESD) in Teacher Education in South-East Asia" (UNESCO, 2018). The model adopts a review tool focused on the extent to which ESD is integrated into teacher education (UNESCO, 2010). Seven teachers' competencies to be evaluated in ESD practice are shown Table 1: ESD concept, ESD content, ESD methods, ESD curriculum mainstreaming, ESD policies, ESD and communities and ESD institutional mainstreaming. In addition, UNESCO (2017) described learning objectives that teachers as practitioners of Education for Sustainable Development Goals should promote (Table 2).

Table 1 ESD competencies proposed by South-East Asia ESD Teacher Educators' Network

1. ESD Concept Are teachers developing an understanding of the philosophy, objectives and characteristics of ESD? **2. ESD Content** Are teachers developing their knowledge to understand and explain these local and global issues that impact on achieving sustainable development? **3. ESD Methods** Are teachers developing the skills to use a variety of effective teaching and learning approaches to achieve the wide range of ESD objectives? **4. ESD Curriculum Mainstreaming** Are teachers developing an understanding of how to implement ESD as a cross-curricular theme and how ESD can enrich subject teaching?	**5. ESD Policies** Are teachers developing an appreciation of the relevance of ESD and an awareness of the current policies and initiatives aligning ESD to national development and education goals, specifically in terms of quality education? **6. ESD and Community** Are teachers developing appropriate strategies for identifying and engaging with communities and local issues in relation to global issues? **7. ESD Institutional Mainstreaming** Are teachers developing an awareness of the institutional structures and processes that are crucial for successfully integrating ESD?

Table 2 Learning objectives for teachers to promote ESD

- Know about sustainable development and the related topics and challenges;
- Understand the discourse on, and the practice of ESD in the local, national and global context;
- Develop an integrative view of the key issues and challenges taking into account social, ecological, economic and cultural dimensions from the perspective of the principles and values of sustainable development;
- Develop disciplinary, interdisciplinary and transdisciplinary perspectives on issues of global change and their local manifestations;
- Reflect on the challenges facing promotion of the concept of sustainable development and the importance of their field of expertise for facilitating sustainable development and their own role in this process;
- Reflect on the dynamics of formal, non-formal and informal learning for sustainable development, and apply this knowledge in their own professional work;
- Understand the ways in which cultural diversity, gender equality, social justice, environmental protection and personal development are integral elements of ESD and how they can be made a part of educational processes;
- Practice an action-oriented transformative pedagogy that engages learners in participative, systemic, creative and innovative thinking and acting processes in the context of local communities and learners' daily lives;
- Act as a change agent within a process of organizational learning to advance the school towards sustainable development;
- Identify local learning opportunities related to sustainable development and build cooperative relationships;
- Evaluate and assess learners' development of cross-cutting sustainability competencies and specific sustainability-related learning outcomes.

These objectives can be classified or organized into three main objectives. The first objective is to learn about the key issues of sustainable development and to develop multifaceted and multidisciplinary perspectives on them, which means developing a basic understanding of sustainable development and many viewpoints concerning it. The second objective is to apply the essential elements of sustainable development (e.g. cultural diversity, gender equity, social justice, environmental protection and personal development) to one's educational practices, as well as to assess and evaluate the development of learners' sustainability competencies during those practices. This constitutes facilitating ESD education practices. The third objective is to cooperate and act to spread ESD practices with others in schools and communities, both of which constitute expanding ESD engagements.
Teachers are required not only to gain competencies for promoting sustainability among citizens (e.g. knowledge, skills, attitudes, values, motivation and commitment), but also to obtain profession-general competencies in order to pass on those competencies to students through innovative teaching practices and to expand these practices to people around the students.

Based on previous ESD teacher competency models, we created a competency framework for ESD teachers with the following features:
- First, the framework structure focuses on the competency of ESD teachers to shape sustainable futures, and arranges three competency domains related to it in a well-balanced manner. In particular, in view of the importance of teachers' continuous professional development, competencies needed for teachers to continue learning and creating is emphasized as one domain.
- Second, each domain has three sub-domains, including inter-relationships between the sub-domains. The domain "Facilitate Learning" is about creating a culture of sustainable development, where knowledge, skills and their use related to "Pedagogy (How to teach?)", "Content (What to teach?)" and "Technology (What instructional tools?)" intersect each other. The domain "Continue to Learn and Create" focuses on teachers' updating knowledge to continue ESD practices, and illustrates the circulation of "Reflect", "Innovate" and "Transform" backed by thinking, attitudes and motivations. The domain "Connect, Collaborate and Engage" includes social and behavioral competencies for teachers to promote ESD practices, depicting a horizontal expanding of "Participate and engage" at the individual level, "Cooperate" at the school level and "Collaborate" at the community level. In addition, the domain refers to a bridging between the three levels in terms of "Connect", to show that there is also an expansion from individuals to communities and from communities to schools. This process of building connections will lead to the cultivation of "Leadership" in teachers.

This detailed structure and content of the developed ESD teacher competency framework can be recognised as its novelty. The adequacy of this framework will be verified through the development, implementation and evaluation of teacher education programmes based on the framework currently being carried out by each teacher education institution.

References

Bertschy, F., Künzli, C., & Lehmann, M. (2013). Teachers' competencies for the implementation of educational offers in the field of education for sustainable development. *Sustainability, 5*, 5067–5080.

Rauch, F., Streissler, A., & Steiner, R. (2008). *Kompetenzen für Bildung für Nachhaltige Entwicklung (KOM-BiNE). Konzept und Anregungen für die Praxis*. Wien: BMUKK.

Sleurs, W. (ed.) (2008). *Competencies for ESD (Education for Sustainable Development) teachers. A framework to integrate ESD in the curriculum of teacher training institutes*. Brussels: Comenius 2.1 Project

UNECE (2012). *Learning for the Future. Competences in Education for Sustainable Development*. Geneva: UNECE.

UNESCO (2010). *Education for Sustainable Development Lens: A Policy and Practice Review Tool*. Paris: UNESCO.

UNESCO (2017). *Education for Sustainable Development Goals: Learning objectives*. Paris: UNESCO

UNESCO (2018). *Integrating Education for Sustainable Development (ESD) in Teacher Education in South-East Asia: A Guide for Teacher Educators*. Paris:UNESCO

Guide for the Effective Dissemination of the Asia-Pacific ESD Teacher Competency Framework

Based on the goal of the multi-layered synchronization between ESD and GCED toward the achievement of Sustainable Development Goals (SDGs) 4.7 and ESD for 2030, we presented the Okayama Statement at the 2019 Global Conference on Teacher Education for ESD to further advance teacher education toward ESD.
This report presents some good practices at member universities in line with the statement to help disseminate the framework effectively.

1. Institutional Level

1.1 Motivate all personnel in the institution to participate in ESD/SDGs related activities
ESD/SDG activities should be the very process of empowerment for everyone. Teacher education institutions are ideal vehicles for spreading awareness and empowerment regarding sustainability. However, it is not sufficient to conduct individual, specialized ESD activities. Teacher education institutions should encourage not only the students but also the faculty members and others to easily participate in ESD/SDGs-related activities on campus and in surrounding areas.

