Recommendations on Change Related to pri-service and in-service Teachers for Sustainable Development

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1. Introduction

Education for Sustainable Development (ESD) is an essential part of a larger conversation regarding quality of life for all the inhabitants of Earth. As university teachers and researchers our responsibility is to participate as critical colleagues and advocates in the intellectual lives of our faculties, institutions, and the broader community. We must examine the assumptions and propositions that circulate within our fields, including the concepts and assumptions informing ESD. Sustainable development offers a philosophic and analytical framework for educative enquiries in which economic, social, and environmental factors must be considered in relation to one another. Such enquiries provide opportunities for deliberating and addressing complex issues. Pedagogical processes that follow from those enquiries also require critical and open ended engagement with complex issues. Part of our task therefore is to develop networks across faculties and disciplines thereby enabling joint discussions that will explore and theorize relationships and issues among social, economic, and environmental dimensions of sustainable development. These processes of inquiry, theory development, and critical dialog are our tasks, as opposed to imposing the concept of sustainable development on others. One way of developing such a critical discourse is to make sustainable development an open question for examination in the socio-political and socio-ecological contexts within which we work.

Education is essential for moving toward a more sustainable future. We cannot imagine how people of all nations could move toward a more sustainable world without the contribution of educators from around the globe. Educating for a more sustainable future in broadest sense includes improving quality basic education, reorienting education to dress sustainability, improving public awareness and providing training to many sectors of society.

This subject focuses on one aspect of education teacher education especially the pre-service and in-service teachers in reorienting teacher education to address sustainability. Institutions of teacher education fulfill 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 such a future is possible. Not only do teacher- education institutions educate new teachers, they update the knowledge and skills of in- service teachers, create teacher-education curriculum, provide professional development for practicing teachers contribute to textbooks, consult with local schools and often provide expert opinion to regional and national ministries of education. Institutions of teacher education also perform similar services for school principals who have significant impact on what occurs in schools. Because of this broad influence in curriculum design and implementation, as well as policy setting within educational institutions, faculty members of teacher-education institutions are perfectly poised to promote education for sustainable development (ESD).

2. Educational Sustainable Development

Sustainability Education (ES), Education for Sustainability and Education for Sustainable Development (ESD) are interchangeable terms describing the practice of teaching for sustainability. ESD is the term most used internationally level and by the United Nations. The first international document that identified education as an essential tool for achieving sustainable development and highlighted areas of action for education Development that can:

"Meet the needs of the present without compromising the ability of future generations to meet their own needs"

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- The concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
- The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

Sustainable development means building our communities so that we can all live comfortably without consuming all of our resources. We make an impact on our environment through how we live our lives. Another way to say this is that we all leave an ecological footprint. Imagine yourself in a garden. If you were to run around the garden wearing heavy boots. You would probably do a lot of damage to the fruits and vegetables growing there. If you were to walk carefully through the garden in bare feet, you would be able to eat just as many fruits and vegetables as the person wearing heavy boots, but you would also be leaving a lot more for yourself and others to eat the next day. It is the same thing with our resources.

3. Educational Sustainable Development Requires

- Balancing environmental, social and economic considerations in the pursuit of development and an improved quality of life Sustainable Development.
- Promoting the ideals of gender equity, just and peaceful societies, human rights, environmental preservation and restoration, cultural diversity and poverty alleviation.

Educational sustainable development has created and evaluated based on the seven criteria:

- ➢ ESD is locally relevant and culturally appropriate.
- ➢ ESD is based on local needs, perceptions and conditions, but recognizes fulfilling local needs often has global effects and consequences.
- ➢ ESD engages formal, non-formal and informal education.
- ➢ ESD is a life-long endeavor.
- ➢ ESD accommodates the evolving nature of the concept of sustainability.
- ➢ ESD addresses content, context, pedagogy, global issues and local priorities.
- ➢ ESD deals with the well being of all three realms of sustainability environment, society and economy.

