OUTLINE OF DRAFT ESD INTEGRATION FOR PRE-SERVICE TEACHERS THROUGH TEACHER EDUCATION INSTITUTIONS IN SOUTHEAST ASIA

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1. INTRODUCTION TO THE PUBLICATION

a. What is the gap that we are trying to contribute to?

Integration of ESD in pre-service teacher education continues to be both an opportunity and a challenge globally, with particular issues specific to the Southeast Asian context. This preliminary report adopts the earlier understanding of integration of ESD in pre-service teacher education as one important dimension in the need to reorient education to address sustainability. The reorientation of the education system towards sustainability was identified as one of the priorities that contribute towards taking a holistic and integrated approach for education to contribute effectively to achieving sustainable development. The other priorities are improving basic education, and increasing public awareness and understanding of sustainability.

To achieve this holistic and integrated approach to reorient the education system to address sustainability, capacity-building will be required at all levels (from pre-school, primary, secondary, tertiary, vocational and adult education), recognizing the valuable roles of formal, non-formal and informal education, that is supported by policy, resources, and institutions (government, civil society and private sector) working in partnership at the global, regional and national context, but with a strong emphasis on this reorientation to be locally contextualized.

The critical role of pre-service teacher education has been identified a potentially effective and efficient approach to responding to this reorientation challenge, in particular when you consider the time and resources that will be required to re-train current teachers through in-service training. The end of Decade of ESD global report argued that despite the obvious progress in implementation of ESD in schools, there has been the “absence of clearly articulated ESD strategies and policies and the lack of ESD educator competencies” identified to enable effective capacity-building of teachers and school leaders who are key actors in this re-orientation of education to address sustainability. (UNESCO 2014:11)

The attempts at implementing ESD in schools have resulted in what we would describe as a wealth of ESD modules that have approached this reorientation mainly through curriculum integration. A review of some of the key curriculum integration approaches have identified that these approaches can be characterized as either one of the following or more often a combination of the following:

- creating a new ESD-specific subject;
- embedding ESD in existing subjects as cross or multi-disciplinary approaches in the curriculum integration;
- adopting a thematic, issue or problem-based approach like climate change, air pollution, deforestation etc. based on the local realities;
- incorporating the use of teaching and learning methodologies consistent with ESD principles of learner-centred and participatory approaches
- taking a whole-of-school or whole-of-institution approach via programs like EcoSchools and Green Schools, which involve the development of school-level policies (e.g. waste management, energy and water conservation), and
- engaging with the local community, often through project-based learning opportunities.
Specific to Southeast Asia, it is important to recognize that there have been a number of ESD programs and policy initiatives at the regional and national levels that are worthwhile successes to build on. Some early attempts of both UNESCO and SEAMEO in the mid-1990s, like the Learning for a Sustainable Environment- Innovations in Teacher Education Project that is worthwhile revisiting in terms of the key EE principles identified, the localized approach to module development, and the utilization of a participatory action research and networking approach for on-going professional development.

The second observation that was forwarded by the end of Decade of ESD global report recognized how the previously described proliferation of ESD modules has had limited success because there has been a huge gap in the ability of these modules to address the challenge of “institutionalizing ESD – to ensure strong political support to implement ESD on a systemic level” (UNESCO 2014:8).

This publications aims to contribute to these two gaps: identifying specific teacher competencies and strategies for effective ESD integration and addressing he need for institutionalizing ESD within Teacher Education Institutions.

Instead of describing it as being narrow, we take the view that this project is focused, keeping in view the greater challenge that ESD integration contributes to, the reorientation of the education system and raising public awareness of ESD to achieve quality basic education. This recognizes the importance not just of basic literacy and numeracy but the importance of what some have described as environmental or ecological literacy, as the foundation for any reorientation of the education system towards sustainability. Therefore, we argue that any pre-service teacher ESD program will require that pre-service teachers are able to recognize that their primary role within schools in the near future cannot be isolated from the reality of the quality of literacy that their future students will possess.

This aligns with the current overarching goal of the Global Action Programme (GAP) on ESD “to generate and scale up action in all levels and areas of education and learning to accelerate progress towards sustainable development”. The GAP adopts a two-fold approach to increasing the scale and scope of ESD action, namely through,

- integrating sustainable development into education; and
- integrating education into sustainable development.

The GAP has identified two objectives.

Objective 1 “to reorient education and learning so that everyone has the opportunity to acquire the knowledge, skills, values and attitudes that empower them to contribute to sustainable development”

Objective 2 “to strengthen education and learning in all agendas, programmes and activities that promote sustainable development”

In addition, this project also contributes to the achievement of all of the Sustainable Development Goals (SDGs), specifically Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

More specifically, we identify that we are contributing to Target 4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including,

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1 http://en.unesco.org/gap/goals-and-objectives
2 https://sustainabledevelopment.un.org/sdg4
among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.

The project specifically responds to the current indicator 4.7.1: Extent to which (i) global citizenship education and (ii) education for sustainable development, including gender equality and human rights, are mainstreamed at all levels in: (a) national education policies, (b) curricula, (c) teacher education and (d) student assessment.

b. What is the approach we have decided to take?

We acknowledge that we do not lack ESD modules and good practice stories (see Chapter 8) that could serve as guides for teacher-educators to help prepare pre-service teachers. In fact, we recognise that these current modules utilise innovative, creative and participatory teaching and learning approaches that aim to develop knowledge, skills and values relevant to ESD. However, a review has observed the strong tendency for more top-down approaches to how these modules were developed and disseminated.

Therefore, instead of creating new modules, we wanted to utilise the existing modules which continue to be relevant, but invite you, the reader, to prioritise and adapt these modules to your own local and institutional contexts.

There are two contributions we wish to make; that we hope will help to advance both the concept and practice of ESD integration within Teacher Education Institutions (TEIs) involved in pre-service teacher training.

First, is the development of a conceptual framework of for ESD integration that addresses the two gaps identified earlier, the need for educator competencies and the challenge of institutionalising ESD? We offer the framework, not as a top-down prescription but as a proposal for conversation and for adaptation or better for contextualisation. The challenge is to keep the integrity of the holistic nature of ESD integration, while acknowledging the local and institutional contexts that will make this framework relevant.

This contextualisation approach or simply taking a more bottom-up approach will involve TEI leaders and pre-service teachers conducting their own situational analysis of the attempts, the successes and the challenges of ESD integration within their own TEIs, in order for the institution and more specifically the teacher-educators and pre-service teachers to develop greater ownership of the ESD integration and reorientation process. This is consistent with the observation about the limited success of ESD integration and the need for institutionalizing ESD whereby “educators must be more than instruments of delivery for the ESD message. They must be centrally involved in developing the concepts, content, pedagogy, evaluation and research that will support the creation of ESD” (Hopkins and McKeown 2002:23)

Second, we want to trial an approach involving the practice teaching rounds of pre-service teachers as opportunities for them to learn about the local school and community realities that they will face. However, this proposal to utilise the teaching rounds will require that pre-service teachers are provided with the necessary ESD concepts and tools to effectively describe and critically reflect on the local school and community context. Therefore, this publication will provide a menu of ESD resources that TEIs can select from and adapt, to provide pre-service teachers with the foundations of ESD knowledge, skills and attitudes, which will guide them as they engage in the real world
context of their future schools and community. This process will be based on the principles of action research grounded in reflective teaching practice that we assume are embedded (maybe in varying degrees) into current pre-service teacher education.

The hope is that the pre-service teaching rounds will provide an additional opportunities and experiences that will build on the available ESD teaching and learning resources. Furthermore, it will provide both TEIs and pre-service teachers with the necessary ESD educator competencies that are grounded in a contextual understanding, to effectively enable them to employ these competencies, while recognizing their significant contribution toward the larger challenge of reorienting the education system towards sustainability.

c. What do we provide in this draft publication?