1.2 Integrate ESD into the existing curricula and lessons to equip teachers and personnel with ESD knowledge, based on ESD teacher competency framework
In promoting teacher education for ESD, it is not so much about creating entirely new curricula/lessons, but rather how existing curricula and classes can be linked to ESD. In addition to teaching the concept of ESD itself, it is also necessary to actively incorporate the ESD perspective while relating it to the abilities stated in the framework, and to formulate a curriculum and develop classes while touching on the relevant fields of SDGs or introducing the viewpoints of ESD.

The following case of the Indonesia University of Education is a good example. The curriculum of teacher training courses tends to be considerably less flexible depending on national standards. In this context, Indonesia University of Education has been carefully and thoroughly considered in advance, and has been able to involve many other faculty members using both "implicit ESD" and "explicit ESD" strategies. It is also suggested that the collective and experiential learning of Project Based Learning (PBL), which mixes students with a wide range of interests, enhances the ESD capabilities of the students as a result.

Good Practice

1.2 Integrate ESD into the existing curricula and lessons to equip teachers and personnel with ESD knowledge, based on ESD teacher competency framework

Indonesia University of Education, Indonesia

1.Background
Faculty of Mathematics and Science Education, Universitas Pendidikan Indonesia acknowledges the importance of ESD. There are more than 3,500 students enrolled in the faculty with around 70% of them are pre-service teachers. Educating pre-service teachers with ESD should promote their understanding of ESD and educate them to live sustainably. More importantly, since they are going to work as teachers, multiplier effects to the students are expected.

Introducing ESD courses into the curriculum was not easy as many faculty members and curriculum developers were not yet familiar with ESD. Integrating ESD principles into the existing courses was considered as a better alternative as it did not change the structure of the curriculum and raised only little resistance.

To gain maximum benefits, a number of considerations were taken in choosing the course. Firstly, the course should be a compulsory course that students cannot leave it. This ensures that graduates have developed ESD knowledge, skills and behavior to live sustainably. Secondly, the course should have a large coverage to increase the possibility that more students are educated with ESD. Thirdly, the students should find the course as a special and memorable that they will keep it for long time and give strong influence to their life. Fourthly, the course should not be a standalone course. It should be connected to other courses that reinforcement of previous learning can be supported.

Based on those considerations, it was decided to integrate ESD into two compulsory faculty-level courses (instead of

one) named “Mathematics, Science, Technology and Engineering” and “Application of Mathematics, Science, Technology and Engineering” . Those courses were chosen as they are compulsory courses for all students in the faculty, they are offered in the first and the second semester that provide more opportunities to “shape” the freshmen and the courses are offered in two consecutive semesters that allow an extended treatment and monitoring.

Unlike the traditional courses that are content-oriented (mathematics, biology, chemistry and physics), the two courses are more competence-oriented and are conducted as integrated courses. Two central competencies developed in these two courses are scientific process skills and engineering design skills. Courses are group project-based that good collaboration amongst team member is essential for the group success.

2.Purpose

The main purpose of the study is to explore strategies for integrating ESD principles into an existing curriculum. Implicit integration strategy was adopted in the first course while more explicit integration strategy was implemented in the second course.

3.Relevance to the Asia-Pacific ESD Teacher Competency Framework

This programme should contribute to efforts to promote ESD teacher competency, especially for pre-service teacher education programme where courses are already predetermined in the curriculum so that special course on ESD is not possible. Integrating ESD principles into the existing course demands a thoughtful consideration of the characteristics of the course and the ESD competencies to be developed.

4.Implementation

The first step of implementing the integration was preparing the lecturers. A series of workshops were conducted to prepare 46 lecturers of the course. In the workshops lecturers were informed with the main ideas of the courses, the implementation strategies, and the assessment policy. During the workshops lecturers were also given first hands experience with the materials and the activities to be performed by the students.

Workshop for lecturers

A total of more than 650 students took the course. Students were grouped into 16 classes and each class was taught by three lecturers from different expertise. Each class consisted of students from eleven education programmes (departments). So, each class is really a mixed of students with different interests.

Implicit and explicit implementation strategies were employed. In the first semester implicit strategy was adopted. There were two topics covered in the first semester, i.e. energy and advanced materials. In the first topic the students were presented with issues of energy. They were challenged to work out the problems and should come up with ideas on how the world could produce safe and clean energy. In the second topic, students were presented with the issues of how to promote welfare using technology. They were challenged to develop new technologies that promote the quality of life.

Throughout the course no discussion on ESD were aired. Although the two topics were closely related to sustainability issues, however, students were not introduced with such issues. ESD principles were fully treated as hidden agenda. At the end of the semester students’ perceptual competencies on ESD were assessed using an online questionnaire. There were 432 students complete the questionnaire.

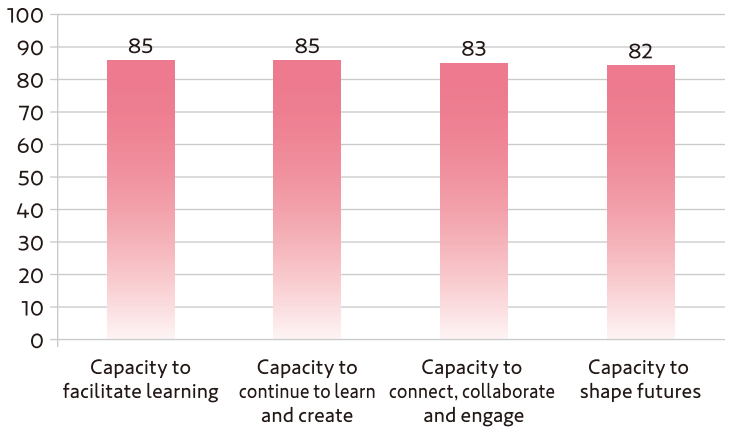
In the second semester, an explicit strategy was employed to introduce students with ESD. In the first meeting, students were introduced with Sustainable Development Goals

Lecturer and students interactions in the classroom

(SDGs) and Education for Sustainable Development (ESD). Through this session it was expected that students' knowledge and awareness on SDGs and ESD developed in the previous semester were reinforced. The issues addressed in the second semester are two contextual issues that require urgent solutions, i.e. food and transportation. The second semester is just started that no data is yet collected.

5.Results and future development

Results presented here are data from the first semester. Students' responses to the questionnaire suggest that despite the implicit nature, the course can promote students' ESD competencies.



Percentage of students' developing ESD competencies

Results of a questionnaire survey using Annex 1 (a graph above) shows that upon completing the first semester on average 84% of the students perceived that they developed ESD competencies. Since the course did not explicitly addressed ESD, this finding suggests that experiencing can be a powerful strategy for educating ESD. Despite the fact that throughout the course lecturers did not "tell" any theoretical aspects of ESD, however, giving students opportunities to directly involve in solving real life problems can promote students' ESD competencies.

Unexpectedly, the outcomes of the course exceed beyond the standards. A number of technological prototypes developed by the students were considered as genuine and novel that they registered them to the Indonesian intellectual property rights. There are sixteen intellectual property rights produced from the course. In addition there is a paper written by three of the students that qualified for a national competition on new-creative technology.

