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(Canada)

# Education for Sustainable Development in Canadian Faculties of Education



Prepared for the  
Council of Ministers of Education, Canada  
Education for Sustainable Development Working Group

May 2012

## Acknowledgements

This report was prepared as a contribution to the activities of the Education for Sustainable Development Working Group of the Council of Ministers of Education, Canada (CMEC ESDWG). The work was led by Manitoba Education under the direction of CMEC ESDWG and in collaboration with the International Institute for Sustainable Development (IISD) ([www.iisd.org](http://www.iisd.org)) and Learning for a Sustainable Future (LSF) ([www.lsf-ist.ca](http://www.lsf-ist.ca)). Input and advice were provided by the Manitoba Faculty of Education for Sustainable Development Committee.

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The authors and CMEC–ESDWG wish to thank the respondents of the survey, and those who agreed to an interview, who generously gave us their time and insight for this study.

*This report was written under contract to the Council of Ministers of Education, Canada (CMEC). The opinions expressed herein are those of the authors and not necessarily those of CMEC. Jurisdictions may or may not choose to act on this report, as appropriate for their education system and context.*

Also available in French under the title

***L'éducation en vue du développement durable dans les facultés d'éducation au Canada***

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# Education for Sustainable Development in Canadian Faculties of Education

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## Acronyms

ACDE: Association of Canadian Deans of Education

AUCC: Association of Universities and Colleges

CCUNESCO: Canadian Commission for UNESCO

CMEC: Council of Ministers of Education, Canada

CMEC ESGW: Council of Ministers of Education, Canada Education for Sustainable Development Working Group

EC: Environment Canada

EE: Environmental Education

EECOM: Canadian Network for Environmental Education and Communication

ESD: Education for Sustainable Development

IISD: International Institute for Sustainable Development

K–12: Kindergarten to Grade 12

LSF: Learning for a Sustainable Future

SEdA: Sustainability and Education Academy

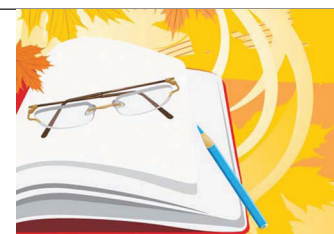
SSHRC: Social Sciences and Humanities Research Council

UNDESD: United Nations Decade of Education for Sustainable Development

UNECE: United Nations Economic Commission for Europe

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## Executive Summary

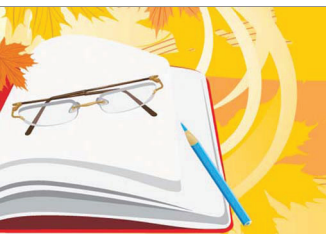
### Purpose of the study

Education for Sustainable Development (ESD) encourages learners to develop active citizenship and participation, embracing the complexity of the interdependence of ecological, social, and economic systems. ESD learning outcomes encompass the knowledge, skills, and values that enable learners to make decisions and choices that foster sustainable development and are necessary to become responsible citizens (Manitoba Education 2008; Pigozzi, 2007; Learning for a Sustainable Future 1994). The United Nations has declared 2005 to 2014 to be the UN Decade of Education for Sustainable Development (UNDESD). The UNDESD seeks to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. Across Canada, many provincial and territorial departments and ministries of education, as well as other organizations, have been working to build awareness and support programming and policy change consistent with ESD, with active provincial working groups and the national ESD Canada network established. To date, much of the focus has been on initiatives within Canada's public school systems.

The Council of Ministers of Education, Canada (CMEC) has played a leading role in the implementation of UNDESD activities in Canada and in aligning these with international efforts. In this context, CMEC would like to know more about what Canadian faculties of education are doing in response to the UNDESD and the implementation of ESD in teacher-education programs. University and college faculties of education have an essential role in the preparation of teachers to support ESD learning objectives at the Kindergarten to Grade 12 level. It is therefore important to learn more about faculty initiatives in support of ESD.

Consequently, the CMEC Education for Sustainable Development Working Group (CMEC ESDWG), in partnership with the International Institute for Sustainable Development (IISD) and Learning for a Sustainable Future (LSF), undertook exploratory research with Canadian faculties of education to gain a better understanding of how they are incorporating ESD into their pre-service programs, research, and other activities. The ultimate goals of this exploration were to:

- develop a better understanding of how ESD is expressed and taught in



faculties of education;

- identify gaps and opportunities for strengthening ESD-related teacher training; and
- propose suggestions for moving forward.

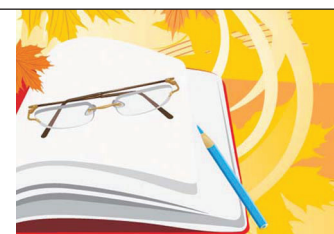
### **Methodology**

A survey of faculty leadership (deans and departmental chairs) was conducted, with follow-up interviews with a selection of faculty members recommended by the deans/chairs (see Appendices 1–4). Of the 63 institutions that were sent the survey, responses were received from 36, with 14 follow up interviews conducted. The response group represents over 55 per cent of the membership of the Association of Canadian Deans of Education. Over three-quarters of institutions in the Atlantic and western regions of Canada responded; Ontario and Quebec institutions were less responsive, with only 40 per cent participating. Good distribution by size of faculty (numbers of students enrolled) was secured.

The survey questions focused on six dimensions of ESD in education faculties:

- ESD addressed within the faculty’s pre-service curriculum;
- Sustainable development knowledge and experience considered as part of the qualifications for education program applicants;
- Faculty research under way on ESD;
- Recognition and support by the faculty for ESD leadership among faculty members;
- Sustainability considerations in the campus physical facilities and operation; and
- Governance and partnerships for ESD.



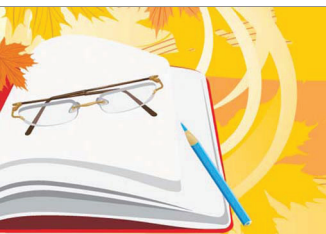


## Key findings

### 1. There is modest but promising progress toward reorienting teacher education to address education for sustainable development.

The majority of the faculties in this study are making efforts, from preliminary to advanced, toward integrating ESD or ESD-like principles into their pre-service programs. A few still suggest that, in the words of one respondent, “overt efforts with respect to ESD (at least under that title) are next to nil.” Only a few faculties have implemented specific courses regarding ESD or ESD-like courses, or have revamped a range of courses to achieve ESD learning outcomes. In the interviews, respondents felt that their respective faculties have made significant progress in capturing the importance of sustainability ideologies and principles without explicitly using the ESD framework and terminology. Many spoke of ESD and ESD-like principles bundled within specific courses (primarily their science and social studies courses), or of “sustainability” underlying their programming. The most positive findings within the response group are related to use of pedagogical approaches consistent with ESD principles, with respect both to staff use in delivering their courses and to pre-service students learning the approaches to use in their own teaching practice. For selected highlights and exemplars of work under way at individual faculties, see Appendix 5.

Other aspects of ESD within the faculties of education are being addressed, but with significant variations. Most faculties of education do not explicitly use knowledge or experience with sustainable development as a criterion for selecting program applicants, although in some cases it is starting to be a consideration in staff recruitment. Recognition and rewards for ESD leadership activities with respect to performance reviews, professional development, and access to research grants remain limited. Most faculties of education have some ESD-related research or joint projects under way, but very few offer scholarships and grants for these types of initiatives. Most universities have sustainable development (SD) policies and are addressing SD in campus operations, although there is general uncertainty about whether or not education staff are aware of the relevant policies. Interview results suggest that for faculties in preliminary stages of ESD or ESD-like ideologies, faculty-wide reorientation toward sustainability ideologies begins with university-wide policies and programs (visions for becoming “green universities”, implementing commitments to international



agreements such as the Talloires Declaration<sup>1</sup>, energy efficiency, recycling, and so forth.).

2. **The contribution of the UNDES in helping early adopters within faculties to create a legitimate space for ESD debate and action across their faculties is an important one.**
3. **There is divergence between individual and institutional responses, in which ESD adoption is still primarily an individual faculty member commitment rather than a faculty-wide response.**
4. **Faculty research on ESD appears to be less advanced, but this picture may not be complete, as the survey results do not capture research activities under way at the graduate student level.**
5. **Drivers and enablers, barriers and challenges noted through this study are consistent with international research into reorienting teacher education, in particular the Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability (McKeown and Hopkins 2005).**

In the current study, the key drivers and enablers include the intersection of institutional commitments with faculty member awareness and individual champions, as well as partnerships and collaboration with other departments on campus and with education faculties at other institutions. Key barriers and challenges include communication gaps within faculties, competing interests and priorities within faculties, funding challenges, and lack of professional development opportunities.

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1 The Talloires Declaration is the first official statement made by university administrators of a commitment to environmental sustainability in higher education. [http://www.ulsf.org/programs\\_talloires.html](http://www.ulsf.org/programs_talloires.html)



**6. Relationship between faculties of education and ministries and departments of education: This study reinforces the need to examine more carefully how ministries and departments of education and faculties of education can align mutual interests and mandates for ESD.**

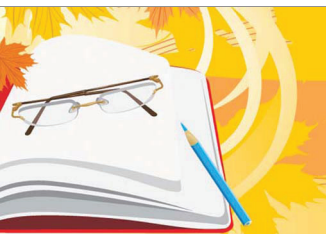
Central to the challenge of reorienting pre-service curriculum to ESD or ESD-like principles is the constraint that many key aspects of pre-service teacher education are determined by the provincial ministries and departments of education or the provincial teacher certification body as part of teacher certification requirements. An important driver for reorienting teacher education to reflect ESD could be action by the ministries and departments to discuss, in full cooperation with faculties, how the preparation of teachers might reflect ESD competencies, or other jurisdictional frameworks and policies consistent with ESD. An example of this would be the process by which Manitoba Education worked with faculties of education across the province to restructure teacher education programs to include a compulsory course on Aboriginal perspectives, histories, and pedagogy.