Therefore, this publication will attempt to guide you through currently available ESD teaching and learning resources, informed by a conceptual framework of ESD integration, specific to pre-service teacher education in TEIs. The publication is structured to address the different elements of the proposed conceptual framework of ESD integration for TEIs, with the key ESD competencies adapted from the ESD Lens Review Tool 13.

1. ESD CONCEPT: Are teachers developing an understanding of the philosophy, objectives and characteristics of ESD?
2. ESD FRAMEWORKS: Are teachers developing an appreciation of the importance 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?
3. ESD CONTEXT: Are teachers developing strategies for identifying and engaging with community and local issues in relation to global issues?
4. ESD CONTENT: Are teachers developing their knowledge to understand and explain these local and global issues that impact on achieving sustainable development?
5. ESD METHODS: Are teachers developing the skills to use a variety of teaching and learning approaches to achieve the wide range of ESD objectives?
6. 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?
7. ESD INSTITUTIONAL MAINSTREAMING: Are teachers developing an awareness of the institutional structures and processes that are crucial for successfully integrating ESD?

d. What do we expect from you?

ESD values active participation and engagement grounded in local context. Therefore, one essential element of this publication will be for you, the TEI leaders and teacher educators, to identify what is locally relevant and appropriate to your specific TEIs. This will be informed by your national development and policy context and your own local community and institutional situation.

As for the pre-service teachers, the hope is that you and your TEIs will be able to facilitate them to appreciate the holistic nature of ESD – as an integrating framework that can provide relevance to our teaching and learning by continually being grounded to the realities of the students, the schools and communities they will find themselves engaged in.

3 http://unesdoc.unesco.org/images/0019/001908/190898e.pdf
This prototype module can be used by individuals and groups involved in integrating ESD in pre-service teacher education. It is relevant for Deans of Education, Course/curriculum developers within TEI’s working with teacher trainers/educators. It also can be adapted for use by teacher trainers/educators working directly with pre-service teachers and by pre-service teachers themselves.

2. PROPOSED ESD INTEGRATION FRAMEWORK

a. Recognising the holistic nature of ESD integration

Integration of ESD in pre-service teacher education continues to an opportunity and a challenge. Hopkins and Mckeown in the UNESCO DESD Technical Paper 2 (2005:13) identified the need for a more holistic approach to ESD integration in the curriculum, recognizing that for it to be effective will involve efforts in all of the following areas:

1. Ministerial and national level involvement
2. Community and regional/provincial involvement
3. Changes within institutions of higher education
   3A. Change across institutions of higher education
   3B. Change within faculties of education
   3C. Change related to engaging pre-service and in-service teachers
   3D. Change at the individual faculty member level
4. Funding and other resources
5. Partnerships
6. Research
7. Communications
8. Information Technology Opportunities

This holistic approach acknowledges that the reorientation of the education system requires capacity-building at all levels (from pre-school, primary, secondary, tertiary, vocational and adult education). This holistic approach recognizes that formal, non-formal and informal education needs to be supported by policy, resources, and institutions (government, civil society and private sector) working in partnership at the global, regional and national context, but with a strong emphasis on local contextualization.

The critical role of pre-service teacher education has been identified as an effective and efficient approach to responding to this ESD integration challenge, when compared to the amount of time and resources that will be required to re-train the current teachers through in-service training.

The end of Decade of ESD global report observed that despite the obvious progress in implementation of ESD in schools, there has been the “absence of clearly articulated ESD strategies and policies and the lack of ESD educator competencies” identified to enable effective capacity-building of teachers and school leaders who are key actors in this re-orientation of education to address sustainability. (UNESCO 2014b:11)

The focus of the project is the capacity-building of TEIs to integrate ESD in the pre-service teacher education curriculum (PSTEC). The authors argue that ESD integration in the PSTEC needs to be viewed as a cumulative spectrum, where each stage of the spectrum encompasses the next stage.

Awareness-building → Knowledge → Teaching Methodology → Curriculum change → Institutional change
The review of the literature, confirms that most of the work of curriculum change has focused on the first three areas namely, awareness, knowledge and methods, where ESD integration was more focused on adding a new subject or topic, rather than curriculum and institutional change, as one would expect if one were contributing to the re-orientation of education towards sustainability.

This observation is supported by a study in Australia on mainstreaming ESD in pre-service teacher training, which argued that “EFS needs to be mainstreamed within pre-service teacher education and not just added on through the teaching of single units or marginalised content.” (ARIES 2010:8) The report defined **mainstreaming** as “the inclusion of the content and practice of a particular idea (such as learning for sustainability) within an organization, institution or system (such a pre-service teacher education) to such an extent that it becomes embedded within its policies and activities.” (Ferreira, Ryan & Tilbury 2006:99 cited in ARIES 2010)

Furthermore, this proposed spectrum supports the second observation that was forwarded by the end of Decade of ESD global report recognizes how the previously described proliferation of ESD modules has had limited success because there has been a huge gap in the ability of these modules to address the challenge of “institutionalizing ESD – to ensure strong political support to implement ESD on a systemic level” (UNESCO 2014b:8).

It is within these areas on the right of the ESD Integration PSTEC Spectrum, which involves linking ESD to broader curriculum and institutional change where this ESD project aims to contribute to.

The review of literature and the situational analysis conducted has resulted in the proposed linear PSTEC Spectrum changing into a more comprehensive conceptual framework that has guided the development of this draft prototype module publication and TEI training.
b. Proposed Framework of ESD integration for Pre-Service Teachers via Teacher Education Institutions

![Diagram of the Proposed ESD Integration Framework for Pre-service Teacher Education](image)

**Figure 2: Proposed ESD Integration Framework for Pre-service Teacher Education**

The ESD Integration Framework recognises that at the core of any attempt at ESD integration is the basic understanding of ESD as a holisic framework that draws not only on the Social, Economic and Environmental dimensions, as is often described, but significantly is grounded in the cultural and political contexts. These contextual realities are further informed and advanced by multi-disciplinary or cross-disciplinary thinking, which recognises that sustainability is by nature holistic and interconnected. The concept of ESD, together with a brief historical overview and a framework from practice is discussed in Chapter 3.

As identified in the earlier spectrum, ESD integration has often focused on the inclusion of relevant content, using appropriate teaching and learning methods, within the curriculum or what we have called curriculum mainstreaming. This is identified by the three hexagons in the upper half of the framework – Content, Method and Curriculum.

More recently, as the framework illustrates, there has been recognition that successful integration requires institutionalisation or what we described as institutional mainstreaming. This is further informed by relevant policy frameworks and contextual realities. This is identified by the three hexagons in the lower half of the framework – Institution, Framework and Context.

These are the six inter-related elements that are identified in the ESD Integration Framework, namely:

1. **FRAMEWORKS** - policies at global, national, Department of Education, and ESD Initiatives (eg. EcoSchools, Green Schools, Enviro-schools, etc.)
2. **CONTEXTS** – local and community realities and key stakeholders (eg. students, teachers, parents, community, private sector, civil society and local government entities)
3. **CONTENT** - issue-based and thematic entry-points for learning about ESD
4. **METHODS** – learner-centred and participatory teaching and learning approaches
5. **CURRICULUM MAINSTREAMING** – curriculum-based approaches (eg. new subjects, cross-disciplinary teaching, project-based learning, etc.)
6. **INSTITUTIONAL MAINSTREAMING** – leadership and institutional transformative approaches
The framework also sets the standard that ESD integration aims to achieve. For example, ESD content and method need to be **EFFECTIVE** in developing knowledge, skills and attitudes; ESD frameworks and context aims to be **RELEVANT** to both current policy frameworks and community contexts, while ESD is expected to be **MAINSTREAMED** in both the curriculum and institution, which all together contributes to successful **ESD INTEGRATION**, within pre-service teacher education in TEIs.