Both lecturers and students also give very positive impressions on the course. They said that the course promote students' creativity, contextual problem solving and collaboration skills. They also mentioned that the course raised their awareness of the environmental problems and how to contribute in solving the problems. Although the projects were focused on the local problems, however, students said that they also develop awareness on local, national and global issues.

Annex 1 Self-evaluation sheet based on the Asia-Pacific ESD Teacher Competency Framework edited by Okayama University

<Capacity to facilitate learning>

1. I know repertoire of ESD Pedagogies.
2. I have tolerances about uncertainty.
3. I set the goal for purpose learning toward sustainability.
4. I can plan any action plan or activities to solve issues(problems) in local/global level.
5. I can collaboratively plan and implement integrated methods to solve problems.
6. I can facilitate student's support to collaborate with each other or with other community members.
7. I can work together with other subject teachers or other stakeholders.
8. I can see or find issue and problems related to sustainability.
9. I can encourage students to raise questions in the real-life situation context.
10. I can develop analytical and critical thinking to solve problems.
11. As a teacher, I have positive attitude and aptitude towards learning and learners.
12. I can foster multi-cultural literacy.

<Capacity to continue to learn and create>

- Reflect

13. I monitor and evaluate progress of integrating ESD for lifelong learning.
14. I design a plan of action for continuous improvement in ESD integration.
15. I create and contribute and IEC platform for in-service teachers to disseminate ESD practices.
16. I promote sustainability and enhancement on ESD.

- Innovate

17. I understand the relationship between ESD and lifelong learning.
18. I reflect and question my purpose and practice related to ESD in improving teaching.
19. I develop sustainable thinking quality through active engagement in Continuous Developing Programmes(CPD) in ESD.
20. I establish strong Teacher Support System and capacity building initiatives in reorienting the management of human resource.
21. I develop transdisciplinary, trans-sectorial and marketing competencies for sustainable future.

- Transform

22. I practice a sustainable way of life by modeling effective ESD practices.
23. I design effective and creative solutions to problems in achieving sustainability.
24. I innovate new ways of thinking and learning ESD.

<Capacity to connect, collaborate and engage>

25. For promotion and effective delivery of ESD, I myself can model collaborative and constructive leadership.
26. I can identify self-capacity, key stakeholders and community members to work with in order to promote and deliver ESD effectively.
27. For promotion and effective delivery of ESD, I role-model advocacy as change agent at levels of community, national and international policy and practices.
28. For promotion and effective delivery of ESD, I actively and responsively engage with community and society.
29. I understand and demonstrate sociocultural, political, economic and environmental concern towards sustainable development.
30. For promotion and effective delivery of ESD, I build trust, maintain reciprocal relationship and negotiate conflict situations.
31. For promotion and effective delivery of ESD, I facilitate the formal and informal collaboration by generating ethical safe climate.

<Capacity to shape futures>

32. I am able to practice ESD here and now towards shaping sustainable futures.

In the following case, the objective of training teachers with a sufficient perspective on human rights, sustainability and social justice, as well as the ability to practice education, in both the local area and cultural sphere in which the university is located, and in the global society, is a clear premise. One of the characteristics of their new curriculum reform is that it is closely linked to the domestic Code & Standards for the teacher profession and the Asia-Pacific ESD Teacher Competency Framework. In particular, it is worth noting that in the process of reform in collaboration with the local advisory groups, the university faculty members themselves also are provided an opportunity to reflect on their philosophies and pedagogies.

Good Practice

1.2 Integrate ESD into the existing curricula and lessons to equip teachers and personnel with ESD knowledge, based on ESD teacher competency framework

Te Herenga Waka Victoria University of Wellington, New Zealand

1.Background

Te Herenga Waka Victoria University of Wellington is located in Wellington which is the capital city of Aotearoa New Zealand. The current Strategic Plan of our university contains the commitment that:

> Central to this vision is our commitment to being a values-based university, to sustainability and to honouring Te Tiriti o Waitangi[1], te Reo Māori[2], mātauranga Māori[3] and our relationships with iwi[4] and iwi-related organisations.

Within Te Puna Akopai, the School of Education, our teacher education programmes prepare students to teach in early childhood services, primary and secondary schools. We offer the following qualifications: one-year graduate teaching diplomas for early childhood, primary and secondary teaching; a one-year Master' s teaching qualification for primary and secondary teaching; and a three-year undergraduate degree in early childhood education. In 2017 the New Zealand Teaching Council, which is the body that oversees all teaching qualification provision and teacher registration in New Zealand, promulgated a new Code & Standards for the teaching profession. During the development of this document the New Zealand Teaching Council had consulted widely, and as part of this process we provided them with a strong submission which focused on ESD objectives such as cultural and ecological sustainability. The final version of the Code & Standards contains strong ESD components, e.g., Code 4.1:

> 'I will respect my trusted role in society and the influence I have in shaping futures by promoting and protecting the principles of human rights, sustainability and social justice' .

The New Zealand Teaching Council now requires every teacher education provider in New Zealand to re-design their teaching qualification programmes to ensure that they will adequately prepare student teachers to deliver on the expectations contained within the Code and Standards. Consequently, we have been re-writing our teacher education programmes to ensure that the Code and Standards are embedded in our ITE programmes' course prescriptions, course learning outcomes and assessment.

[1] Te Tiriti o Waitangi is the treaty signed in 1840 between Māori chiefs and the British Crown, that allowed for settlement of New Zealand by Great Britain, in exchange for assuring the Indigenous Māori of their self-determination, protection of everything that is valued by Māori, and equal rights as citizens, including to their own spiritual beliefs.
[2] Te reo Māori is the Māori language.
[3] Mātauranga Māori is Māori knowledge.
[4] Iwi are the distinct Māori tribes.

2.Purpose

To re-design the teacher education qualification programmes of Te Herenga Waka Victoria University in line with the new New Zealand Teaching Council Code & Standards, which include the need for a strong focus for future teachers on protecting and promoting human rights, sustainability and social justice.

3.Relevance to the Asia-Pacific ESD Teacher Competency Framework

The period of redesigning our programmes has coincided with the work to design the Asia-Pacific ESD Teacher Competency Framework conducted during the First and Second Asia-Pacific Regional Meetings on Teacher Education for ESD, held on 27-29 November 2018 in Okayama, Japan and 17-19 September 2019 in Bangkok, Thailand. These meetings were jointly organized by Okayama University, the Asia-Pacific Cultural Centre for UNESCO (ACCU) and the International Network of Teacher Education Institutions (INTEI) with the financial support of the Japanese National Commission for UNESCO and UNESCO Bangkok. This alignment of time-frames enabled those working on the

development of the new teacher education programmes for Te Herenga Waka Victoria University of Wellington to do so with the awareness of the ESD Framework as it was also coming to fruition.

4.Implementation

The aspirations for our teacher education graduates are expressed as follows:

> In the spirit of ako[5], wānanga[6], whanaungatanga[7] and partnership, initial teacher education programmes in Te Puna Akopai prepare teacher candidates to teach in transformative and inspiring ways for all ākonga[8] across early childhood care and education, primary and secondary education sectors in Aotearoa New Zealand. Relational, reflexive, adaptive practice and ethical sensitivity are at the heart of our programmes. Our programmes focus on developing deep knowledge, rigour, critical thinking, and ensuring high quality education for all learners, including those who have been underserved by education.