**Areas for further consideration**

Based on these findings, the study suggests that Canadian faculties of education and CMEC could consider the following for further action:

**1. CMEC and the faculties of education could review and build on work completed or under way at the national and international level.**

CMEC and Canadian faculties of education can leverage existing work in the process of reorienting teacher education to ESD. The key stakeholders in the UNDESD (CMEC, LSF, ESD Canada, and others) could encourage faculties of education to consider and adapt as necessary the Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability, provided by UNESCO (McKeown and Hopkins, 2005). The full list of recommendations has been appended to this report (see Appendix 6). Subsequent work led by the United Nations Economic Commission for Europe (UNECE) to identify a core range of educator competencies and general recommendations for policy-makers will be critical to the process of reorienting teacher education to ESD. The full document, *Learning for the Future: Competences in Education for Sustainable Development*, was released in 2011.



Jurisdictions with other frameworks or priorities that are consistent with ESD can modify existing resources to reflect their local education systems.

## **2. Faculties could promote increased dialogue and networking on ESD in pre-service education.**

### a) Within faculties

Faculty members and students working on ESD need better channels for sharing their initiatives and progress with faculty leadership. Deans could consider what strategies might be helpful to open those channels, including fostering internal communities of practice on ESD. Some consideration could be given to how to recognize and possibly provide support for innovation in ESD program development.

### b) Among faculties

Mechanisms for increasing networking and dialogue among Canadian faculties could be explored. An ad hoc committee within the Association of Canadian Deans of Education to explore how their faculties could respond to the mandate of the UNDES D could be considered. In addition, there may be considerable support for establishing a pan-Canadian faculties of education network on education for sustainable development, as has recently been proposed by the Western Association of Deans of Education.

## **3. Faculties could consider implementing an ESD professional development workshop for education faculty members and other staff.**

Lack of professional development opportunities in ESD can be addressed through the development of a training program on ESD. Such a program could bring together university and faculty leadership and faculty members, bridging gaps between university-wide commitments, faculty-level mandates and policies, and individual faculty member efforts. Faculties could look at other models of ESD professional development currently in use, such as the Sustainability and Education Academy (SEdA) (<http://www.yorku.ca/seda/index.html>).

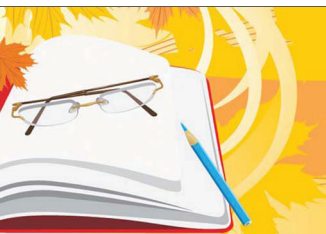


**4. Ministries and departments of education could be encouraged to share this report with teacher certification bodies; faculties of education, ministries, and departments of education, and related certification bodies could initiate a discussion of how best to incorporate ESD competencies into pre-service curriculum and teacher certification.**

A number of ministries and departments of education are already addressing ESD in in-service training for current teachers. Given that a potential constraint against reorienting pre-service education to ESD may be the requirements for pre-service curriculum content and certification requirements set by provincial ministries and departments of education and related bodies, consideration could be given to opening up dialogue between the faculties and their respective ministries and related bodies on how best to approach this issue. Work by the UNECE on teacher competencies for ESD was released in 2011, and could be considered by the individual ministries and departments and the faculties on how best to reflect and adapt these competencies as part of pre-service requirements and certification in ways that are most relevant for their jurisdictions. This may also require further dialogue with the relevant departments and agencies responsible for teacher examinations and certifications (see Appendix 7 for list).

**5. The Association of Canadian Deans of Education (ACDE) could open a dialogue on ESD with the Canadian research granting councils.**

A review of Social Sciences and Humanities Research Council (SSHRC) and other agency awards for research on ESD might be a useful starting point for addressing the ongoing challenges of finding support for ESD research and subsequent curriculum development/reorientation. Funding for professor release time from teaching would free faculty members to focus their attention on research into a more comprehensive understanding of education for sustainable development, and on planning and implementing change. Granting council support demonstrates that ESD is good education and that ESD-related research is important and methodologically sound research (McKeown and Hopkins 2005).

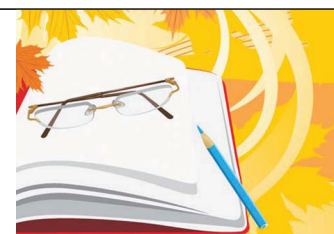


- 6. The Association of Canadian Deans of Education (ACDE) could consider whether and how to add ESD to faculty review/accreditation criteria in cases where faculties are reviewed by external agencies for program content and delivery, or add ESD to internal reviews as part of the overall university quality assurance processes.**

Those faculties of education that are subject to external review/accreditation processes could consider whether ESD could be added to the criteria for their reviews. Leadership on this issue might well be taken by the ACDE. (See Appendix 8 for the Association of Universities and Colleges Canada [AUCC] overview of quality assurance processes.)

- 7. CMEC could consider repeating this study in 2013-14 in order to report on what has been accomplished by the end of the UNDES. It could also consider simple communications and reporting mechanisms to collect and share faculty experience on a regular basis and include student perspectives in these efforts.**

This study on ESD in Canadian faculties of education can now serve as a baseline for current efforts. Consideration could be given to repeating the study in 2013-14, toward the end of the UNDES, to see what progress is being made and whether change is taking place. There is progress in many faculties, but this progress is not well known to other interested stakeholders. Some consideration could also be given to simple, regular communications/reporting mechanisms to help share experience and promote good practice and new understanding in this field, across faculties and between faculties and ministries and departments. Investigating student interest in ESD was outside the parameters of this study, but future surveying and reporting efforts could include observations from the pre-service students themselves, to assess what knowledge and motivations for sustainability that they might bring to their program, and whether they feel prepared upon departure to teach within ESD or the relevant provincially mandated frameworks and learning outcomes.



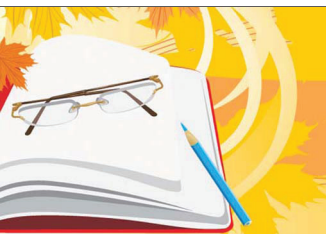
## A. Introduction

The education sector is being called upon to prepare citizens around the world to meet the complex environmental, social, and economic challenges we are facing now and anticipating in the future. The fundamental rationale for changes to educational practice is to create a world where everyone has the opportunity to benefit from quality education and learn the values, behaviours, and lifestyles required for a sustainable future and for positive societal transformation. This is the primary objective of education for sustainable development (ESD).

The United Nations has declared 2005 to 2014 to be the UN Decade of Education for Sustainable Development (UNDESD). One of the overarching goals of the UNDESD is to reorient curricula, from preschool to university, to a focus on sustainable development, and reform education as a vehicle of knowledge, skills, perspectives and values needed to build a sustainable world. In response to the UNDESD, Canadian provincial and territorial departments and ministries of education, as well as other organizations, have been working to reorient the Kindergarten to Grade 12 public school system toward sustainability. Over the past six years, considerable work has been carried out across Canada with respect to curriculum design, identification of learning outcomes, in-service training for teachers, curriculum resources support, creating indices for assessing student knowledge, values and behaviours, and working with school administrators on school sustainability policies and whole school approaches to teaching sustainability (Michalos et al. 2010; Swayze et al. 2010; Swayze and Creech 2009).

What is less well understood is whether and how Canadian teacher pre-service education is being reoriented to address ESD in order to ensure that new teachers are well prepared to advance new curricula, understand the learning outcomes, and participate actively in whole-school approaches. Furthermore, faculties of education have an essential role in the evolution of learning practice, and it is important to learn more about their initiatives in support of ESD.

Consequently, the Council of Ministers of Education, Canada Education for Sustainable Development Working Group (CMEC ESDWG), chaired by Manitoba Education, in partnership with the International Institute for Sustainable Development and Learning for a Sustainable Future, undertook exploratory research with Canadian faculties of education to gain a better understanding of



how faculties are incorporating ESD into their pre-service programs, research, and other activities. The ultimate goals of this exploration were to develop a better understanding of how ESD is expressed and taught in faculties of education, to identify gaps and opportunities for strengthening ESD-related teacher training, and to propose suggestions for moving forward.

## **B. Progress on ESD, Internationally and in Canada**

### **1. What is Education for Sustainable Development?**

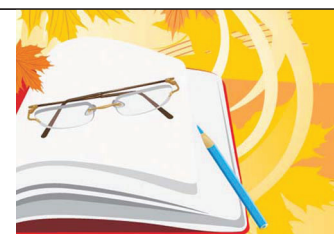
Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. One of the key objectives of the UNDESD is to reorient educational programs from preschool through university to include a clear focus on the development of knowledge, skills, perspectives, and values related to sustainability.

ESD offers learners a context for developing active citizenship and participation, embracing the complexity of the interdependencies of ecological, societal, and economic systems. ESD learning outcomes encompass the knowledge, skills and values that enable learners to make decisions and choices that foster sustainable development and are necessary to become responsible citizens (Manitoba Education, 2008; Pigozzi, 2007; Learning for a Sustainable Future, 1994). ESD also supports flexibility, creativity, and critical reflection, and fosters a sense of personal responsibility for the planet. It is about respecting and preserving our histories, valuing culture and community, caring for others and the environment, and taking action to create a fair, healthy, and safe world for all.