This is an initial and proposed framework, and we hope that together we can fine tune this ESD integration framework. The aim is for the framework to serve as a useful guide for teacher-educators and TEI leaders in developing the ESD competencies of their pre-service teachers and sustaining these initiatives within their respective TEIs.
3. ESD – AN OVERVIEW

There continues to a lot of comments that ESD is difficult to define and therefore is difficult to understand, much more to implement. However, we argue that ESD is a framework for learning about our interconnected world, a process whereby we identify and act in the world that contributes towards achieving our own vision of a more sustainable future. To achieve this, ESD requires that we act on three inter-related priority areas, namely, (i) to improve basic education, (ii) to reorient education to address sustainability, and (iii) to increase public awareness and understanding of sustainability. (Hopkins and Mckeown 2002)

This publication is guided by the current definition or more like description of the elements of ESD used by UNESCO below as a starting point. In addition, we invite you to visit three other publications that attempt to define or describe ESD from a Southeast Asian perspective; from the perspective of culture (rather than the usual perspective from the environment) and from the perspective of practitioners in the Asia-Pacific.

What is ESD?4

ESD empowers learners to take informed decisions and responsible actions for environmental integrity, economic viability and a just society, for present and future generations, while respecting cultural diversity. It is about lifelong learning, and is an integral part of quality education. ESD is holistic and transformational education which addresses learning content and outcomes, pedagogy and the learning environment. It achieves its purpose by transforming society.

**Learning content:** Integrating critical issues, such as climate change, biodiversity, disaster risk reduction (DRR), and sustainable consumption and production (SCP), into the curriculum.

**Pedagogy and learning environments:** Designing teaching and learning in an interactive, learner-centred way that enables exploratory, action oriented and transformative learning. Rethinking learning environments

- physical as well as virtual and online
- to inspire learners to act for sustainability.

**Societal transformation:** Empowering learners of any age, in any education setting, to transform themselves and the society they live in.

- Enabling a transition to greener economies and societies.
  - Equipping learners with skills for ‘green jobs’.
  - Motivating people to adopt sustainable lifestyles.

- Empowering people to be ‘global citizens’ who engage and assume active roles, both locally and globally, to face and to resolve global challenges and ultimately to become proactive contributors to creating a more just, peaceful, tolerant, inclusive, secure and sustainable world.

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**Learning outcomes:** Stimulating learning and promoting core competencies, such as critical and systemic thinking, collaborative decision-making, and taking responsibility for present and future generations.

a. ESD as a global initiative

The following ESD Module, specifically designed for SEAsian Educators provides a good introduction to ESD as a global initiative.⁵ (See Appendix 1)

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⁵ SEAsian Module Chapter 1 – SEAMEO INNOTECH
b. Understanding ESD as a concept

The following more detailed description of ESD comes from the perspective of inter-cultural understanding\(^6\) as the shared grounding of ESD that is often mentioned, but seldom is it explicitly identified. We therefore have decided to use this as a way to introduce the concept of ESD. [See Appendix 2](http://unesdoc.unesco.org/images/0018/001890/189051E.pdf)

![Diagrammatic representation of the various dimensions of ESD.\(^7\)](http://unesdoc.unesco.org/images/0018/001890/189051E.pdf)

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c. Appreciating ESD from practice

The following is an attempt to develop an ESD framework based on practice. ESD HOPE framework was initially developed as an ESD evaluation framework based but has since become a useful guide for planning, implementing and evaluating ESD. The value of this framework is that while it was guided by the UNESCO ESD Decade International Implementation Scheme’s definition or characterisation of ESD, the resulting HOPE framework was a product of numerous education projects conducted across the Asia-Pacific region during the period of the Decade of ESD. It is therefore a demonstration of how ESD can be effectively contextualised yet still have a shared guiding framework. [See Appendix 3]

![Figure 4: Original HOPE ESD Framework](http://www.accu.or.jp/esd/hope/)

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8 http://www.accu.or.jp/esd/hope/
4. ACTION RESEARCH APPROACH TO ESD INTEGRATION

The specific context for the action research in this prototype module focuses on Lead TEI’s leading a change process in their own institutions as well as other TEI’s in their own countries.

a. What is Participatory Action Research?

This module incorporates participatory action research as a key principle/methodology for change in TEI’s and therefore is more about guiding participants through a process rather than being a top-down guide to ‘best-practice’.

There are many Participatory Action Research models used to facilitate changes in practice in organisations across private, public and educational sectors. The Action Research Model utilised in this module prototype is based on the one used in Steele F (2010). Mainstreaming Education for Sustainability in Pre-Service Teacher Education: Enablers and Constraints. A report prepared by the Australian Research Institute in Education for Sustainability for the Australian Government Department of Environment, Water, Heritage and The Arts.

See Figure 5\(^9\) below

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Participants define a problem, plan and evaluate action, then reflect on the action. A second or third cycle of action may then be initiated that incorporates the learning from previous action/reflection cycles. Action research is collaborative, social and reflexive (Kemmis and McTaggart, 2005).

For the purpose of this module the central Action relates to improving the integration of ESD into your TEI, and subsequently through the pre-service teacher students improving the integration of ESD in schools.

The Action Research model is an iterative process. Each cycle is an iterative process as well as a link to the next cycle of action research.

b. Relating the Conceptual Framework for ESD Integration to the Participatory Action Research Model

Connecting the Participatory Action Research Module described above to the proposed Conceptual Framework for ESD Integration described earlier has three cycles of action research. All cycles are informed by a level of situational analysis of the individual, the community and the institution.

The First Cycle of Action Research (Understanding ESD, What you teach and how you teach?)

Based on the initial situational analysis of completed prior to commencing the module, the agreed problem is that there is a need to improve/reorient ESD integration in TEI’s and subsequently in schools. The first cycle engages the learners in understanding the problem in more depth to explore the following questions:

- What do I know about the concept of ESD?
- What ESD content am I confident about?
- What ESD-related methods am I comfortable with?

It is individual learning and is likely to involve a mix of literature review, contextual knowledge and first-hand experience.

Applying the ESD Integration Conceptual Framework to the first cycle of action research (PLAN, ACT and collect data, OBSERVE and monitor outcomes, REFLECT and evaluate and then LEARN and communicate) involves more specifically:

- Understanding ESD: cultural, social, political, environmental and economic sustainability. This would commonly involve a literature investigation/review of existing material, which includes existing modules for ESD integration.
- Developing an awareness of the current ESD content areas tackled in the TEIs or in the schools.
- Developing confidence in the current methodologies that facilitate the integration of ESD into teacher education in TEI’s (and schools): e.g experiential learning, student-centred learning, inquiry learning, subject-specific learning.
- Seeing the link of the above components to the proposed ESD Integration Conceptual Framework (Figure 2) for reflection and evaluation of where the gaps and challenges are, as well as the current successes.
The Second Cycle of Action Research (What guiding frameworks and contexts shape your teaching and learning practice?)

Applying what we have learned from the first cycle of action research into the planning phase of Cycle 2 the focus for investigation, action, observation and reflection and learning turns to implementing a situational analysis of what is happening at the a) TEI or b) school level in respect of the policy frameworks and community context a elements of the ESD Integration Framework.

This may involve developing an awareness of the ESD issues that are particularly relevant to your TEI’s community? It also involves identifying the relevant policy frameworks (global or national) and current programs (eg. EcoSchools, Green Schools etc.) that are the relevant to the TEI or the immediate community.