4. Challenges to Teacher Education Reorientation

Some of the more prevalent challenges reported by members of the International Network for reorienting teacher education to address sustainability challenges follows:

- ➢ Official national and provincial curriculum rarely mandate sustainability.
- ➢ Teacher certification guidelines do not mention sustainability.
- ➢ Lack of or inadequately trained professionals who are knowledgeable about ESD.
- ➢ Lack of or inadequate funding and material resources.
- ➢ Lack of or inadequate national, provincial and local policy to support ESD.
- ➢ Lack of or inadequate institutional climate that supports the creativity, innovation, and risk-taking necessary to support transformative efforts to reorient education to address sustainability.

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➢ Lack of or inadequate reward for institutions or faculty members who undertake ESI programs.

5. Recommendations to Pre-Service and In-Service Teachers for ESD.

The students in teacher-education programs go by many different names - student teachers, teacher candidates, in terms, etc. For clarity and simplicity the authors of this document refer to students in teacher-education programs as student teachers. Student teachers will notice our hypocrisies - such as programs, practices and policies that do not reflect principles of sustainability that are taught in the curriculum. The members of the Network reported that students at all levels of education are very aware of the difference between what is said in class and what is practiced by individuals, the institution and the community.

One of the great challenges of ESD is to have student teachers understand the interrelatedness of the environment, society, and economy and have this interrelatedness be evident in their teaching and their lives as community members. Since ESD is an instrument for imparting healthy personal and social attitudes towards environment and development, it must be concerned with human communities and how they interact with their local environment.

Exploring how to do this on the campus is a good first step. Addressing ESD will require student teachers to think about their profession from a different perspective and learn skills that perhaps, teachers in previous eras did not learn or use. As a result, the new generation of student teachers will require practice and support as they learn new approaches to education for maintain sustainable development of human being through quality improvement in teacher education. The following are recommendations from teacher educators related to student teachers.

6. Recommendations

1. Require interdisciplinary coursework on sustainability for student teachers and make materials available for student teachers on local and global sustainability issues.
2. Demonstrate pedagogical techniques that foster higher-order thinking skills, support decision-making, involve participatory learning, and stimulate formulation of questions.
3. Emphasize to student teachers that citizenry in a sustainable community requires active participation and decision-making; challenge them to create ways to incorporate participation and decision making into their classroom procedure and curriculum.
4. Discuss social equity (e.g., gender, racial, ethnic, and generational) with student teachers and identify ways in which the local community exhibits social tolerance, societal intolerance, equity and discrimination.
5. Request that student teachers analyze the mandated curriculum they will be teaching to identify topics and themes related to sustainability and those that are linked to local sustainability issues.
6. Provide student teachers with opportunities to explore their own values and attitudes towards local sustainability problems and. those of the surrounding region.
7. Promote understanding of global sustainability in order to encourage critical thinking and decision making that influence personal lifestyle and economic choices.
8. Develop specialized ESD programs for student teachers (e.g., mini-courses) with certificates of completion, so that student teachers can include them in their resumes for seeking employment.
9. Promote graduates with ESD specializations, who are knowledgeable in ESD and its contribution to society.
10. Place graduates who have completed courses in ESD in key schools and ministerial positions to help influence and bring about change.

7. Conclusion

Many survey respondents repeatedly mentioned the urgency to act and the need for profound change. Bringing quality education to the schools of the developing world competed for importance with the larger question of "what kind of education would best serve humanity in the future?" This led to the general agreement that reorienting our current education systems was an essential task. At the heart of this task is reorienting teacher education. An International Network member stated, "For the fulfillment of the objectives of ESD and effective teaching of the subject, a complete transformation in our teacher training programmes is needed."

Furthermore the lack of resources, such as an existing research agenda for ESD. also hindered the development of' ESD within the institutional setting.

As expected. ESD within teacher-education institutions is currently endorsed by early- adopters. However, it will take concerted effort and resources to institutionalize ESI) into programs, practices, and policies as well as the entire teacher-education curriculum. As teacher educators, the challenge is ours to accept or ignore. Success or failure, however. will also depend on attention from provincial and national governments that set and fund educational priorities.

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