UNESCO considers that ESD should have four “thrusts” or areas of emphasis (UNESCO, year unknown):

- Improving access and retention in quality basic education;
- Reorienting existing educational programs to address sustainability;
- Increasing public understanding and awareness of sustainability;
- Providing training.





In Canada, terms and definitions related to ESD and similar approaches, including sustainability education, education for sustainability, and environmental education, vary among provinces and territories. Inherent in all these definitions is an understanding of the correlation between economic, social, and environmental perspectives and fostering informed, engaged, and responsible citizens.

Some of the key characteristics of education for sustainable development identified throughout the literature are:

- Interdisciplinary and holistic: sustainable development should be embedded in the whole curriculum, not a separate subject.
- Values driven: the assumed norms—that is, the shared values and principles underpinning sustainability—are made explicit.
- Critical thinking and problem solving: development of these skills leads to confidence in addressing the dilemmas and challenges of sustainability.
- Multi-methods: a variety of pedagogies should be used. Teaching that is geared simply to passing on knowledge should be recast into an approach in which teachers and learners work together to acquire knowledge and play a role in shaping the environment in their educational institutions.
- Participatory decision making: learners should participate in decisions on how they are to learn.
- Locally relevant: education for sustainable development should address local as well as global issues, and use the language(s) that learners most commonly use.

These key characteristics are articulated and implemented in different ways in jurisdictions across Canada.

## **2. Terminology issues**

It should be noted that there are ongoing differences of views acknowledged in the literature related to the definitions of ESD and its relation to similar educational frameworks and fields such as peace education, social justice education, and most notably, environmental education (Jickling, 2010). One



often repeated criticism is that the definition of ‘education for sustainable development’ is too broad and/or that the very definition of sustainable development itself is contentious. Selby (2006) argues that, “it is worrying that so many statements and policies calling for education for sustainable development uncritically rehearse the Bruntland definition, now 19 years old, before moving on to the concrete implications of ESD for curriculum, teaching, learning and estates.” Sustainability is not static; ESD has many interpretations in all interest groups, regions and cultures and the definition will need to evolve with changing need and emphases (Stir, 2004).

There are multiple frameworks, fields, and movements aimed at reforming and transforming educational institutions and systems, each of which develops over time its own relevant conceptual issues, methodologies, language, and practice. Educational theorists and practitioners increasingly realize and acknowledge that distinctly identifiable fields or movements in educational transformation inevitably overlap and interrelate, creating synergies and interdependencies. When a broad view is taken of such movements and frameworks, there are substantively more commonalities than differences, leading to opportunities for collaboration and building bridges for theory and practice (Toh, 2006).

### **3. What is the United Nations Decade of Education for Sustainable Development (UNDESD)?**

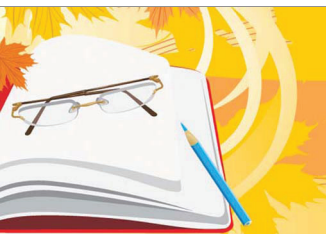
The United Nations declared 2005–14 the Decade of Education for Sustainable Development ([www.desd.org](http://www.desd.org)), with UNESCO as the lead organization. Since its international launch, the UNDESD has made considerable progress in both institutional and programmatic areas at international, regional, and national levels, and across formal, non-formal, and informal approaches to education. The UNDESD has brought together a broad spectrum of educators working on ESD, environmental education (EE), social justice, responsible citizenship, literacy, and many other perspectives. UNDESD implementation depends on the strength of stakeholder commitment and cooperation at local (sub-national), national, regional, and international levels. Networks and alliances have been the crucial element, forging a common agenda in relevant forums. ESD hubs at national levels bring energy to promotion and implementation and provide opportunities for regular input from multiple ESD stakeholders. The UNDESD is also being linked to other UN initiatives such as the Millennium Development Goals, the



Commission for Sustainable Development, Education for All, the UN Literacy Decade (2003–2012), and the UN International Decade of the Culture of Peace and Non-Violence for the Children of the World (2001–2010) (Farthing, 2005).

According to the UN General Assembly resolution instituting the DESD, Canada, along with other governments, was invited to “consider the inclusion of measures to implement the Decade in their respective educational strategies and action plans by 2005,” taking into account the current scheme of implementation. This stressed the importance of having agreed-upon parameter, with full support from the appropriate levels of government for effective cooperation and action in ESD, and emphasized the responsibility of governments to initiate consultation and ownership of a clearly defined vision. Canada is not alone in having a government structure in which education is a provincial/state/ territorial responsibility. The visions set in these jurisdictions therefore require cooperation and coordination among the respective provincial/state/territorial departments and ministries. Although the Canadian federal government does not have jurisdiction in the area of education, it nevertheless also has a strong interest in promoting and supporting ESD (Farthing, 2005).

As ESD is also a cross-sectoral initiative, it requires multi-stakeholder cooperation and partnership and support from many government ministries and departments beyond education, as well as nongovernmental organizations (NGOs) that are involved in ESD-related activities and the private sector. “The main actors include governments and local authorities, the education and scientific sectors, the health sector, the private sector, industry, transport and agriculture, trade and labour unions, the mass media, non-governmental organizations, various communities, indigenous peoples and international organizations” (Wals, 2009). In Canada, as in other countries, local governments and community organizations, stakeholders from many sectors, and a number of NGOs are actively promoting and supporting ESD. The challenge is to find ways to coordinate these activities to ensure coherent and connected views and approaches to implementation (Farthing, 2005). This can result in challenges in seeking to coordinate ESD activities among the various ministries, departments, and sectors. Although local, regional, and national strategies for the development and implementation of the UNDESD have been developed, lack of interministerial coordination has been noted to result in limited or uncoordinated political leadership, and this political support is essential to implement new programs, concepts, and ideas (Wals, 2009; UNECE, 2005; Farthing, 2005).



UNESCO has asked countries to create national policies and frameworks that support the development of ESD in all educational sectors as well as in society at large. Several countries are now beginning to take into account financing and budgeting for ESD across ministries and departments by determining how ESD aligns with key documents across sectors in order to coordinate funding and programming at the national level. This includes creation of national coordinating bodies for ESD, development of ESD policies and/or inclusion of ESD in existing policies, creation of interdepartmental cooperation with regards to ESD development and implementation, and allocation of specific budgets for supporting ESD.

Some countries have established a structure for the implementation of a national ESD strategy that may consist of a combination of interdepartmental commissions, cooperation between different ministries (namely, ministries and departments of education and environment), and/or ESD working groups or sustainability centres; however, in most parts of the world, a structure for interdepartmental governmental cooperation on ESD is lacking. ESD is mainly integrated into national educational policies and curriculum statements, especially in primary and secondary education. In some cases, SD and ESD are both part of a country's environmental strategies. The ministries of education and environment are mainly involved in the establishment of such policies and national action plans. In some cases, other stakeholders are also involved (NGOs and representatives from business and industry) (Wals, 2009).

Inter-ministerial cooperation with respect to ESD is reported by many countries but remains problematic as there is little experience in cross-boundary thinking among policy-makers, who tend to be responsible for specific resource or service sectors. In formal education, there are now good examples of ministries and departments of education creating frameworks for the integration of ESD into formal education. This is mostly the case in primary and secondary education. The same trend is not apparent in early childhood education, technical and vocational education, and higher education (Wals, 2009; Farthing, 2005).

#### **4. What is Canada doing in response to the UNDESD?**

In Canada, a large variety of partners have joined efforts to make ESD a reality. These efforts have built on many initiatives, since the Earth Summit in 1992, to establish a culture of environmental awareness and SD through education. For

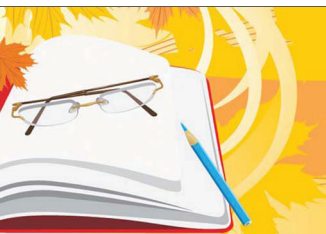


example, as a community of environmental educators and communicators, the Canadian Network for Environmental Education and Communication (EECOM) has continued to play a fundamental role in building capacity for environmental learning, and Learning for a Sustainable Future (LSF) is working with others to lead the Canadian response to the UNDES D through the implementation of a series of initiatives, including coordinating ESD Canada. York University (Canada) was designated as the UNESCO Chair in Reorienting Teacher Education toward Sustainability in 1999.

The UNDES D has proved an important catalyst for these efforts. Canada has identified three primary focal points for UNDES D implementation:

- The Council of Ministers of Education, Canada (CMEC) is an intergovernmental body founded in 1967 by ministers of education to serve as a forum to discuss policy issues; a mechanism through which to undertake activities, projects, and initiatives in areas of mutual interest; a means by which to consult and cooperate with national education organizations and the federal government; an instrument to represent the education interests of the provinces and territories internationally.
- The federal department of environment (Environment Canada), which aims to reflect the national interest regarding environmental issues and share public information and awareness strategies, works with the LSF and Manitoba Education to identify sustainable development-focused teacher and student resources.
- The Canadian Commission for UNESCO engages and consults with civil society.