One can use the draft TEI survey tool or the adapted ESD Lens Tools #13 in Chapter 5. If the situational analysis is being conducted by pre-service teachers as part of a teaching practicum, there are a number of tools from Education for Sustainable Development Lens: A Policy and Practice Review Tool 10 could be used/modified and contextualised for this purpose:

1. Looking at the ESD Concept
   ESD Lens Review Tool 2: Integrating elements of ESD (pp 24-27)
2. Looking at Frameworks: What are the links between national development policy and ESD?
   ESD Lens Review Tool 3: ESD in national development policies (pp 35 – 36)
3. Looking at methodology: How can ESD support improved teaching and learning?
   ESD Lens Review Tool 8: Teaching and Learning Strategies (pp.63-64)
4. Looking at curriculum: How can ESD concerns be integrated into curriculum subjects or learning areas?
   ESD Lens Review Tool 9: ESD integration in the curriculum (pp.68-69)

The Third Cycle of Action Research (Mainstreaming Curriculum and Institutional Change)

The third phase of the action research cycle now focuses on taking action to implement change that leads to the institutional and curriculum mainstreaming of ESD. As part of the process of establishing a detailed action plan based on the areas of the ESD integration conceptual framework where gaps were identified.

Reflection/evaluation of the success of ESD integration is a key part of this third action research cycle as are the learning and sharing elements.

The following activity sheet may be useful at various stages of the Action Research cycle: Appreciative Inquiry  (See Appendix 4)

10 http://unesdoc.unesco.org/images/0019/001908/190898e.pdf
5. SITUATIONAL ANALYSIS: WHAT IS THE PROBLEM WE ARE TRYING TO ADDRESS?

a. What do we know about ESD integration in Southeast Asia?

The following is a preliminary situational analysis that draws from global, regional and national reports that are readily accessible on ESD. These key reports are annotated below.

Specific to Southeast Asia, the UNESCO (2005) Situational Analysis for the Asia-Pacific region observed that while early environmental education (EE) in Southeast Asia had recognized the value of local culture in the protection of community resources, these EE initiatives were often focused on nature conservation and were primarily developed by the Ministries of Environment and/or Agriculture that provided the supportive policy environment for mainstreaming EE. In 2000, the 10 ASEAN member countries adopted the ASEAN Environmental Education Plan (2000-2005) which would have laid the foundations for the Decade of ESD (UNESCO 2005).

The Decade of ESD attempted to raise the awareness that achieving the priorities of ESD rested firmly on the reorientation of the education system and public awareness rests solidly on achieving quality basic education. This recognizes the importance not just of basic literacy and numeracy but the importance of what some have described as environmental or ecological literacy, as the foundation for any reorientation of the education system towards sustainability.

However, despite the advances made during the DESD, the Final Report identified that the obstacle to advancing ESD in schools includes the lack of “clearly articulated ESD strategies and policies and the lack of ESD educator competencies” and the need for “institutionalizing ESD” (2014b:11).

The most recent report prepared by SWEDESD based on a conference on ESD Integration in Teacher Education has forwarded three recommendations that are relevant to this TEI initiative, namely, that “TEIs further a systemic integration of ESD in teacher education. Rather than, or in addition to, introducing new courses, there should be a focus on how the relevance, meaningfulness and quality of existing subjects can be enhanced through the inclusion of ESD; regional partnerships are strengthened and used in professional development of ESD for teachers and teacher educators, and that ESD is included in professional development for leaders at all level” (SWEDESD 2017).

It is proposed that a more detailed regional situational analysis will be developed as an outcome of the TEI project through the following process:

1) Preliminary institutional situation analysis of ESD integration in their respective TEIs through pre-training survey (See below) to be presented as part of the TEI training
2) Baseline SEAsia situation analysis of ESD integration at the conclusion of TEI training
3) National situation analysis to be conducted as part of the TEIs ESD integration national trainings of TEIs
4) Revised SEAsia Situational Analysis to be consolidated by the end of the TEI project

This four-stage approach to developing the situational analysis is supported by the review of literature that the success of ESD integration has been limited by the predominantly top-down approach resulting in weak ownership and local relevance, due to the proliferation of short-term trainings, with minimal on-going support.

Of particular relevance is an early attempt of both UNESCO and SEAMEO in the mid-1990s, called the Learning for a Sustainable Environment- Innovations in Teacher Education Project which is worthwhile revisiting for its successes in terms of using a localized approach to module
development, and the utilization of a participatory action research and networking approach for on-going professional development (Fien 2001). However, the more relevant argument forwarded by this project experience was how often pre-service teacher education projects can be very top-down that they “deny key stakeholders a role in knowledge production and merely position them as passive receptors/adopters of centrally prescribed research and innovation” (Singh 2011:98).

With particular reference to pre-service teachers Fien (2001:78) cited a UNESCO-ACEID report (1994) that observed how innovations in teacher education usually are externally motivated and “not at the point in the teachers’ lives when they are dissatisfied with their present practice, and hence are looking for alternatives to solve a problem they personally recognize.” Furthermore, this externally motivated approach further “reduces the role of teachers to that of ‘passive receivers’ of centrally produced curriculum” (Fien 2001:78).

Therefore, the project proponents argue that the actual process of developing their own institutional and national ESD integration situational analysis is potentially one approach to ensure that the participants are solving a problem “they personally recognize” (Fien 2001:78). But more than just assisting them with the situational analysis or problem identification, this TEI project aims to facilitate a process whereby the participants are able to develop a locally relevant ESD integration framework that can then help adapt them identify, adapt or develop their own ESD modules appropriate for their specific local and institutional contexts.

Furthermore, we argue that any pre-service teacher ESD program will require that pre-service teachers are able to recognize that their primary role within schools in the near future cannot be isolated from the reality of the quality of literacy that their future students will possess.

b. What is happening in your own TEIs? Draft Situational Analysis Survey for Teacher Education Institutions

Your response to the survey is critical not only to assist in developing a more comprehensive situational analysis but more importantly for you to appreciate your own individual and institutional strengths with regards to ESD integration, identify the critical and relevant contexts that will shape ESD integration and curriculum and institutional mainstreaming processes that you propose to conduct to build on your strengths. This is the first task.

The second task, involves you having been identified as the lead TEIs or what we have called lighthouse TEIs, you will be expected to facilitate the capacity-building of other TEIs in your respective countries to enable them to integrate ESD in their respective curriculum and institutions. This will be guided by the principles of action research, appreciative inquiry and critical reflective practice, grounded on the proposed ESD Integration Framework.
c. What are the current ESD tools available for conducting situational analysis?

The UNESCO ESD Lens\(^ {11}\) is one of the tools that are available to guide us in conducting the situational analysis of your respective institutions and also of the schools that your pre-service teachers will be engaged with. We have adapted the tools to align with the proposed ESD Integration Framework. You are equally invited to adapt the tools to your own institutional context.

i. Pre-Service Teacher Education Mainstreaming Survey\(^ {12}\)

**Objectives**

To review the extent to which ESD is integrated into teacher education practices within TEIs.

**Who should be involved in this review?**

Teacher educators and TEI Leaders/Administrators/Managers

**Orientation**

There are approximately over 70 million teachers in the world – and each one is a key agent of education for sustainable development. For this reason, appropriately focused teacher education is an important part of Education for Sustainable Development. In relation to the topics dealt with in this ESD Lens, ESD in teacher education is essential for the following reasons:

- Policy development and planning will not be effective if teachers do not know how to carry it out, or do not have the motivation to do so.
- Practitioners are a key source of practical, contextualised knowledge on ESD and often are the source of creative developments which can be more widely shared.
- As ESD does stress the use and relevance of the locality, it is very important that teachers learn strategies for relating learning more fully to the specific opportunities available where a school is situated.
- Teachers need to know the basics of ESD in order to fulfil various social objectives for education such as peace and social cohesion.
- Teachers need to be informed by ESD in order for them to make a contribution to cultural understanding, environmental sustainability, conservation and protection.
- Teachers need to understand ESD in order to help their schools become sustainable schools.