These aspirations and the elaborations in the documentation prepared for the approval of our new teacher education programmes strongly align with the New Zealand Teachers Council Code and Standards and the Asia-Pacific ESD Teacher Competency Framework. All three documents identify the need for teachers to be critically reflective, collaborative transformative advocates for social, cultural and ecological justice. This is an elaboration from the Te Puna Akopai programme approval document:

> Social, cultural and ecological justice: We take a critical stance to social justice and change in our teacher education programmes, understanding educational achievement for some learners as related to historical and structural oppression (Guillén, Gimenes, & Zeichner, 2016; Philip et al., 2018). Ecological justice goes hand-in-hand with social and cultural justice, as recognised by the United Nations Sustainable Development Goals, particularly goal 4.7. A key goal of transformative education is to live sustainably and equitably on our finite planet. We recognise that "a fundamental change is needed in the way we think about education's role in global development, because it has a catalytic impact on the wellbeing of individuals and the future of our planet" (Bokova, as cited in UNESCO, 2017, p. 7). In response, we seek to prepare graduates who will consciously contribute to an education that addresses persistent social and environmental challenges.

This commitment resonates with competencies from the Asia-Pacific ESD Teacher Competency Framework that focus on criticality, transformation and sustainability. Our programmes will foster in our student teachers the capacity to deliver 'signature pedagogies' which include relational and embodied pedagogies, culturally and linguistically sustaining pedagogies, and critical pedagogies of place.

[5] Ako is the Māori principle that every teacher is a learner and every learner is a teacher.
[6] Wānanga is a collective learning process. Traditionally this would focus on important tribal cultural, religious, historical, genealogical and philosophical knowledge.
[7] Whanaungatanga is the sense of being in relation with others, kinship, belonging and connection that is fostered relationship through shared understandings, experiences and working together.
[8] Ākonga are learners.

5.Results and future development

We are now engaging in the approval process for our newly designed teacher education programmes, with the intention that they will be taught for the first time in 2021. A key aspect of the development of the new programmes has been strengthening our collaborations within our communities through engagement in regular meetings with community advisory groups. Furthermore, this process has enabled the university lecturers in the teacher education programmes to reflect deeply on our philosophies and pedagogies, as well as to collaborate closely in the development and design process.

Te Herenga Waka Marae, Victoria University of Wellington

Children at Victoria University early childhood care and education centre

1.3 Provide ESD expertise for action plan/implementation of ESD programmes in local community

One effective approach to ESD is to develop it on the basis of the sustainability-related challenges that a local community has, while keeping an eye on global issues, and it is by no means to be completed within the classroom or campus. Teacher education institutions and educators should therefore play a role in providing expert advice on ESD in planning and implementing ESD programmes in specific local communities.

In the following case of Okayama University, the ESD Promotion Centre was established in the Graduate School of Education, and an ESD expert was assigned. The centre has been working with the Okayama City Board of Education to form an ESD consortium, and has been continuously engaged in developing ESD teacher training programmes. At the same time, it has held discussions with various stakeholders in the local community, and has been providing advice from an expert standpoint for schools to promote ESD together with the community. The expert is a lecturer at teacher training seminars, a school consultant and a planner who is involved with the various ESD-related projects promoted by Okayama City Board of Education. The result of this case shows it is not only important for teacher educators to provide expert advice on ESD, but they must also act as “escort runners” who deal with real local issues and walk together with the teachers.

Good Practice

1.3 Provide ESD expertise for action plan/implementation of ESD programmes in local community

Okayama University, Graduate School of Education, ESD Promotion Centre, Japan

1.Background

In Japan, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) clearly states that ESD will be promoted through UNESCO Associated Schools. ESD is also mentioned in national education guidelines, including the Courses of Study. On the other hand, at public schools in Japan, the replacement of teachers is relatively frequent, and demands for teachers such as improvement of students’ academic ability and special needs education are increasing more and more. There are many teachers who want to work on ESD, however, there is not enough school environment to devote themselves to it.

RCE Okayama has 53 UNESCO Associated Schools. The participation rate is one of the highest in the world, and further development and deepening of ESD is an issue for RCE Okayama not only for these UNESCO Associated Schools but also for non-associated schools. The key to this issue is to support ESD practice for in-service teachers. Therefore, with the support of the three-year consortium project by MEXT, several ESD coordinator with different specialties, including a staff from ESD Promotion Centre of Graduate School of Education, Okayama University, were assigned to work with the members of the City Board of Education to create a mechanism to continuously support ESD for teachers. Specifically, ESD coordinators will play a central role in developing the training programmes.

2.Purpose

The purpose of this project is to develop a new training programme to enable teachers to actively and continuously promote ESD in cooperation with the local community, and to simultaneously nurture core teachers/trainers of teachers for ESD teacher education.

3.Relevance to the Framework

Strengthen the capacity of "Reflect" and "Innovate" in the "Continue to Learn and Create" domain. Starting with the individual "Participate and Engage" of the "Connect, Collaborate and Engage" domain, it fosters the capacity of "Collaborate with Communities” and “Leader(ship)s” .

4.Implementation

- To plan and manage three ESD seminars a year for teachers in charge at UNESCO Associated Schools.
- Teachers participating in the workshop (leading teachers), staffs of Community Learning Centres and members of the local community will work together to prepare a manual handbook for ESD practices at schools. The handbook will be shared at ESD workshops each time during the preparation process, and will be prepared in a manner that is linked to the contents of ESD workshops and always linked to the current, actual practices of the teachers.
- As an on-demand training service, ESD coordinators visit schools for in-school training sessions to provide guidance

and advice on the development of ESD programmes according to the conditions of school and local community.

- ESD coordinators and the city BoE meet regularly at the ESD Promotion Centre to share information and consult. Each one is assigned to several school districts, and interviews and consults regularly to learn about the school situation, build relationships of trust, connect teachers with various practitioners in the local community, and propose specific programmes.

5.Results and future development

When we analyzed the results of the questionnaire we conducted on the participants of the workshop and the teachers of UNESCO Associated Schools, we found that it was most effective for teachers to be able to share the current situation and challenges with teachers from other schools with similar interests, teachers from completely different regions, and teachers from schools with different developmental stages of students by bringing their own practices to the table and discussing solutions.

As a result, using this potluck training style, there were cases in which teachers held training sessions at their own schools and tried to disseminate them to new teachers using the guidance, or tried to review and improve current school practices (Photo 1). It can be said that capacity to "Reflect" and "Innovate" in the framework have been cultivated. There are also teachers who, working with ESD coordinators, have developed unique ESD programmes to learn together with universities, foreign residents, and international students with external collaborators and human resources (Photo 2). The capacity to "Collaborate" in the Domain 3 of the framework may have been nurtured. In addition, core teachers who actually realized the effectiveness of the ESD teacher training, felt the fun and merit of ESD, and understood its significance tended to promote ESD in the local community even after transferring to a school that was not yet an UNESCO Associated school. In other words, they became trainers of teachers. This has led to the development of Domain 3's capacity of "Leadership".