While considerable work is under way through provincial governments, multi-stakeholder groups are also playing a major role. The J. W. McConnell Family Foundation, Environment Canada, Manitoba Education, and LSF initiated the Education for Sustainable Development Expert Group, now called ESD Canada, and have supported the establishment of ESD working groups in Canada's provinces and territories. The purpose of these groups is to support coordinated, coherent, and systemic change within the formal, non-formal, and informal education systems aimed at helping citizens acquire the knowledge, skills, and values needed to contribute to the development of a socially, environmentally,



and economically sustainable society for generations to come (Farthing, 2005). ESD Canada has members from the provincial/territorial ESD working groups, as well as experts from the formal education, government, business, and community sectors. ESD Canada also provides advice to the provincial/territorial ESD working groups on program direction, and constitutes a networking forum for stakeholders (CMEC, 2008). The provincial/territorial ESD working groups support and foster a culture of education for sustainable development in each province and territory by bringing together senior leaders from provincial ministries and departments, the federal government, NGOs, and the formal, informal and non-formal education sectors to support regional coordination, development, and implementation of ESD policies, curricula, materials/resources, and teacher education.

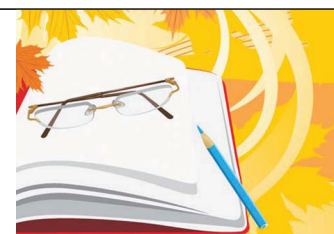
At the international level, Canada serves on the UNECE ESD Steering Committee, which has completed the preparation of ESD indicators (CMEC, 2008) and is now concentrating on the identification of teacher competencies for ESD implementation (UNECE, 2011). In March 2011, Manitoba Deputy Minister of Education Gerald Farthing became chair of the UNECE ESD Steering Committee for the remainder of the UNDESD.

##### **5. What is the Council of Ministers of Education, Canada doing to advance ESD?**

As a member state of the UNECE, Canada, through CMEC, has committed to incorporating sustainable development themes into formal, non-formal, and informal education and to report on this implementation. CMEC has been partnered with the Canadian Commission for UNESCO and Environment Canada since the adoption of the UNECE Strategy for Education for Sustainable Development. CMEC has included ESD as one of the key activity areas in Learn Canada 2020, its framework to enhance Canada's education systems, learning opportunities, and overall education outcomes at all levels. The specific goal for ESD is to raise students' awareness and encourage them to become actively engaged in working for a sustainable society.

To achieve this goal, the CMEC Education for Sustainable Development Working Group was created in 2008 to:

- coordinate action to support and strengthen the implementation of ESD in all provinces and territories;



- develop a pan-Canadian ESD Framework for Collaboration and Action that builds on current activities for enhanced collaboration at the jurisdictional level;
- focus on encouraging activity in the elementary and secondary education systems, with the integration of sustainable development into curricula, development of ESD-related teaching resources and materials, and the provision of pre-service and in-service teacher education and support in ESD concepts and practices;
- act as a consultative body to provide advice for CMEC representatives attending international meetings on ESD and for drafting country reports that will be submitted to international intergovernmental organizations.

CMEC has played a leading role in the implementation of UNDESD activities in Canada and in aligning these with international efforts. In this context, CMEC would like to know more about what Canadian faculties of education are doing in response to UNDESD and the implementation of ESD in teacher-education programs.

### **C. Purpose of this Study of Canadian Faculties of Education**

While considerable work has been undertaken across Canada to incorporate ESD into K–12 learning, it is less clear whether and how university and college faculties of education are preparing new teachers to deliver ESD learning objectives and to work with whole-school approaches to sustainability. This study has been undertaken to develop a better understanding of how ESD is expressed and taught in faculties of education across Canada, to identify gaps and opportunities for strengthening ESD-related teacher training, and to propose suggestions for moving forward.

This is not the first attempt in Canada to survey ESD-related initiatives in teacher education schools. In 2009, the magazine *Corporate Knights* included 10 faculties and colleges of education in its annual ranking of which university degree programs are incorporating sustainability into teaching, research, and



management<sup>2</sup>. Their study investigated course work, institutional support, and student-led initiatives. Each survey respondent was assigned points based on what was in place, and the results were ranked. Although not all schools in Canada were surveyed, the results suggested that at least 50 per cent would not get a passing grade; only one excelled and the rest were deemed to be fairly limited in their performance. Although providing interesting results, this study lacked an assessment of whether faculties were starting to address ESD, what progress they were making, and what barriers and challenges they were facing. It also did not investigate essential dimensions such as governance and partnerships.

Considering the involvement of many Canadian education faculty members on provincial ESD working groups and related provincial, national, and international initiatives, the proponents of the current study believed that this picture presented by Corporate Knights was incomplete. A different approach was deemed important to better understand what progress faculties are making on ESD, and to find exemplars of good practice that could be shared.

This study was therefore designed to explore and develop an understanding of what progress has been made within Canadian faculties of education to promote and incorporate ESD into pre-service teacher education, as well as faculty research and practice.

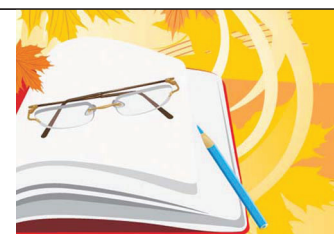
Specific objectives of this work were to:

- Develop a better understanding of how sustainability is expressed and taught in Canadian faculties of education;
- Identify gaps and opportunities for strengthening ESD-related teacher education; and
- Propose suggestions for moving forward.
- In addition, this study may serve as a baseline of activities against which ESD adoption at the faculty of education level can be monitored over time.

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<sup>2</sup> <http://www.corporateknights.ca/report/2009-knight-schools-survey>. Note that a second Corporate Knights survey of faculties of education was released shortly after the CMEC study was completed; findings from the most recent ranking can be found at <http://www.corporateknights.ca/report/8th-annual-knight-schools-results/teacher-education-cultivating-change>. Their analysis suggests, again, that only one institution excels, with considerable work still to be done by the rest.





## D. Contextual Background on Sustainability Education in Universities and Colleges

“But, first and foremost our message [sustainable development] is directed toward people, whose well-being is the ultimate goal of all environment and development policies. In particular, the Commission is addressing the young. The world’s teachers will have a central role to play in bringing this to them.” (Our Common Future, 1987)

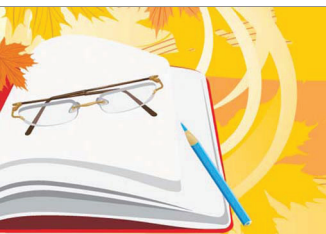
“Special attention should also be paid to the training of teachers, youth leaders and other educators. Education should also be seen as a means of empowering youth and vulnerable and marginalized groups, including those in rural areas, through intergenerational partnerships and peer education. Even in countries with strong education systems, there is a need to reorient education, awareness and training so as to promote widespread public understanding, critical analysis and support for sustainable development.” (Agenda 21, 1992)

“University teachers and researchers must participate as critical colleagues and advocates in the intellectual lives of their faculties, institutions, and the broader community, examining the assumptions and propositions that circulate within our fields, including the concepts and assumptions informing ESD.” (McKeown and Hopkins, 2005)

### 1. University responses to the international calls for action on sustainable development

The report of the World Commission on Environment and Development, *Our Common Future* was released in 1987. In response to the challenges identified by the commission, university leaders gathered internationally and in Canada to affirm their commitments to address sustainable development. These resulted in four major agreements of importance to Canadian universities and colleges:

- The Talloires Declaration (1990) — The first gathering of university presidents, rectors and vice-chancellors from around the world to address “the unprecedented scale and speed of environmental pollution and degradation, and the depletion of natural resources...[that] threaten[s] the



survival of humans and thousands of other living species, the integrity of the earth and its biodiversity, the security of nations, and the heritage of future generations.”<sup>3</sup> Signatories to the Talloires Declaration are registered with The Association of University Leaders for a Sustainable Future ([www.ulsf.org](http://www.ulsf.org)).

- The Halifax Declaration (1991) — The Association of Universities and Colleges of Canada, United Nations University, and the International Association of Universities. The Halifax Declaration expressed dismay about the continuing widespread degradation of the earth’s environment and the pervasive influence of poverty on the process.
- The Swansea Declaration (1993) — The Association of Commonwealth Universities. Over 400 universities in 47 countries acknowledged that the “educational, research and public service roles of universities enable and impel them to be competent, effective contributors to the major attitudinal and policy changes necessary for a sustainable future.”<sup>4</sup>
- The Kyoto Declaration (1993) — The International Association of Universities (IAU). This builds on the language and substance of Halifax and Swansea, and urges the members of the IAU to “enhance the capacity of the university to teach and undertake research and action in society in sustainable development principles, to increase environmental literacy, and to enhance the understanding of environmental ethics within the university and with the public at large.”<sup>5</sup>

Many universities and colleges across Canada have signed on to one or more of these commitments and have begun to fulfill them through the establishment of campus-wide sustainability policies<sup>6</sup>, programs, research, new curricula, and other efforts. It is within the context of these institutional commitments and actions that individual faculties have begun to address their own policies and programs, including faculties of education.

In 2001, a pan-Canadian effort began with the establishment of the Pan Canadian

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3 <http://www.iisd.org/educate/declarat/talloire.htm>

4 <http://www.iisd.org/educate/declarat/swansea.htm>

5 <http://www.iisd.org/educate/declarat/kyoto.htm>

6 For a selection of Canadian university and college sustainability policies, see IISD’s School and Campus Policy Bank at <http://www.iisd.org/leaders/policybank/>.