In relation to pre-service teacher education, UNESCO’s Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability argue that:

> Institutions of teacher education fulfil vital roles in the global education community; they have the potential to bring changes within educational systems that will shape the knowledge and skills of future generations. Often education is described as the great hope for creating a more sustainable future; teacher education institutions serve as key change agents in transforming education and society so that such a future is possible.

Increasingly, many Teacher Education Institutions are responding to the need to ensure graduating teachers understand ways of planning curricula, selecting learning materials and planning learning experiences so that their students can achieve the wide range of knowledge, thinking and decision-

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\(^{11}\) Cite ESD Lens

\(^{12}\) ESD Lens Tool13 (pp 87-89)
making skills, values and attitudes and citizenship objectives of Education for Sustainable Development. However, many teachers were trained before ESD programmes were developed and thus missed the opportunity to develop all the capabilities they need to be able to help their students achieve the objectives of Education for Sustainable Development. For this reason, continuing professional development is very important to ensure that all teachers have the knowledge and skills to be able to plan learning experiences that empower their students to develop and evaluate alternative visions of a sustainable future and to work creatively with others to help bring their visions of a better world into effect.

ESD helps to improve teacher training programmes both in the opportunities provided for reflective practice and in the enriched interactive dimensions in a number of related ways as shown in the ESD Lens.

ESD encourages an action research approach to teaching which involves cycles of innovation and review, with reflective practice at the centre. ESD views practitioners as a vital source of creativity in their ability to adapt learning to the local context and teacher training can help to further develop these skills to the benefit of all areas of learning. The interactive dimensions of ESD take teachers out of the classroom to liaise with a wide variety of stakeholders in society, where leadership in education is valued as a social resource. (Refer to Stakeholder Analysis Activity in Appendix 5) The development of common areas of work between schools and different sectors of society encouraged by ESD can be a source of enrichment for the whole school. The emphasis of ESD on local knowledge provides opportunities for teachers to interact with the community and to engage parents more fully in learning. These key elements need to be supported in teacher education programmes, possibly through modules that have specific project-based assessment criteria.

**Review process**

ESD Lens Review Tool 13 can be used at national, institutional or programmatic levels. Decide which level you are targeting before starting the review. Fill in existing practice related to ESD in teacher education programmes, and ESD teacher capabilities, and identify possible initiatives or changes. ESD Lens Review Tool 13 can also be used at a macro-review level, i.e. to start a more in-depth review of a country’s teacher education system and policies. If used at this level, it will need to be complemented with more in-depth research and review processes. For immediate impact, it can best be used at a teacher education programme level (i.e. in a college or university). Learning from this can inform wider, macro-review processes.

**Follow-up steps**

Once the review is complete, identify critical changes necessary to the way teacher education programmes are structured for ESD integration both in terms of format and contents. Consider what resources and processes need to be followed to implement these changes and develop an action plan to take this work forward.

**Action planning**

Identify three or more actions for taking the teacher education review forward, and fill them in to the ESD Lens Action Plan at the end of this document.
### ESD Lens Review Tool 13: ESD and Pre-Service Teacher Education

Adapted for use by: Teacher Educators and TEI Leaders/Administrators/Managers

<table>
<thead>
<tr>
<th>Pre-Service Teacher Education</th>
<th>Existing practice in relation to each of the review questions</th>
<th>Possible Initiatives/ Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are all teachers exposed to the importance of ESD?</td>
<td></td>
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<tr>
<td>2. Is ESD seen as a whole-of-curriculum priority?</td>
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<tr>
<td>3. Are cross-curricular and thematic possibilities developed at a policy, institutional and/or programmatic level in teacher education?</td>
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<tr>
<td>4. Is ESD infused into all core courses in pre-service teacher programmes (e.g. in studies in education; curriculum theory; curriculum planning; applied curriculum studies for teaching different subjects)?</td>
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</tr>
<tr>
<td>5. Is ESD infused into the range of elective courses in pre-service teacher education programmes so that teachers can develop advanced understandings of aspects of ESD and skills if they wish?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Are continuous professional development programmes in ESD available for teachers to build their commitment and capabilities to implement and develop ESD?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
6. CURRENT APPROACHES TO ESD INTEGRATION

Curriculum Mainstreaming

The following case stories help to illustrate examples of successful curriculum mainstreaming. While we have categorised them to illustrate a specific approach, it is important to recognise that often the most effective approaches are not limited to a single approach.

a. New ESD Subject

CASE STUDY: A SYNTHESIS OF KNOWLEDGE AND SKILLS

At the University of Debrecen, the subject of sustainability has been introduced as part of the retraining of biology teachers, that is, in relation to environmental education. Two years ago, the Hungarian government prescribed for schools an elaboration of environmental and health education programs, in which we thought it best to integrate ESD. Educational purposes of ESD include the acquisition of knowledge in natural as well as in social sciences, of the skills, comprehension, and the general attitude to our visions of the future and to our values.

Although ESD is still a broad and new concept in that it is far from being fully elaborated or introduced, the University of Debrecen already emphasizes multiband trans-disciplinary study of issues of environment, economy, and society. The activities of our colleges from the Departments of Pedagogy and Sociology were a great help; together we managed to bridge the gap between natural and social sciences.

The ESD course induces certain ecological apprehensions and a way of thinking centred around the living environment, which helps create harmony between the social and the natural environment by restructuring environmental awareness.

As an independent subject, ESD provided a synthesis of the knowledge and skills acquired in other courses and promoted critical thinking on environmental issues. The courses seem to have given teachers useful knowledge, which they can readily incorporate into their teaching practices.

(Professor Gyula Lakatos – University of Debrecen, Hungary)

FOR REFLECTION: What are the advantages and/or disadvantages of a single ESD course within the pre-service teacher education curriculum? One of the most often heard challenge is the issue of the ‘crowded’ curriculum. How will you respond to this situation?

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b. Embedding ESD as a cross-curriculum perspective

**CASE STUDY:** Literature to Address the Problem of Violence: Infusing ESD in the Curriculum – Dr Lorna Down (University of the West Indies, Jamaica)\(^{14}\)

“This project aimed at infusing education for sustainable development into the curriculum at the largest teachers’ college in Jamaica. It began with the reorientation of the Literature program for student teachers who were preparing to teach English literature and language to secondary school students.

The program introduced major issues of sustainability and focused on that of violence in Jamaican society. To begin with, we explored with our students the concept of sustainable development through lectures, discussions, and projects. In doing so, we reflected on a number of issues related to the environment, the economy, and society and encouraged students to pursue further research in this area.

In addressing attitudes to and behaviours of violence through literature we taught the set literary texts by focusing on their social/historical, economic, and environmental aspects. We examined 1) the roots of violence in Caribbean society, 2) the impact of violence, and 3) alternatives to violence, in other words, the path to peace. This included conflict resolution management”

**FOR REFLECTION:**
The most common curriculum entry point for ESD is about environmental issues. This case study highlights how violence in Jamaican society was identified as a relevant entry point for the study of literature, but was effectively able to relate this to social/historical, economic and environmental aspect – the key dimensions of sustainability – towards a vision of peace. Are there issues within your own local community that could be entry points for ESD to be embedded across the curriculum?