Based on these, ESD Promotion Centre plans to have students in teacher training programmes participate in the planning of such training programmes as a part of service learning, or in conjunction with teacher training programmes from overseas. Meanwhile, we continue to cooperate with City Board of Education and social education institutions, to support training programmes at local schools, and to prepare a collection of advanced model practices of ESD.

Photo 1. Practical and potluck style workshop

Photo 2. Original ESD Programme developed by leader teacher in collaboration with the local community.

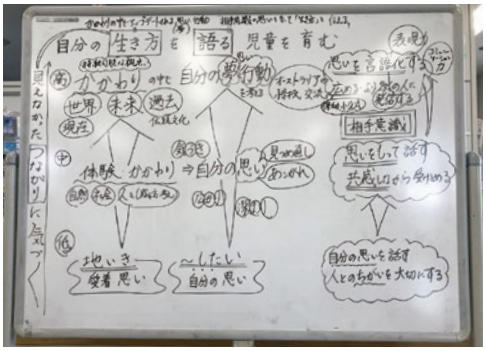
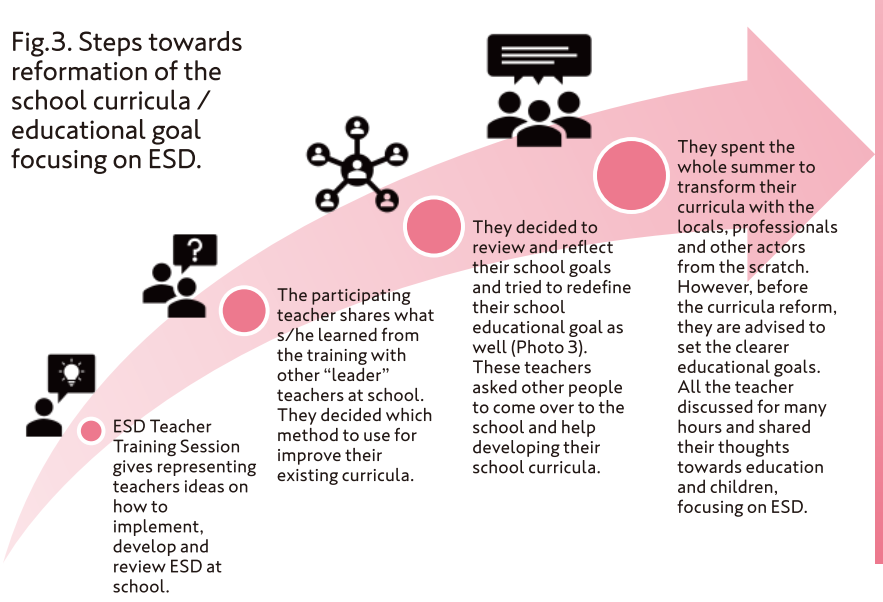


Photo 3. Development process of the whole-school ESD project through on-demand training

Fig.3. Steps towards reformation of the school curricula / educational goal focusing on ESD.



To nurture children who can express and share their dreams and hopes with various others, seeing/feeling the once invisible, but important **interrelatedness between human and nature.**

2. National Level

2.1 Develop national standards/action plan for teacher education to lead and understand ESD/SDGs

Teachers of today are expected to play a leading role in the development of ESD/SDGs while also deepening their basic understanding of ESD/SDGs. In order to nurture such teachers, teacher education institutions are required to actively contribute to developing national standards and implementation plans.

2.2 Design ESD teaching aids/training materials and other tools for teaching staffs and students to get started and advance further

ESD should be something that any teacher can start practicing at any time in any subject/field. Therefore, teacher education institutions should plan practical ESD materials and tools not only for classes where pre-service and in-service teachers are beginning to introduce ESD, but also for further development of classes/projects that have already been implemented as ESD.

Here are some good practices from the University of San Jose-Recoletos College of Education and the ESD Centre for Research, Training and Development in collaboration with the Commission on Higher Education and the Centres of Excellence in Teacher Education in Philippines. In this case, there is awareness of the competencies shown in multiple domains of the Asia-Pacific ESD Teacher Competency Framework. It is also important to note that one collaboratively developed programme is universally applicable to all other teacher education institutions in the state. Versatile but specific, practical teaching materials are the first ones required to promote ESD among teachers. The important thing is that these materials should not remain same or become outdated. They must be reviewed periodically and updated/modified according to the educational settings as the case indicates.

Good Practice

2.2 Design ESD teaching aids/training materials and other tools for teaching staffs and students to get started and advance further

University of San Jose- Recoletos College of Education and the ESD Center for Research, Training and Development in partnership with the Commission on Higher Education and the Centers of Excellence in Teacher Education in the Philippines

1.Background

Philippine Republic Act 10533 Section 10.2 d and h highlights the delivery of Philippine curriculum that is local yet global. One of the government's initiative in realizing this aim is the integration of Mother- tongue based Multilingual Education (MTB- MLE) to the Grades 1 to 3 curriculum. University of San Jose-Recoletos, through the College of Education, the Center of Excellence for Teacher Education in Region 7, and the ESD Center for Research, Training and Development, was awarded by United States Agency for International Development (USAID) through the University Research Council, a grant in its proposal entitled Enabling Writers' Training Workshop in MTB-MLE using Blooms Software, in developing decodable and leveled text for early graders in the Philippines. This project has been supported by Commission on Higher Education (CHED) through its Center of Excellence Grant. However, in the course of its implementation, underpinning issues were raised such as: the proper identification of letter frequency counts in order to create decodable and leveled reader text for young learners; varied MTB-MLE instructional materials which are leveled and decoded anchored on themes related to sustainability in education and the technology tools to create appropriate localized and contextualized materials; the collaboration of support systems (DepEd, CHED, NGO, etc.) in addressing other MTB-MLE concerns.

Hence, another project was designed entitled "Production of ESD- based Decodable and Leveled MTB-MLE Instructional Materials for Early Grade Readers". This project trained Teacher Education Institutions in the production of decodable and leveled books for children through proper language set-up, and use appropriate materials in the development of Filipino children's 21st century skills. Decodable books are intended for beginning reading focusing on phonological and phonemic awareness, while leveled books are intended for comprehension and vocabulary development. To support UNESCO's call for sustainability, book themes centered around Sustainable Development Goals (SDG) and Education for Sustainable Development (ESD). In effect, the outputs created opportunities for better implementation of MTB-MLE where its exact content knowledge and pedagogical content knowledge will be implemented across the country.

2.Purpose

The purpose of this project is to develop decodable and leveled books for early grade readers in Mother- tongue based Multilingual Materials (MTB- MLE) with themes centered around ESD, through teacher- training in Teacher Education Institutions.

3.Relevance to the Asia-Pacific ESD Teacher Competency Framework

The project is aligned to Domain 1: *Facilitating Learning* and Domain 3: *Connect, Collaborate and Engage*. The books developed are culturally sensitive, and that the pedagogy, content and technology are contextualized based on the ESD concepts and principles. In turn, other Teacher Education Institutions were tapped to collaborate, cooperate, participate and engage in the process of developing these books for early grade readers.