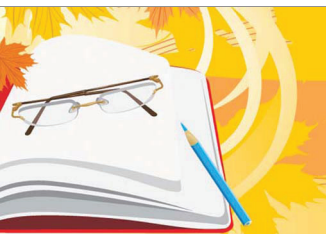
Network of Faculties of Education Supporting Sustainability and Stewardship (PANCANNET) by Charles Hopkins, UNESCO Chair for Re-orienting Teacher Education for Sustainability, to engage Canadian faculties of education in advancing ESD. This group included several faculty members and met a number of times. As ESD was just emerging in those early years, it was difficult for faculty to travel to a national meeting. To facilitate travel, the group tried to hold meetings to coincide with the National LEARNEDS Conference each year. The meetings were useful for those who could attend. A small group of committed individuals from faculties of education played a large role in the first phase of the UNESCO Teacher Education Network. The group has not met in recent years; however, as ESD has reappeared as a priority for more faculties of education, there has been some discussion started on the re-establishment of PANCANNET.

## **2. International efforts to address teacher education**

During the 1990s, UNESCO identified teacher-education institutions and teacher educators as key change agents in reorienting education to address sustainability. Subsequently, in 1998, the United Nations Commission on Sustainable Development (UNCSD) work program on Education for Sustainable Development called for UNESCO to develop guidelines for reorienting teacher training to address sustainability. In order to accomplish this task, UNESCO and York University (Toronto, Canada) agreed to establish a University Twinning and Networking Programs (UNITWIN) UNESCO Chair at York University in 1999 to provide advice to UNESCO and institutions of teacher education. The Chair established an international network of 30 teacher-education institutions in 28 countries to address this issue. They undertook the task of developing the Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability (McKeown and Hopkins, 2005), key guidance for reorienting teacher education and associated realms of pedagogy, curriculum, and other related issues. The international network began planning strategies and methods for moving forward and undertook many types of initiatives in their efforts to reorient teacher education and decide which themes or sustainability goals to emphasize within their curricula, programs, practices, and policies to ensure that teacher-education programs fit the environmental, social, and economic conditions and goals of their communities, regions, and nations.

Members of the international network:

- identified a number of issues that limit progress in ESD. For example,



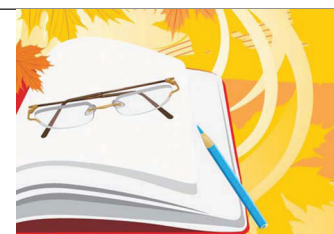
one network member wrote, “The main problem I faced when I tried to implement any work on education and learning of sustainability in our institutions was a lack of awareness and understanding of the concept of sustainable development among our faculty members.” Others claimed there were too many disparate initiatives, too little time for thinking about new ideas, and too little encouragement to think “outside the box” or make links between initiatives, particularly where cultural norms or existing mission statements did not mention sustainability.

- made recommendations on reorienting teacher education to address sustainability. The recommendations concerned ministerial, national, and local levels and involved curriculum, pedagogy, policy, practice, programs, rewards, research, information and computer technology, partnerships, networking, communications, etc.
- repeatedly mentioned the urgency to act and the need for profound change.
- agreed that it would take concerted effort and resources to establish ESD in curricula, programs, practices, and policies across teacher-education institutions. (McKeown and Hopkins, 2005).

The guidelines produced by the network have been successful in increasing awareness and supporting implementation around the world. Examples include “compulsory education for sustainable development component [incorporated] into masters-level environmental education and geography programs in the University of Zambia, masters-level initiatives at the University of the Punjab,” and integration of sustainable development into education programs related to social issues in Jamaica (Gough and Scott, 2007). Members of the network are now in phase two of their work plan and 60 countries have established networks.

### **3. Challenges and barriers faced in infusing education for sustainable development into teacher education programs**

On an international level, many obstacles continue to be faced in infusing ESD into teacher-education programs. Researchers suggest that education faculties are not doing enough to implement effectively ESD in their programs, despite growing interest in and support for the approach (Ferreira, Ryan and Tilbury, 2009). Pre-service teachers are not being taught enough regarding sustainability, leaving



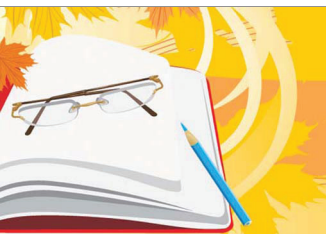
them unprepared to properly establish the continuing success of ESD for future generations (Ferreira, Ryan and Tilbury, 2009). UNESCO has observed that “many teacher education institutions seem to view [environmental education/ESD] as a further burden to the existing pressures of already demanding teacher education programs,” (Beckford, 2008.)

Researchers have identified the following challenges at the faculty of education level: (Gough, year unknown; McKeown and Hopkins, 2005; Rivard, Lemoine and Enns, 2010; Steele, 2010)

- Official national/provincial teacher certification guidelines rarely mandate ESD.
- Inadequate policy to support ESD, including limited support from ministries and departments of education.
- Institutional climates do not support the creativity, innovation, and risk-taking necessary to support transformative efforts to reorient education to address sustainability.
- Awareness of importance of ESD is limited.
- A lack of trained professionals who are knowledgeable about ESD.
- Inadequate funding and material resources.
- Rewards for institutions or faculty members who undertake ESD programs are limited.

Researchers in other jurisdictions add limited course time, an overcrowded curriculum, or conflicts with mandated course content as challenges for infusing SD into teacher education programs (McKeown-Ice, 2000). Pre-service teachers have openly expressed a lack of confidence in their ability to take appropriate actions related to ESD in the classroom. (Stir, 2004)

In Canada, the published research on environmental education suggests that current undertakings are limited, with only a small handful of institutions providing pre-service courses. Researchers have concluded that not prioritizing environmental education creates a cycle of pre-service teachers who do not have enough skills, knowledge, or experience to perpetuate an environment



for sustainable development learning. Seen as a burden on current curriculum objectives, environmental education is of marginal importance in most program mandates (Beckford, 2008). Researchers have identified a number of areas of concern in the effective implementation of ESD in Canadian faculties of education, including inadequate funding, lack of professionally trained individuals who are knowledgeable about ESD, programs often developed without ESD foundation or relevance, “sustainability” seen as transdisciplinary and arduous, and “rewards for institutions or faculty members who undertake ESD programs are quite inadequate” (Lui, 2009). It has also been suggested that teachers lack a clear understanding of their priorities with regard to ESD (Rivard, Lemoine and Enns, 2010).

#### **4. Strategies and guidelines for change**

Several strategies for implementing change in pre-service teacher education in ESD have been identified (Ferreira, Ryan and Tilbury, 2006). UNESCO guidelines and recommendations (McKeown and Hopkins, 2005) have been made in a number of areas that are crucial to the success of reorienting teacher education to address sustainability. These recommendations include:

1. ministerial and national-level involvement;
2. community and regional/provincial involvement;
3. changes within institutions of higher education, including changes within the faculties of education, changes related to engaging pre-service and in-service teachers, and changes at the individual faculty-member level;
4. funding and other resources;
5. partnerships;
6. research;
7. communications
8. information technology opportunities.

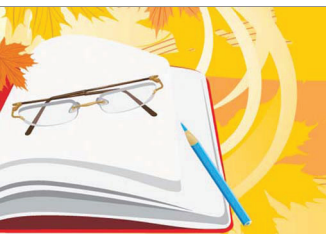


For the full list of recommendations, see Appendix 6.

Noted enablers identified by UNESCO for reorienting teacher education to sustainable development (McKeown and Hopkins, 2005) include:

- providing release time from traditional responsibilities — teaching, advising, supervising student teachers, and committee work — thereby freeing faculty to focus their attention on planning and implementing change;
- communicating about ESD within teacher-education institutions, as faculty members often have some existing conceptions of sustainability which may or may not have kept pace with the evolving nature of sustainability;
- linking ESD to ongoing academic programs requires a more comprehensive understanding of sustainability and local sustainability goals. Furthermore, such linkage needs clear, concise ways of communicating about ESD;
- developing ESD communication strategies for senior administration is a major component of facilitating institutional change. The teacher-education community needs to develop specific communication strategies and materials for target audiences such as administrators;
- getting institutional support for change where existing accreditation or validation guidelines stand in the way;
- identifying curriculum contexts in which related developments are taking place — even those that are isolated and limited, and perhaps not linked with community participation or external stakeholders;
- leading by example and working through pilot, experimental, and optional programming to gain institutional support and make progress;
- showing that ESD is good education and that ESD-related research is important and methodologically sound research.

In Australia, the “mainstreaming sustainability” model was introduced to properly engage all stakeholders and agents to work synergistically to achieve the common goal of increased environmental literacy and awareness leading to responsible citizenship. This has included recognizing the importance of attaining commitment to, and ownership of, the innovation process across the system, and, in this way, mainstreaming learning for sustainability into teacher education



(Ferreira et al., 2006; Ferreira, Ryan and Tilbury, 2009). The Australian experience confirms findings from American studies that effective education for sustainability is not just a curriculum issue; it requires the involvement of the whole faculty (Chambers, year unknown). Coordination of all facets within education faculties is necessary to ensure proper preparation for pre-service educators, along with collaboration between different bodies in current education programs and ministerial sectors for proper implementation (Steele, 2010).

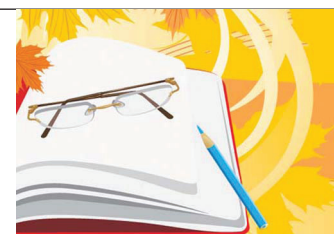
An important factor influencing ESD in pre-service teachers is faculty interest and knowledge, closely followed by state certification guidelines (McKeown-Ice, 2000). But more is also needed with respect to motivations: “Addressing ESD will require student teachers to think about their profession differently and learn skills that perhaps teachers in previous eras did not learn or use” as well as “understanding the interrelatedness of the environment, society, and economy” (Gough, year unknown).