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c. Content or Issue-based ESD integration

CASE STUDY: Environmental Protection Module

“If the environment is “everything that surrounds us”, then its imminent collapse should be a reason for serious alarm among all members of our species. As is often said in sustainability circles, when the environment collapses, everything collapses. ... The truth is that many things on which your future health and prosperity depend are in dire jeopardy: climate stability, the resilience and productivity of natural systems, the beauty of the natural world, and biological diversity. ... The guidelines in this document have been designed to try and provide teacher trainers and teachers with some tools, one possible framework, and some processes for bringing the environment into the realm of all subjects, not just those of science, as has traditionally been the case.”

FOR REFLECTION: One of the most often heard challenge about ESD integration aside from the challenge of complexity is the challenge that too often it is based on scientific information, like climate change or biodiversity, as the key issues. How do you propose to respond to this challenge of linking one specific issue, like climate change, to the different dimensions of ESD?

d. Methods-based ESD integration

CASE STUDY: ALTERNATIVE EXAMINATION IN TEACHER EDUCATION

One new course for student teachers at Uppsala University employs an alternative form of examination. After lectures, seminars, excursions, and study visits, students must show their understanding of sustainable development by constructing a case. Such case-based learning helps students acquire problem-solving and decision-making skills in complex situations. By reading narratives about individuals facing decisions or dilemmas, learners engage with the characters and circumstances; investigate so as to understand the facts, values, contexts, and decisions in the story; and connect the meaning of the story to their own lives. The teaching faculty informs the students about the case methodology and demonstrates a few examples. In one lecture, they are informed about a pilot project by using cases to create understanding. They are asked to construct a case that includes an environmental problem in an appropriate context. The students reacted positively towards this means of examination. The variety of issues ranged from the problem of a fattening population in Western countries to the extinction of the Aral Sea in Asia. (Dr Valdy Lindhe – Upsala University, Sweden)

FOR REFLECTION: How does the method, like the use of narratives in the case study or the use of field visits or project-based learning, improve the chances of integrating ESD into different subject areas?

16 http://unesdoc.unesco.org/images/0014/001433/143370e.pdf (P.47)
e. Whole-school approach to integration

**CASE STUDY: Sustainable Campus Initiative – Professor Tzuchau Chang (National Taiwan Normal University, Taiwan)**17

“The Taiwan Sustainable Campus Program (TSCP) is a government-supported, nationwide endeavour launched in 2002, to reform school campuses K-12 as well as universities to be learning spaces that foster health, safety, education and sustainability. The Sustainable Campus Program provides funds for schools to renovate their campus through a variety of initiatives. They can purchase and use energy-saving appliances and implement water recycling and reuse systems. Outdoors, schools can increase permeable ground surfaces and create artificial wetlands. They may create multi-layer plantations for carbon dioxide reduction and biodiversity and composting foliage and kitchen waste. In addition they may plant educational organic farms or construct eco-ponds.” This case study outlines how the NTNU “created a platform for first-hand teaching and learning experiences for sustainability at NTNU.”

**FOR REFLECTION:** Using the proposed ESD Integration Framework, what additional activities would turn this infrastructure-based project into Institutional and Curriculum Mainstreaming initiatives? Can you identify infrastructure-based projects in your own institution that could have been used more effectively for teaching and learning?

**CASE STUDY: St Louis de Montfort Primary School, Melbourne, Victoria Australia**18

Our school community feels we have an essential role in contributing to sustainability, not only to reduce our environmental impact but to also ensure our future leaders understand and take pride in being custodians of our planet. Students, staff, parents and the broader community work in partnership to deliver sustainability learning for all age levels with a focus on our Kitchen to Garden program (K2G), ResourceSmart AuSSI Vic framework, ‘i sea, i care’ Marine Ambassador program and our civics and citizen environmental initiatives within our community. Education is not only an end in itself, it is also a key instrument for bringing about the changes in knowledge, values, behaviours and lifestyles required to achieve sustainability and stability within and among countries, democracy, human security and peace. (UNESCO, 2002)

By incorporating sustainability education and actions within all year levels and within all disciplines St Louis de Montfort has embedded sustainability into each student’s learning and leadership journey. Sustainability is also a feature of our civics and citizen initiatives engaging students in environmental projects outside the school grounds and within the community.

Students are hands-on with implementing and achieving environmental improvements within our school reducing waste usage; organic recycling with our animals, compost and worm farms; animal husbandry, measuring and monitoring our water, energy and waste, improving biodiversity, propagating and growing fruit and vegetables.

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18 From the School website
St Louis de Montfort’s Aspendale is a large Catholic primary school in a bay side suburb of Melbourne. The school has a student population of 760 with 85 staff. The School is a built on reclaimed swampland and lies between the wetlands and the bay.

Being a Catholic school we look at education for sustainability in a Catholic context “as agents of the mission of the church, Catholic education encourage and empower school students and their communities to take action for the common good”. We have the belief that by being present with and developing deeper relationships with creation, restoring the social balance and learning to live sustainably we are all enriched. Enough for ever for all is being embedded into each year level and classroom through hands-on learning.

We believe that empowerment through education is a critical tool for achieving sustainability. We trust that stewardship is a call to service “that creatures exist only in dependence on each other to complete each other in the service of each other.”

To support our beliefs we have we have created a one of a kind education program and sustainability precinct that supports a whole school approach to developing active environmental citizens. Students are immersed in hands–on learning directly related to the Australian Curriculum through our Garden to Kitchen program and in our sustainability precinct, local wetlands and nearby bay.

FOR REFLECTION: The school effectively used a number of external initiatives like the ResourceSmart Schools Framework and the Kitchen to Garden (K2G) Program to contribute to learning about sustainability. Are there similar initiatives that you can identify available to your institution or school to engage with? What are the advantages and/or disadvantages of external programs in developing whole-school approaches to sustainability?

f. Community-based approach to integration

CASE STUDY: Participatory Learning Leading to Integrated Community Development: A Case Study Bansankong School (Chiang Rai)\(^\text{19}\)

A whole-school development was used by applying the 7-step approach of problem-based learning in every classroom activity. This helped promote professional development and child-centered learning approach. Moreover, integrated local curriculum was developed by school and students, with local community issues as learning resources. The full story is provided in the Appendix 6.

FOR REFLECTION: Localising the content of the curriculum can be one approach for successfully contextualising the curriculum to the local context. However, ESD is not merely about content, how would you localise teaching and learning methods to the local community context?

\(^{19}\) http://www.accu.or.jp/esd/hope/pdf/tales_of_Hope3.pdf (P.82)
Institutional Mainstreaming

The following case stories/activities help to identify approaches to institutional mainstreaming.

CASE STUDY: REORIENTING EDUCATION INVOLVES MANAGING CHANGE

Reorienting education can appear as an insurmountable task that requires reform at every level of education - reform that would require more funding than is currently available in national budgets. However, if the strengths model is applied beyond curriculum to administration, the efforts of existing ministries, departments, universities, etc. can contribute greatly toward reorienting education to address sustainability.

Donella Meadows, in her book The Global Citizen, talks about changing the status quo.

-[T]he most effective way you can intervene in a system is to shift its goals. You don't need to fire everyone, or replace all the machinery, or spend more money, or even make new laws—if you can just change the goals of the feedback loops. Then all the old people, machinery, money, and laws will start serving new functions, falling into new configurations, behaving in new ways, and producing new results. (Meadows, 1991, p 250)

Those of us who work in ESD would be wise to ponder Meadows' words. We could accomplish more by working to shift institutional goals to further sustainability. Shifting goals in isolation is usually insufficient for sustained systemic change.