4.Implementation

The project started through the lead institution, the University of San Jose Recoletos College of Education (USJ-R COE) and the ESD Center for Research, Training and Development that received the award from USAID through the University Research Company (URC) via its *Reading with Reach Program (REACH)*.Thereafter, the project was replicated where ESD mainstreaming eventually was added to the requirement, under the funding support from the Commission on Higher Education. After receiving the confirmation, USJ-R COE collaborated with the Department of Education for support and commitment-making as well as with selected Teacher Education Institutions in the Philippines.

After the meeting was finalized, series of trainings were conducted in various places in the Philippines including: Cebu, Bohol, Cagayan de Oro and Baguio covering 120 participants (30 participants per language representation). In addition, six to eight student-illustrators were chosen per region to help the teacher-authors align their stories to the pictures and drawings. Teacher Education Institutions were responsible for looking for these illustrators who have wide-cultural background in their locality. Illustrators and writers were also convened to inform them that stories should be anchored

on ESD's environmental, social and economic concepts as well as the principles underlying it.

Furthermore, the extensive participatory training approach focusing on the principles for developing texts for early grade reading programs and the use of the Bloom's software was conducted. Following the training was the field testing and ministerial processes for title adoption in partnership with the Department of Education. A monitoring and evaluation phase was also done after the training and book production have culminated. There were 1,200 books initially produced by the teacher- writers. Of these books, 800 of them passed the evaluation process. Of the 800 books, roughly 60% of them had stories aligned to ESD.

5.Results and future development

Upon reflecting on the over- all completion of the programme, ESD was implemented through partnerships from different stakeholders beginning from the Ministry of Education to the Commission on Higher Education and other funding agencies working for the project success. This clearly adheres to the "Participate and "Engage", "Cooperate" and "Collaborate" dimensions of Domain 3.

The production of decodable and leveled books for children was also well- thought-off, especially on following the rules of its production process, as well as in reflecting the appropriate ESD themes for the stories. The book itself is a product under the domain Facilitating Learning where 'Culture", "Pedagogy", "Technology" and "Content" dimensions of Domain 1 were highly considered in the development of the books.

It is in this progression that the project will be replicated in all other initiatives of the University in partnership with other agencies. The production of such materials where ESD is mainstreamed will continue to be the prime initiative of USJ-R through its ESD Center for Research, Training and Development. Other directions of the said programme will also be supported through the centre's Community- based ESD initiatives in partnership with selected local schools in Cebu.

Teacher- writers presenting their finished books

Books were validated with a group of students

Books were handed in to the Ministry of Education

2.3 Establish clear monitoring and evaluation systems to motivate and support the implementation

ESD practices can only be developed through clear reflection, and practices without clear visible results are not motivational. Teacher education institutions therefore should establish a clear monitoring and evaluation system to create motivation and support the practice, especially for teachers.

2.4 Use media to relay information to communities, and as a platform for children/youth to share their ESD ideas, activities and movement

Achieving SDG goals and cultivating a sustainable society requires participation of all people. In particular, grass-root participation in sustainability activities by local people, children and the youth needs to be fostered through ESD. Appropriate use of media as a means by which everyone can obtain information on ESD/SDGs would be beneficial. It is important for teachers and educational institutions not only to inform the community about ESD, but also to use the media as an interactive, learning platform for children and young people to share information on ideas, activities and movements for ESD.

A good practice from RCE Penang and Universiti Sains Malaysia, Malaysia shows a model example of how media can be used appropriately and effectively for its original purpose, which is, to strengthen communication across the world and to be a powerful resource for everyone to learn from each other. Such communication will be the basic foundation for building sustainable societies. The well-developed competition with ESD perspectives not only enhances the skills necessary for children and young people to become the main actors of activities related to sustainable development, but also has important functions to encourage and motivate ESD practices, which are important for teachers/adults. The presence of the media has increased opportunities for children and teachers to interact beyond national and regional boundaries, as well as to address local issues.

Good Practice

2.4 Use media to relay information to communities, and as a platform for children/youth to share their ESD ideas, activities and movement

RCE Penang and Universiti Sains Malaysia, Malaysia

1.Background

Universiti Sains Malaysia (USM) has started to embrace education for sustainable development (ESD) and "University as a Living Lab" approach since the year 2000 through the concept of Kampus Sejahtera (Healthy Campus) and University in a Garden. USM aims at promoting sustainability among the communities within and outside the campus through education and research activities. RCE Penang (Regional Centre of Expertise on ESD) hosted by Universiti Sains Malaysia is one of the seven foundation RCEs of the United Nations University's UNDESD initiatives, has been working with local and international education communities and engaging teachers in embedding sustainability principles in the school curriculum for over 15 years.

The evolution and facilities provided by social media has created a new world of alliance and communication. Social media is an online interaction site where people interact to build, share and change their ideas and comments regarding any information. Social media contains a wide range of online communications including blogs, e-mail, websites and forums. In short, social media used by RCE Penang such as Facebook, Instagram and Youtube has made a huge impact in implementing ESD activities and disseminating knowledge and information on ESD.

As such, RCE Penang projects aim to empower both teachers and students through these initiatives by using social media as platform to share the ESD idea via:

a. Science and Technology Awareness Programme: Empowering Asia Pacific Students Leadership in ESD through Networking (Online and Video Conference via YouTube, Facebook)
b. Development of Teachers Training Module (Preschool and Primary School) for Water Education (Module, Report, Programmes via Facebook and Website)
c. ESD activities for Rehabilitating Mangrove Forests in Cooperation with Local Communities at Merbok Mangrove Reserve, Kedah (Module, Report, Programmes via Facebook and Website)

a. Science and Technology Awareness Programme: Empowering Asia Pacific Students Leadership in ESD through Networking (Online and Video Conference via YouTube, Facebook)

The international video competition programme "Vlog and Online Competition on Empowering Asia Pacific Students' Leadership in ESD through Networking" was launched in 2018 to respond to the needs of social media (ICT) and ESD in encouraging the community to disseminate ideas and activities related to ESD. The programme involved a series of discussion, presentations and online competition via video-conferencing focusing on Education for Sustainable Development with three themes which are Water, Food Security and Good Health. This programme provides a collaboration opportunity for students in Penang, South Korea, Bangladesh, Indonesia, India, Denmark and Mexico of America to share and exchange ideas on sustainability related to the specific themes.

b.Development of Teachers Training Module (Preschool and Primary School) for Water Education (Module, Report, Programmes via Facebook and Website)

The teachers training module programme for water education focused on water that plays an important role as it is a basic requirement to sustain life. Water is used for personal needs, irrigation in agriculture, and also in industry to produce various products. Water not only affect organisms directly, but also affect the economy and the environment globally. According to WWAP (2015), safe and clean water is an important element in sustainable development as it contributes to the reduction of poverty, the growth of economy, environmental sustainability and to improve the overall aspect of an individual such as health aspect and food supply. This programme involved setting up of a model green garden at RCE Penang, workshop for preschool and primary school teachers on Green Technology focus on SDG 6 and partnership for setting up integrated green garden at selected schools. The schools were chosen based on the available space at school to develop the Integrated Green Garden and the teachers' commitment to supervise the progress of the garden. Currently, there are two primary schools which are SK Sungai Nibong and SK Convent Pulau Tikus agreed to do collaborations with RCE Penang on developing the garden.

c.ESD activities for Rehabilitating Mangrove Forests in Cooperation with Local Communities at Merbok Mangrove Reserve, Kedah (Module, Report, Programmes via Facebook and Website)

For the reforestation activities, mangroves play a predominant role in all subtropical and tropical areas around the world, providing a wide range of ecological and social services (Walters et al.2008). RCE Penang develop mangrove nursery and reforestation activities with other local communities in other areas and conduct mangrove hands-on educational activities with school children in local areas such as Camp Bakau. Children are trained to empower other children in their learning in an outdoor setting and the children have improved not only their general knowledge about the mangrove trees and ecosystems but the activities conducted throughout the camp have succeeded in

inculcating the values of caring and protecting mangrove trees and ecosystems.