Some suggest that faculties of education should develop a critical approach, implementing courses that incorporate competencies specific to ESD, including critical analysis, affective education, and participatory teaching/learning in community-based and place-based contexts (Rivard, Lemoine and Enns, 2010). In 2010, survey research was conducted to compile a list of commonly adopted ESD pedagogies in higher education institutions in the UK (UNESCO, 2011). Pedagogies such as reflexive accounts, critical reading and writing, problem-based learning, fieldwork and outdoor learning, and modeling good practices have been identified along with commonly used active learning techniques.

##### **5. Recognizing jurisdictional differences in quality assurance of pre-service programs and individual teacher certification in Canada that affect reorientation toward ESD**

In Canada, there is no federal department of education and no integrated national system of education: under the constitution, responsibility for education lies with the provinces. In the 13 jurisdictions — 10 provinces and three territories — departments or ministries of education are responsible for the organization, delivery, and assessment of education at the elementary and secondary levels; for technical and vocational education; and for postsecondary education. Some jurisdictions have separate departments or ministries, with one department



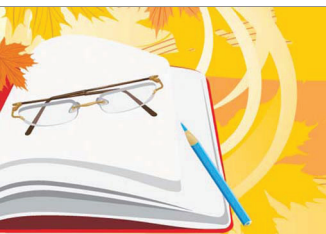


having responsibility for elementary/secondary education and another for postsecondary education and skills training (CMEC, 2008). Provincial/territorial government influence with universities and colleges is generally limited to funding, fee structures, and the introduction of new programs.

Each Canadian university is autonomous in academic matters, including the determination of its own quality assurance policies and procedures. They also set their own admissions standards and degree requirements and have considerable flexibility in the management of their financial affairs and program offerings. For some programs, institutional policies on program approval and quality assurance may be supplemented by standards of professional accreditation (Association of Universities and Colleges of Canada, 2011). Not all faculty of education programs are subject to external review; but those bodies that do review education programs include: BC Ministry of Education, Teacher Regulation Branch; Ontario College of Teachers (Accreditation Committee); Ministère de l'Éducation, du Loisir et du Sport au Québec (Comité d'agrément des programmes de formation à l'enseignement). (See Appendix 8 for the Association of Universities and Colleges of Canada overview of quality assurance processes.)

Generally the requirements for teacher certification are an undergraduate university degree plus a one- or two-year Bachelor of Education or equivalent. Provinces differ in how individual teacher certification is handled. In some provinces, responsibility for teacher certification lies with a department or directorate within the ministry/department. Other provinces have a professional body (such as a College of Teachers) under separate legislation, essentially establishing teaching as a self-regulated occupation similar to nursing and medicine. There are different schemes for teacher certification in different jurisdictions, but all deal with standards (see, for example, the statement of standards from British Columbia's College of Teachers: [http://www.bcct.ca/documents/AboutUs/Standards/edu\\_std.pdf](http://www.bcct.ca/documents/AboutUs/Standards/edu_std.pdf).) For a full list of certification bodies, see Appendix 7.

In reorienting teacher education toward education for sustainable development in Canada, significant differences in responsibility must therefore be recognized. Ministries and departments of elementary/secondary levels of education may mandate certain requirements for the pre-service program content to correspond to the elementary and secondary school curriculum set by those ministries/departments. This influences the programs offered by the university faculties



of education. The requirements for certification of teachers, including the attainment of appropriate knowledge and skills, may be dictated either by the ministry/department, or by the separate certification body. This too influences the programs for teacher education offered by the universities. Ministries and departments of advanced/higher education may influence, through funding and fee structures, the resources available to faculties of education for teaching and research. University teacher-training programs are also subject to accreditation by professional bodies at the provincial level. Nevertheless, even with these various requirements influencing teacher training programming, the faculties are accountable not to the governments or professional bodies, but to the administrative and governance structures of their own universities.

## **E. Methodology of the Study**

This exploratory research was overseen by the CMEC ESD Working Group (ESDWG); the project was led by Manitoba Education in partnership with IISD and LSF, and with the participation of an ESD committee of Manitoban faculties of education. In addition to the review of contextual background information (Section D), the following methodology was adopted:

- Survey instrument

An on-line survey instrument was designed by Manitoba Education, IISD, and LSF, and reviewed by the Manitoban faculties of education ESD committee and by the CMEC ESDWG (see Appendix 1). The survey was administered to faculty deans/departmental chairs within the membership of the Association of Canadian Deans of Education (ACDE), with the intention of collecting an institutional response (see Appendix 2 for the letter of invitation from CMEC and Appendix 3 for the list of institutions invited to participate). The survey questions focused on six lines of inquiry:

- o ESD within the faculty's pre-service curriculum;
- o sustainable development knowledge and experience as part of the qualifications for education program applicants;
- o faculty research on ESD;



- o recognition and support by the faculty for ESD leadership among faculty members;
- o sustainability considerations in the campus physical facilities and operation; and governance and partnerships for ESD.

For each of the statements/questions in the survey, participants indicated the current status of their faculty or institution (university/college), on a Likert scale of 1 to 5, with 1 being the highest, as follows:

1	Full implementation	The faculty has implemented/achieved the desired action/outcome (course, policy, program, etc.).
2	Significant progress	The faculty is proceeding toward implementation.
3	Preliminary efforts	The faculty has initiated efforts toward achieving the desired action/outcome.
4	Emerging interest	Faculty members are interested in/ have discussed desired actions/outcomes.
5	No action	No action of any kind at present.

Simple statistics (percentages) were used to summarize the quantitative scores of survey results. Respondents were also invited to provide additional comments for clarification or enhancement to the Likert scale responses.

- Follow-up interviews

Respondents to the survey were asked to nominate champions or key persons within the faculty who were working on ESD. From these, 15 individuals were selected for interviews in order to provide representation and views from faculties along the spectrum of ESD implementation. Regional representation and size of institution were also considered in the selection of key informants. A semi-structured interview protocol was designed both to validate the information provided via the survey instrument and to collect additional individual perspectives on faculty progress on ESD (see Appendix 4). Interview data were examined to inform the overall analysis.



- Preliminary analysis

Preliminary data analysis was reviewed by the Manitoban faculties of education ESD committee and the CMEC ESDWG.

## F. Profile of Respondents for the Survey and Interview Process

### Response Rate

Forty-one responses were received for the survey; duplication of institutional responses from two or more respondents was addressed, for a total of 36 responses from the membership of the ACDE. Responses to the survey were provided in most cases by the department leaders, as requested. Fourteen of the 15 follow-up interviews were secured. To maintain confidentiality, the names of individuals who responded to the survey are not included in the report. Of the 63 Canadian faculties and education programs approached, a total of 36 institutional responses were received, for a 56 per cent response rate.

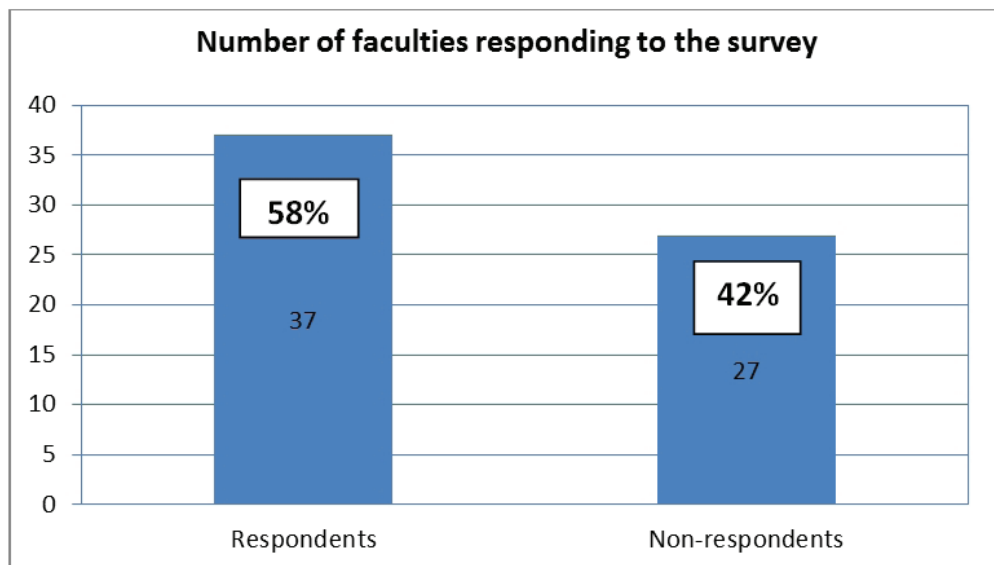


Chart 1



Two responses were received from one institution, but as the programs reported on were distinct, the decision was made to include both responses in the final data set, for a final calculation of N=37.

Of these institutions, responses to the survey were provided in most cases by the department leaders, as requested.