Studies of management systems show that a number of steps must be taken together for a new idea to go from vision to self-sustaining reality. Although each institution has its own way of bringing about change, three general starting points are common—the three Ps: program, policy, and practice. For ESD or any other innovation to become an integral part of an institution, these three areas must be addressed simultaneously or in short succession.

Institutions of all kinds tend to resist change; formal education is no exception.

The following case study “Case Study on Reorienting Teacher Education to Address Sustainability York University, Canada By Associate Dean Don Dippo” is an example of all three—program, practice, and policy being carried out in conjunction to permanently change the nature of the teacher education program. Each of the three P s played a key role in bringing about permanent change. (Follow link for full case study).

FOR REFLECTION: How do the three P’s align with the proposed ESD Integration Framework? From your own experiences, can you try to develop a framework to help explain your own experiences of successful ESD Integration, focused on institutional change?

READINGS: Sustainability as a Change Management Process [See Appendix 7]

CASE STUDY: Mainstreaming EfS Model

Individual agents of change who might engage in action research and exert influence on the wider system that impacts on teacher education were identified. A map of the Queensland system that impacted on teacher education, showing potential agents of change, is shown in Figure 1 (Ferreira et al, 2009, p. 4).

Teacher education is conceptualised as a self-organising complex system. These types of systems exist in the natural world and are inherently difficult to explain or control. An example is an ecosystem, where the intervention of removing an insect can affect a food chain that eventually leads to the loss of major predators and a rearrangement of the entire ecosystem. In other circumstances a new species may enter a habitat, be absorbed relatively easily and a new equilibrium be established without there seeming to be a negative or positive effect.

Features of self-organising complex systems are that they:
- are derived from simple structures
- contain feedback loops that modulate emerging structure
- are nested hierarchies, leading to a need to continually interrelate global and local effects
- show remoteness of cause and effect
- initiate and respond in such a way that small changes can cause large effects
- operate far from equilibrium
- are open to the environment (Steele, 2009).

FOR REFLECTION: Within your own TEI, who are the key agents of change that you can work with to mainstream ESD in both the curriculum and the institution? Map these key agents of change. What approach would you consider to get these key agents on board? Looking externally, who or what institutions are potential agents of change? How would you get them on board?

ACTIVITY: Context for Change: Stakeholder Analysis (See Appendix 5)

7. PROPOSED APPROACH USING TEACHING PRACTICUM

The proposed ESD Integration Framework has helped us identify the current strengths in the practice of TEIs in preparing pre-service teachers through what we have called ‘appreciative inquiry’. However, it has also allowed us to identify a potential opportunity to propose an additional approach that acknowledges the strengths and explores an innovative approach to ESD integration.

a. Rationale for this approach

More specifically, we want to try an approach involving the practice teaching rounds of pre-service teachers as an opportunity to observe the contexts of ESD, specifically the local school and community realities, as they relate to their initial understanding of the concept of ESD. This recognises that ESD is best understood through a process that is similar to action research, where it is essential for pre-service teachers to recognise the relevance of ESD before they can contribute to mainstreaming effective teaching and learning practice.

We propose that this approach will build on the available ESD modules (see Chapter 6) to provide pre-service teachers with the foundations of ESD knowledge, skills and attitudes. This foundational knowledge, skills and attitudes will then need to be situated within the context of the school and community, based on pre-service teachers using the proposed situational analysis tools (see Chapter 5) and guided by the principles of action research approach grounded in reflective teaching practice.

The hope is that this additional pre-service teaching approach will build on the rich ESD resources and provide both TEIs and pre-service teachers with the necessary ESD educator competencies and the grounded contextual understanding to be able to effectively employ these competencies, while recognizing their significant contribution toward the larger challenge of reorienting the education system towards sustainability.

CASE STUDY: PREPARING TEACHERS TO WORK IN INNER-CITY SCHOOLS

To address the uniqueness of teaching in inner-city settings, York University established a specialized teacher-preparation program. Working closely with parents and existing schoolteachers, this program is based in a community center in a large, ethnically diverse government-assisted housing community called Regent Park.

After years of requests, the city of Toronto, recently agreed to rebuild the Regent Park community for the 12,000 working-class residents and their families. The new design is based on an extensive community consultation process. Student teachers at the site realized the consultation process was relevant to the lives of the pupils and that they could improve classroom work through incorporating it into the curriculum. As part of their practice teaching assignments in Regent Park schools, the student teachers discussed this project with their pupils, and asked them to draw pictures of their dream apartments, playgrounds, and community facilities. These students constructed models and wrote reports on their surveys and interviews and then presented their work to an audience of several hundred at the community center. York’s educational endeavor has prepared teachers for traditionally hard-to-serve students while contributing to the long-term sustainability of a community. (Professor Harry Smaller – York University, Canada)

http://unesdoc.unesco.org/images/0014/001433/143370e.pdf (pp 37-38)
FOR REFLECTION: The challenge of using the practice teaching rounds of pre-service teachers is often we do not have control of the situations that they will encounter. How do you best address this challenge?

b. Exploring current structure, process and content

We decided against prescribing a particular module to be implemented across teaching practicum rounds, recognising that each TEI will have existing structures, processes and identified learning objectives for their pre-service teachers. Therefore, the process proposed involves the following:

Curriculum Mainstreaming

1) Identify the current structure and learning outcomes of teaching rounds across the TEI curriculum.
2) Highlight the potential alignment of the current learning outcomes to the concept and practice of ESD integration.
3) Identify the current teaching and learning processes in the practice teaching rounds that need to be engaged if ESD is to be mainstreamed.

Institutional Mainstreaming

1) Identify the current individuals involved in the practice teaching rounds who need to be engaged if ESD is to be mainstreamed.
2) Identify the necessary institutional processes to formally mainstream ESD in the practice teaching rounds.
3) Develop a professional development program to assist the key individuals with mainstreaming ESD in the practice teaching rounds.
4) Identify the key criteria to evaluate that the approach is effective, relevant and mainstreamed, in order to contribute to an additional approach to ESD integration for TEIs.

Case Study: Deakin University (See Practicum Sequence) [provided in the Appendix 8]
c. Identifying key processes for successful ESD mainstreaming in Pre-Service Teacher Education Practicum

Preparing Students for Placement

The ESD modules in Chapter 2 and 6 can be used to prepare students with a basic understanding of ESD prior to being sent out to their respective schools. While the current proposal is focused on the initial or early practicum placements, it is foreseen that each TEI will be able to more effectively mainstream ESD across the different practicum placement periods, which will assist in developing the identified pre-service teaching competencies.

During Placement

The following survey can be adapted for use by pre-service teachers as a tool for documenting what they observe during their initial placement in schools.

Review Question:

What is the current school and community context that is relevant to my understanding and future practice of ESD?

Objectives

To review the extent to which a school is reflecting principles and practices of ESD, and where improvements and changes can be made.

Who should be involved in this review?

This has specifically been adapted for use by pre-service teachers going on their initial placement/practicum in a school.

Orientation

This focuses on a review of how the school curriculum and other school practices are reflecting ESD principles and practices. Reviewing the curriculum of the school involves thinking consciously about all those aspects of the school and classroom environments and structures that can influence learning and ensuring those aspects guide and enhance student learning. This has been called the “guided curriculum” – and refers to the influence of elements of schooling such as school objectives, values, policies, social and environmental practices.

Many education systems around the world have policy frameworks for promoting sustainable school operations and curricula. These are known by many names – “Sustainable Schools”, “Schools for a Sustainable Future”, “Green Schools”, “EcoSchools”, “Enviro-Schools”, etc. Whatever term is used, the focus of such policy frameworks is to provide guidance to schools on strategies they can employ to ensure that both the formal and non-formal curriculum provides a model for students of what a sustainable society could be like, promoting a whole systems approach to sustainability in the school. ESD can support schools to become sustainable schools.