All of these programmes were shared via social media such as Facebook and YouTube to ensure all ESD activities carried out visible to the communities local and globally.

2.Purpose

The purpose of these project is to develop:

- Platforms and opportunities for dialogue, strategic thinking, knowledge exchange and action for sustainability
- Generating innovative knowledge, approaches and processes to ESD through partnerships for change, collaborative projects, initiatives and research
- Building capacity of educators and developing ESD teaching methodologies and resources
- Providing bespoke ESD support and advice to practitioners, policy and decision-makers
- Raising awareness of sustainability issues at the local level and promoting at long-term goals of ESD

3.Relevance to the Asia-Pacific ESD Teacher Competency Framework

Strengthen the capacity of *'technology'* and *'content'* in the facilitate learning domain. Starting with the *'collaborate'*, *'participate and engage'* of the connect, collaborate and engage domain. It substitutes the capacity of 'Collaborate with Communities' and 'Leader(ship)s'.

4.Implementation

a. Science and Technology Awareness Programme: Empowering Asia Pacific Students Leadership in ESD through Networking (Online and Video Conference via YouTube, Facebook)
A series of discussion, presentations and online competition via video-conferencing focusing on Education for Sustainable Development with three themes focused on SDGs and to share and exchange ideas on sustainability related to the specific themes.

b. Development of Teachers Training Module (Preschool and Primary School) for Water Education (Module, Report, Programmes via Facebook and Website)
Setting up of a model integrated green garden (IGG) with varieties of vegetables, composting without harming the ecosystem, 4 workshops for preschool and primary school teachers at RCE Penang. Setting up IGG at selected school focus on SDG 6.

c. ESD activities for Rehabilitating Mangrove Forests in Cooperation with Local Communities at Merbok Mangrove Reserve, Kedah (Module, Report, Programmes via Facebook and Website)
Establish nursery, and seedlings, management and replanting site via the participation of local children, some schools (Kelab Sejahtera programme / RSEN members) and the public at large. Carrying out ESD programme, organize seminar at RCE Penang to share the experience with RSEN members and other related target groups, publications, etc

5.Results and future development

As a result, communication and networking between local and national level education authorities: University/RCE Penang facilitates by engaging the officers in charge as part of USM, RCE Penang has the privilege to sustain continuous networking with educations authorities as well as stakeholders related and relevant to the initiatives. The overall programme were successfully implemented and the participants gained knowledge on ESD especially on the SDGs and the students showed their leadership skills through the social media via video competition and understood the basic knowledge about ESD and SDGs.

From the assessment made, the school children have improved not only their general knowledge about the mangrove trees and ecosystems but the activities conducted throughout the

camp have succeeded in inculcating the values of caring and protecting mangrove trees and ecosystems. Teachers find the module help them to link the topics on water in preschool curriculum and the teaching. The ideas and framework presented in the module allow the teachers not to just 'deliver content' but to engage the young children on issues about water.

Meanwhile, for future development RCE Penang plan to continue increasing awareness on ESD by conducting training programmes for educational community and the public to achieve sustainability. We also continue to cooperate with university and government bodies to sustenance and developing an ESD programme with community participation.

Photo: ESD activities for Rehabilitating Mangrove Forests in Cooperation with Local Communities at Merbok Mangrove Reserve, Kedah

3. International Level

3.1 Formulate joint ESD activities to share experiences with diversity

In ESD, essential learning is promoted only by collaboration of multiple stakeholders. Strong linkages may emerge between different stakeholders working on similar sustainability issues in different environments and contexts. Knowledge to solve the problems could be constructed through working on seemingly different sustainability issues. Sharing such diverse experiences is expected to further advance ESD. Therefore, it is necessary for teacher education institutions to carry out joint international ESD projects.

The following model case of National University of Mongolia, Mongolia in collaboration with Okayama University is a good example of how an international joint training programme exceeded expectations, not only in developing the capacity of training participants, but also in reaffirming important perspectives on ESD in the host region and providing opportunities for empowerment and growth for practitioners as well as teachers.

Good Practice

3.1 Formulate joint activities on ESD to share experiences with diversity

National University of Mongolia, Mongolia in collaboration with Okayama University, Japan

1.Background

The implementation of the concept of Sustainable Development will continue in the education sector of our country until 2030. In this direction, the movement to become a “Sustainable University” in the field of higher education has been started and National University of Mongolia has set specific goals and objectives under the framework of educational, research and social activities to support creating trainings, research, student services, creating learning environment, developing training policy, as well as implementing the educational development projects. In defining the Sustainable Development Policy concepts, we focused on four aspects regarding the features of our country and the conceptual framework is developed as below.

- Learning content: Select topics to be included in the curriculum such as sustainable production and use, prevention of climate change, biodiversity and risk
- Pedagogy and learning environments: Learning and teaching process shall be implemented by focusing on learners through collaborative activity. By doing so, the activity-oriented learning will be implemented. Taking the consideration on being proactive learner when building training environment”
- Learning outcomes: Promote the core competences such as motivation for learning, critical thinking, systems thinking, decision making and responsibility as a frontrunner of the current and future generation

Societal transformation: Change the existing learning environment that each learner could nurture minds to be a change-maker of the society, to have aspiration for sustainable livings wherever s/he lives, as well as to approach to any issues in the global and local levels as a world citizen

As we work on the above issues, we thought that learning from the experience of other countries which have been leading ESD and playing an important role would enable us to grow rapidly in a short time. That is the reason why we visited Okayama City, Okayama University, Ohara Museum of Art in Kurashiki City, Okayama Municipal Minan Junior School, Okayama Municipal Minan Elementary School, Minan Certified Center for Early Childhood Education and Care (ECEC) and Minan Nishi Kominkan to study in July 2019.

2.Purpose

The concept of ESD is reflected in the revision of the national curriculum for Mongolian general secondary education, as well as the renewal of teaching manuals and textbooks. However, it is important to adequately understand the essentials of this reform according to educational policy plan and to focus on real issues in the general educational schools and subjects, and to conduct continuously the activity for schools and teachers to contribute to ESD. Therefore, we organized joint trainings for 10 teachers from Darkhan, Dornod, Khuvsgul, Selenge provinces and Ulaanbaatar city to share the experience and knowledge we learnt from ESD practice with the whole community approach of Okayama City. As outcomes of the training, we support the participating teachers to implement the innovative ideas of ESD and to introduce it in their communities and across the region.