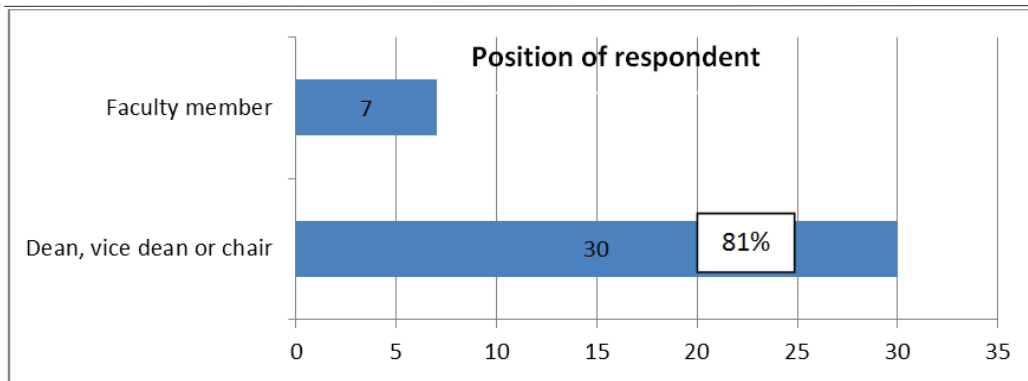


Chart 2

### Distribution by jurisdiction

The following chart illustrates the number of faculty of education survey responses received. In general, a greater percentage of institutions based in the Atlantic and western provinces participated in the survey, compared to Ontario and Quebec (Chart 3).

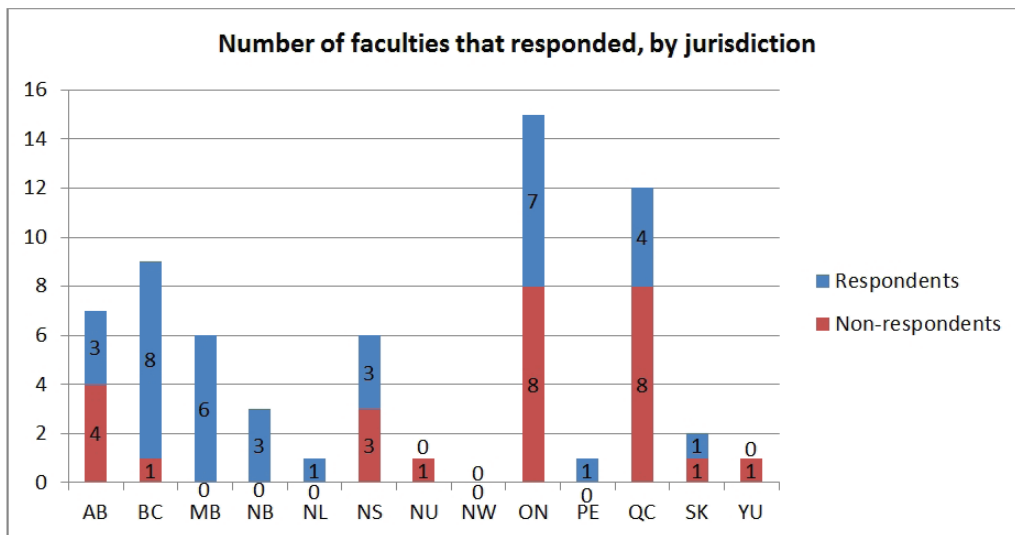
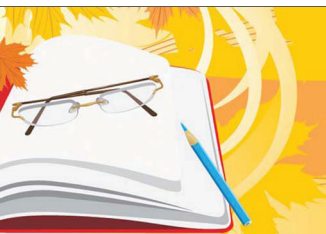


Chart 3

### Distribution of responses by size of institution

Responses were received from a range of both large and smaller institutions (with respect to numbers of enrolled pre-service students) (Charts 4, 5):

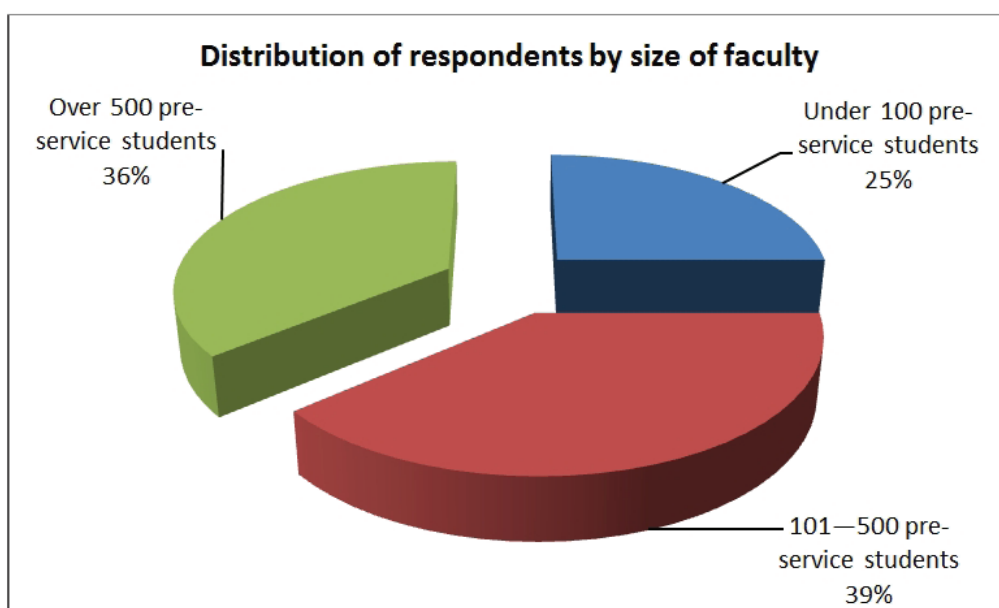


Chart 4

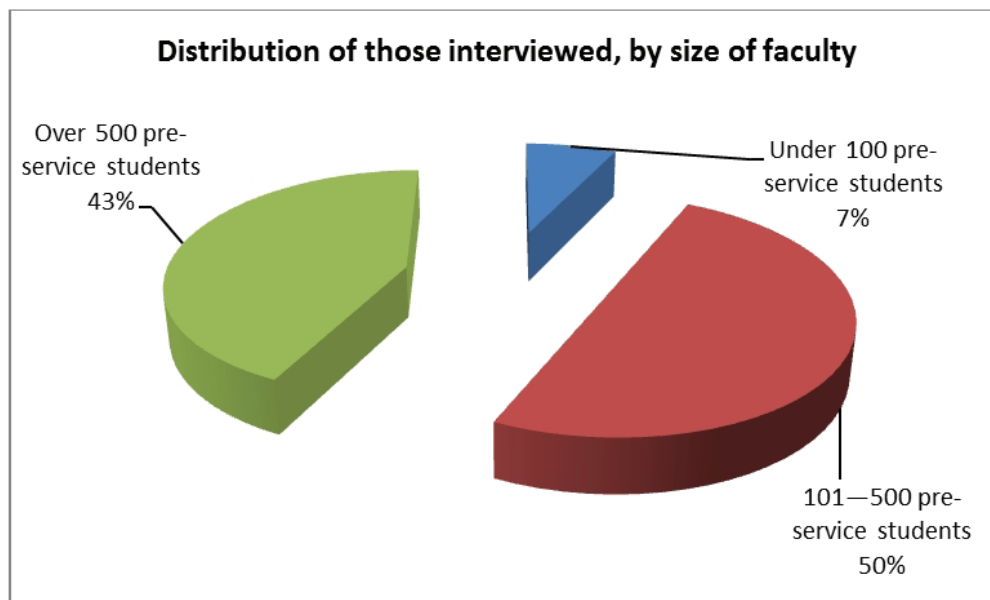
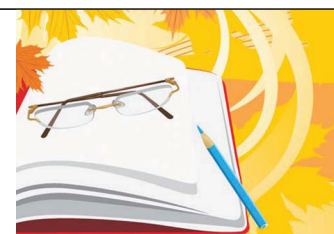


Chart 5

## G. A Note on Terminology Issues

Recognizing the potential terminology issues noted in the literature, survey respondents were asked whether their pre-service curricula used terms/ concepts/frameworks other than ESD that encompass ESD competencies (e.g., systems thinking, futures thinking, active learning, emphasizing local and global perspectives). The responses suggest that a variety of terminology is being used, most commonly “environmental education”. The economic aspect was not as evident in discussions of ESD implementation. It must be asked, therefore, whether teacher education aspects related to the goals of education for preparation for work, career development, economic education and technical/ vocational education are seen as in any way relevant to ESD.

Most survey respondents demonstrated a fairly broad and inclusive approach to the concepts and competencies of ESD. For example:



“We utilize a variety of perspectives to inform our work in ESD; faculties are welcome to use any frameworks they choose. Most often the title of Environmental and Sustainability Education (ESE) is used.”

“Broadly speaking we have already incorporated the values and goals of ESD very broadly understood.” and

“[Other terms used include] problem-based learning, critical literacy, science, technology, society and environment (STSE), critical thinking pedagogy, sustainability, engaged learning, global awareness, eco-education, experiential education, environmental education, internationalization social and cultural contexts of education, as well as Indigenous ways of teaching and learning.”

This issue of terminology and the variation in core concepts and frameworks were also explored more carefully in the interviews. Interviewees expressed the view that their faculties have made significant progress in capturing the importance of sustainability ideologies and principles, often using other frameworks and terminology. For example:

“Our framework is social justice education and we would like to think that ESD is part of that greater need for justice.”

“I don’t think sustainability is mentioned as a term, [but] the underlying principles are evident there.”

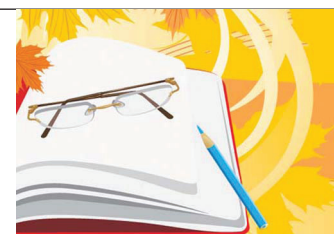
“I would say we are more EE focused because that is the focus of the Ontario curriculum; we have an EE mandate rather than an ESD mandate.”