A whole systems approach to ESD proposes that a “sustainable school” should pay attention to planning activities in five areas:

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23 Adapted from ESD Lens (pp 79 – 86)
• The lessons provided in the formal curriculum should reflect ESD objectives and principles
• Policies and procedures to support cultural sustainability
• Policies and procedures to support social sustainability
• Policies and procedures to support economic sustainability
• Policies and procedures to support environmental sustainability (see the Sustainable Schools Audit in ESD Lens Review Tool 12)

The first of these refers to the formal curriculum while the remaining four refer to the learning system or non-formal curriculum of school ethos and operational procedures. What is important is that these are seen as interrelated aspects. For example, policies and procedures that support economic sustainability should also strive to support environmental sustainability, and social and cultural aspects of sustainability. These should be based on ESD values and principles.

There may be national policy and curriculum guidance documents that are available to support sustainable school initiatives (e.g. human rights policies that influence social sustainability practices in schools). There may also be comprehensive ESD policy guidance documents in schools, or a collection of broader documents related to ESD in the curriculum, such as school-community engagement, issues of gender, multiculturalism, anti-racism, school environmental policies, and policies and guidelines that govern the management of school buildings and grounds. If such policies do not exist, they can be developed, using ESD Lens Review Tool 12, and other tools such as School Sustainability Audits (contained in ESD Lens Review Tool 12) or the development of school sustainability projects to demonstrate school-community sustainable development links and partnerships (e.g. in producing local, healthy food for learners to enhance nutrition and healthy eating, as well as local sustainability of production and consumption).

It is possible for schools to conduct regular – perhaps annual – audits of their performance in these five areas as a standard part of their evaluation plan. The results of the sustainability audits can then be integrated into the next cycle of strategic planning for school improvement. These ESD audits can also be used as opportunities to involve the school community in debating and making choices about sustainability.

Review process

This has been adapted to be undertaken by pre-service teachers on placement. This Tool can be adapted or changed for different socio-economic or school contexts, or for different countries. It merely provides some starting ideas on how a more comprehensive sustainability situational analysis of a school can be done as a way for pre-service teachers to link their understanding of ESD concepts to real school and community contexts.
This Tool focuses on a whole system approach to ESD in schools. It has been designed for pre-service teachers to identify the key areas of ESD that include school policy and infrastructure aspects of ESD, curriculum aspects of ESD, cultural aspects of ESD, environmental aspects of ESD, and economic aspects of ESD. This can help pre-service teachers gain a better understanding and appreciation of the role of context in integrating ESD in their future teaching and learning practice.

### The Formal Curriculum

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<tr>
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<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Getting started</th>
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</thead>
<tbody>
<tr>
<td>1. There is a written policy that clearly states the aims and objectives of Education for Sustainable Development in our school.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>2. There is effective co-ordination of Education for Sustainable Development as a cross-curricular theme.</td>
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<tr>
<td>3. We take every opportunity to introduce issues of sustainable development into all subjects.</td>
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<tr>
<td>4. We have a good supply of teaching materials on issues of sustainable development for all grades.</td>
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<tr>
<td>5. We regularly evaluate the effectiveness of our teaching about sustainable development.</td>
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</tbody>
</table>

#### Formal Curriculum Sub-Score

### Socio-political Dimensions of Sustainability

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Getting started</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. The prevailing ethos of the school and the curriculum is sensitive to issues of gender equity.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>7. Students are given opportunities and skills to participate constructively in helping to solve local community problems.</td>
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<tr>
<td>8. The prevailing ethos of the school and the curriculum adequately prepares students for life as citizens of a global community.</td>
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<tr>
<td>9. The special needs of all students, especially those with physical or learning disabilities are catered for.</td>
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<tr>
<td>10. All staff are skilled in conflict resolution strategies as a support for positive student behaviour.</td>
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</tbody>
</table>

#### Social Dimension Sub-Score

### Ecological Dimensions of Sustainability

<table>
<thead>
<tr>
<th></th>
<th>Excellent</th>
<th>Good</th>
<th>Fair</th>
<th>Getting started</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. The school uses recycled materials whenever possible and has an active and comprehensive recycling policy.</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
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<tr>
<td>12. The school actively promotes and practices energy efficiency.</td>
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<tr>
<td>13. The school purchases and uses resources with a view to minimising harm to the</td>
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</tbody>
</table>

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24 Adapted from the Sustainable Schools Audit: ESD Lens Tool #12 (pp 82-86)
14 School buildings and surroundings provide an aesthetically pleasing environment in which to live and learn.

15. The school actively promotes attitudes of care and responsibilities for nature.

<table>
<thead>
<tr>
<th>Economic Dimensions of Sustainability</th>
<th>Excellent 4</th>
<th>Good 3</th>
<th>Fair 2</th>
<th>Getting started 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. A spirit of co-operation and sharing – not competition – is modelled in the allocation of resources in the school.</td>
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<tr>
<td>17. Students learn small business skills through opportunities to organise school and community projects.</td>
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<tr>
<td>18. Students have opportunities to participate in decisions about how resources are allocated in the school.</td>
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<tr>
<td>19. A culture of maintenance ensures that all school buildings and equipment are kept in good repair and maintained in good condition.</td>
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<tr>
<td>20. The school’s fund-raising activities reflect ethical principles.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Cultural Dimensions of Sustainability</th>
<th>Excellent 4</th>
<th>Good 3</th>
<th>Fair 2</th>
<th>Getting started 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. The school ethos fosters self-esteem, mutual regard and humane social relationships.</td>
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<tr>
<td>22. The prevailing ethos of the school and the curriculum adequately prepares students for life in a multicultural society.</td>
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<tr>
<td>23. The school plays an active role in building support for cultural diversity both within the school and its wider community.</td>
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<tr>
<td>24. The school plays an active role in the community and the community in the school.</td>
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<tr>
<td>25. The prevailing ethos of the school demonstrates that people matter and that everyone has a contribution to make to sustainable development.</td>
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</tbody>
</table>

Transfer five sub-scores to the table below and calculate a total score out of 100. Higher the score better the school’s orientation towards ESD. Lower scores indicate what changes can be made and will inform future action plans and priorities.

<table>
<thead>
<tr>
<th>The Formal Curriculum</th>
<th>( X )</th>
<th>( X )</th>
<th>( X )</th>
<th>( X )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social-Political Dimensions</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
</tr>
<tr>
<td>Economic Dimension</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
</tr>
<tr>
<td>Ecological Dimension</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
</tr>
<tr>
<td>Cultural Dimension</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
</tr>
<tr>
<td>TOTAL</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
<td>( X )</td>
</tr>
</tbody>
</table>
**FOR REFLECTION:** How valuable are the scores in appreciating the school’s orientation to ESD? What other approaches could be used? What other aspects do you think are important to document?

**Post-placement Debriefing**

It is important that pre-service teachers are properly debriefed based on their observations and assessment tasks, that link back to ESD and other concepts that may have been identified in the course learning objectives. The debriefing ensures that the practice of critical reflection is highlighted even at the early stages of the teaching rounds.

**FOR REFLECTION:** After debriefing with the pre-service teachers, how do you facilitate linking what were observed in the placement back in the classroom?
8. ESD RESOURCES

Reorienting Teacher Education to Address Sustainable Development Guidelines and Tools Series


Education for Sustainable Development in Action: Learning & Training Tools Series


Education for Sustainable Development in Action Good Practices Series


UNESCO Associated Schools Good Practices for Quality Education Series


Other ESD Modules