3.Relevance to the Asia-Pacific ESD Teacher Competency Framework

It aims to strengthen the capacity of ''Participate and Engage'' of the ''Connect, Collaborate and Engage'' domain and to foster the capacity of ''Collaborate with Communities" and "Leader (ship)s" .

4.Implementation

1.Learn educational policy, concept and educational system of Japan and Okayama city, their school activities and teaching methods of ESD.
2.Learn by the hands-on experience about how Japanese teachers implement ESD and research principles in the life and the subjects
3.Learn major methodology of teaching subjects on which Japanese teachers are based, research methodology regarding the challenges of the school, and the systems of their teaching practicum/teacher training
4.Have understanding that lesson study and material research based on ESD will becomes effective instruments to improve their teaching methodology
5.Understand the ESD-based viewpoint of school management from principals of the schools they visited
6.Learn how to prepare ESD lessons using the learner-focused teaching methodology
7.Understand the educational agency, school' s management and teachers' responsibility and participation in implementation of educational policies based on ESD
8.Develop an ESD lesson plan for improvement of teachers' methodology in the province and school levels, actually implement it at their own school/institutions and finally to report the implementation

5.Results and future development

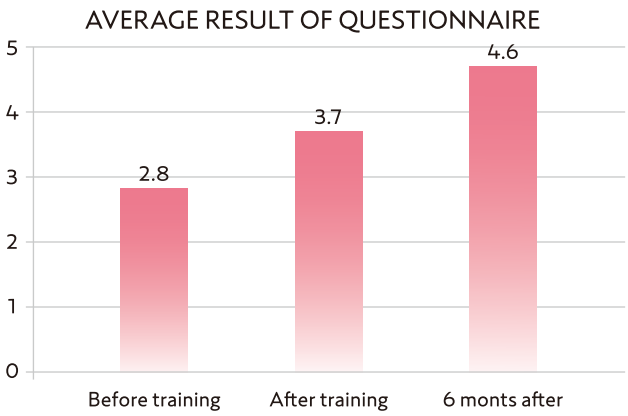
Under this framework, in July 2019, National University of Mongolia and Okayama University of Japan have organized "Mongolia - Japan Joint Teacher Training Programme for ESD: Towards Achieving the Sustainable Development Goals through Education''. The participants of this training came to Ulaanbaatar to report their activities implemented for six months after the training in Okayama. It can be described as extraordinary good experiments and practices implemented by participants as below.

- Every participant organized the experience of the trainings in Okayama and the idea of ESD in scale of the rural areas and districts s/he belongs, regardless of various restrictions/limitations that their school has.
- It can be said that it has been paid significant attention as young teachers in Dornod province established the designated club in order to supporting their ESD.
- The teaching methods of Okayama teachers based on real-life experience were very impressive. It became a key factor to organize internship programme

for the participant from Khuvsgul province to have the pupils feel and experience in the local community. For instance, some Mongolian children are living in a city or settlements and stay far away from the traditional way of lifestyle, which cause them to understand and feel the livelihood, cultures and values that their ancestors used to have. Therefore, the teacher implemented an ESD project to teach them life skills such as how-to keep cows or process dairy products from their milk.

- The participants from Selenge, Darkhan provinces are started to cooperate with Education, Cultural department of province and prepare their ESD lessons excellently and promote it effectively.
- The teacher appointed from Ulaanbaatar city is focused on the agendas to provide studying facilities and satisfaction index of the pupils. They are implementing the "Guest Teacher" program by visiting the schools in provinces nearby Ulaanbaatar city.
- Another teacher organized the training programme on how to make garden inside and outside of the school, by planting trees and making more green environment etc. with the local people and organizations in effective cooperation with the school students in Dornod province.

Okayama University and National University of Mongolia conducted the questionnaire research with 32 questions by analyzing scores from 1-5 for three times for the participants of training precisely based on the domains of "Capacity to connect and collaborate" , "Capacity to facilitate learning" , "Capacity to continue to learn" (See page 10, Annex 1). For instance, the same questionnaire was done in July 2019, before and after the training in Okayama, after the ESD action plans implemented at their own schools/institutions after they came back to Mongolia in January 2020 (Ulaanbaatar city). Thus, index of skill growth for participants are increasing continuously based on the average result of participants for this research.



Finally, it' s necessary to pay attention to the following points for activities to be implemented in furthermore.

- It is needed to support teachers for their implementation of ESD, e.g. to provide them with relevant information and to conduct the trainings systematically.
- It is important to express the knowledge and skills included in the curriculum in connection with SDGs in developing the subject curriculums.
- It is needed to prepare the curriculum and textbooks including the good practice of teacher training.
- Most of the teachers are interested in participating in activities such as expanding domestic and foreign cooperation, cooperating, organizing trainings to share the experience, and developing leadership skills and more.

Learning the experience from organizations leading ESD helps us to grow rapidly and to transform in a very short time. The teachers continue to enrich their activities, experience and hard works, develop their ESD project in their local community regarding the specific features and sustainability challenges of the area.

3.2 Hold regular conferences to present our initiatives and efforts on ESD as a platform

It is expected that sharing the progress, challenges and outcomes of teacher education for ESD across countries and regions will lead to the creation of new knowledge. Teacher education institutions are also required to regularly hold international conferences where professionals, teachers and practitioners can participate to share initiatives and efforts on ESD, discuss, exchange and actively communicate.

Closing

Further strengthening of ESD is indispensable for achieving the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs), and its key element is to develop ESD teachers. Recognizing the critical importance of teachers in these contexts, we have developed the Asia-Pacific ESD Teacher Competency Framework as an indicator of achievement of the SDGs target 4.7. In November 2018, we held the first regional meeting on teacher education for ESD in Okayama, Japan, where the draft framework was prepared, ESD teacher education programme designs at BA and MA levels were considered, and action plans for each participating teacher education institution were drawn. As a result, we proposed a direction for solving issues of teacher education originating in Asia-Pacific region.

Based on these achievements, we developed, implemented and evaluated the framework-based ESD teacher education programmes in 2019 and reflected their effectiveness. In September 2019, we held the second regional meeting in Bangkok, Thailand, with the cooperation of teacher education institutions and ministry of education of participating countries across the Asia-Pacific region to complete the final version of the framework and nine recommendations for its effective dissemination. These recommendations finally led to this dissemination guide.

In the future, substantial ESD teacher education programmes based on the framework and guide can be realized. As a result, teacher education for ESD in the Asia-Pacific region will be reoriented to achieve SDG target 4.7. ESD teacher education leaders participating in this project "Teacher Education for ESD in the Asia-Pacific Region" will need to work together to maintain the network and strengthen its reorientation.

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All participants who attended the preparatory meeting and the first and second regional meetings of the Project "Teacher Education for ESD in the Asia-Pacific Region" are listed below.

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Guide for the Effective Dissemination of the Asia-Pacific ESD Teacher Competency Framework

The Second Report of the Project "Teacher Education for ESD in the Asia-Pacific Region"
Outputs of the Second Asia-Pacific Regional Meeting on Teacher Education for ESD: Towards Achieving the Sustainable Development Goals through Education

17-19 September 2019, Bangkok, Thailand

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