“We are currently developing a graduate diploma in global education which will incorporate many of the ESD competencies.”

“My sense would be that most of my colleges tend to use words like ‘social justice’ more than ‘sustainability’.”

Some interviewees also expressed concern about using ESD terminology:





“The faculty has found it to be problematic to use the term ‘ESD’. The faculty prefers to use terms such as ‘environmental learning’ or ‘sustainability education’ or ‘ecological education’. Analyzing what is actually done in the program, you will see that ESD principles are in fact being used, but we would rather use different language.”

“We do not use the term ‘ESD’ just because we find that...it can be problematic, with confusion between ESD, EE, or sustainable education. Although we do adhere to that term [and] follow the principles...we find it can be problematic. Semantics that argue whether EE or ESD are truly different — the proof is in the pudding and the proof is in how it’s done. It’s important to not focus on the name, but more so focus on what the principles are.”

Survey and interview results indicate that multiple frameworks, fields, and movements aimed at reforming and transforming educational institutions and systems are employed by members of Canadian faculties of education as educational theorists and practitioners. Both the qualitative and quantitative results reveal that although ESD may not explicitly be expressed within faculties of education programs, research, and initiatives, similar terms are used, most commonly “environmental education” or “social justice education,” to reflect the same underlying principles. All interviewees and many survey respondents used different terminology regarding sustainability (education for sustainable development, environmental education, education for sustainable living, sustainable well-being, etc.), and all responses were mainly case specific. This is consistent with the sector at large. These distinctly identifiable terms, fields, or movements inevitably overlap and interrelate, creating synergies and interdependencies, and opportunity to share the knowledge, experiences, and insights of diverse educational communities, groups, and sectors, rather than creating “competition” and distancing among these educational movements.



## H. Survey and Interview Results

### 1. Dimension 1: ESD status within pre-service curriculum

A primary indicator in the literature for progress on ESD at the faculty level is whether sustainable development knowledge, concepts, and approaches have been incorporated into pre-service curriculum. Table 1 summarizes the survey responses on questions related to how ESD is being approached and incorporated.

**Table 1 – ESD status within the pre-service curriculum**

Question/ Statement	Response										N
	1=Full implementation		2=Significant progress		3=Preliminary efforts		4=Emerging interest		5=No action		
	n=	%	n=	%	n=	%	n=	%	n=	%	
Our faculty is contributing to the UN Decade for Education for Sustainable Development [2005–2014].	0	0	9	24	16	43	7	19	5	14	37
Our faculty is exploring what constitutes education for sustainable development (ESD).	1	3	12	32	17	46	5	14	2	5	37
Our faculty offers a course about toward ESD.	6	16	7	19	7	19	8	22	9	24	37
ESD has been introduced in several courses.	2	5	11	30	13	35	8	22	3	8	37
Our faculty has reoriented all of its programs toward ESD.	0	0	3	8	15	41	8	22	11	30	37

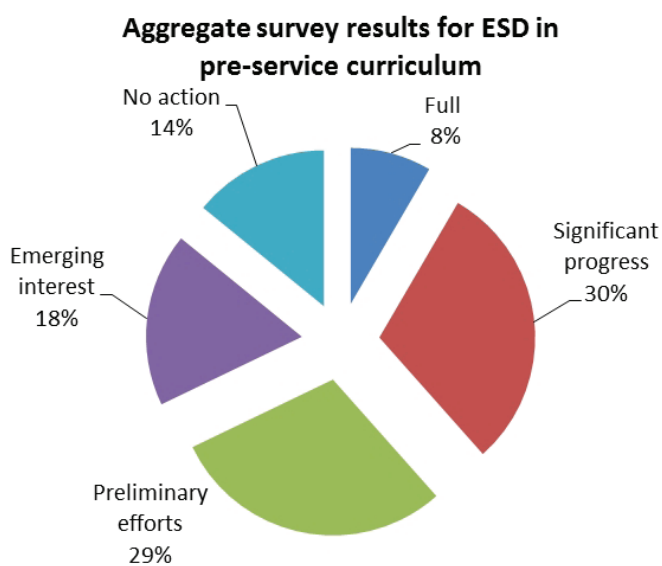


ESD calls for interdisciplinary learning. The challenge of teaching in an interdisciplinary manner is addressed in the pre-service program.	7	19	15	41	8	22	3	8	4	11	37
Teaching staff of the faculty use pedagogical approaches with their students that are consistent with ESD (for example, systems thinking, futures thinking, active learning, and emphasizing local and global perspectives).	5	14	20	54	9	24	2	5	1	3	37
Students are learning to use pedagogical approaches in their teaching practice that are consistent with ESD (for example, systems thinking, futures thinking, active learning, and emphasizing local and global perspectives).	6	16	19	51	8	22	3	8	1	3	37
Opportunities are sought to engage placement schools to practise ESD.	1	3	4	11	12	32	9	24	11	30	37



### a. Aggregated findings

At the aggregate level (aggregating the survey responses to all questions), the results reveal that although many faculties of education are beginning to make progress toward reorienting their curricula and contributing to the DESD, there is progress yet to be made toward full implementation.



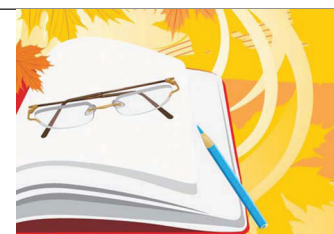
**Chart 6**

Additional comments provided suggest that the reporting of “significant progress” and “preliminary efforts” on the Likert scale is reliable. For example:

“The faculty is in the process of re-visioning, revisiting, and reviewing our current program. We are not done with this process, but we have started to come up with some proposals...helping teachers prepare students for education for sustainable living...but that is for a future program, not how the current program is taught”; and

“We are making a genuine effort to integrate ESD into our courses.”

Disaggregating Dimension 1 into the following components provided some



deeper insights into ESD adoption in the curriculum:

- institutional involvement in ESD planning;
- inclusion of ESD in the pre-service curriculum; and
- pedagogical approaches supportive of ESD.

### **b. Institutional involvement in ESD planning**

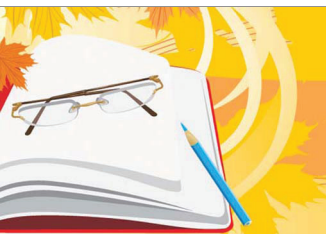
When asked about institutional responses, including participation in the UNDES, or faculty-wide ESD thinking, response was very low. No respondents to the survey indicated that their faculties were contributing to the UNDES (although about 25 per cent were making significant progress toward a contribution, and 43 per cent were in the preliminary stages of doing so). Only one institution reported that they were in full exploration of what constitutes ESD. No institutions were close to reorienting all of their programming toward ESD. As one respondent commented,

“The interest and engagement of faculty varies. ESD has been the subject of a faculty retreat. ESD is central to the ... curriculum course on science and social studies. It is also a key component of some ... curriculum courses such as geography and biology. Getting all faculty to see ESD as a cross-curricular issue has been harder.”

However, a difference of opinion was expressed in the interviews. Most interviewees referred to the enabling influences of ministry policy, the UNDES, or issues such as climate change in driving the faculty to reorient pre-service education. For example:

“The Interconnectedness of our planet is a very strong driving force.”

“I would guess that some of the public discourse helps remind people about priority ... the public discourse on global warming for example would help us pay attention to sustainability when we promote reflective practices.”



Where there are barriers, many respondents indicate that progress is limited because of faculty capacity. For example:

“The main problem is due to our size — the faculty is small: people are thinly stretched within the curriculum. This may be because everyone comes from different areas of expertise and has not had a chance to look at ESD in much depth.”

“Like so many faculties, we’re dealing with quite a turnover in faculty that have been in place for quite a while and bringing on new faculty, so the unfortunate part is that [on one hand] you lose part of your institutional memory, but on the other hand, [with] new faculty coming on board, many of those have a different ethos or understanding of what it is that they are supposed to do in their classrooms.”

“Because we have a very tightly packed schedule, especially in our elementary initial teacher education program, there isn’t really room to add another mandatory course that everybody can take.”

Funding was identified as the most significant barrier to infusion of ESD, as illustrated in the following interview comments:

“Financial difficulty... we’re certainly not flush with money. I think that’s quite a good thing from a sustainability perspective; I think we have to look at what we can do with the resources that we have. And you have to rethink ‘How can we do things?’ In some ways the financial crisis is not restricting, but actually forces us to think of things in different ways.”

“Living so long with this constant, chipping away at resources and funding, [it has] become very difficult to find the resources that are needed to innovate further.”

“[Having] no resources, in particular, is a really significant [barrier]. It’s hard to do good work and do reflective work and promote reflective work when we have to cut things everywhere.... Cutting in general isn’t necessarily bad, but the particular kinds of cutting that I’m talking about are the ones associated with the move toward corporatizing the university, [which] I think are pretty negative...in terms of sustainability.”



### c. Inclusion of ESD in the pre-service curriculum

The rate of introduction of ESD either as a stand-alone course or incorporated into existing courses was higher than that of ESD in faculty-wide planning, suggesting that individual faculty member interest is driving adoption in pre-service curriculum more so than institutional mandates:

“If education for sustainability shows up in our course work, then it is based on individual initiatives by individual instructors.”

“I would say [integration] is not happening in the majority of the courses. In terms of the teaching program that we have, there is no systematic introduction for education for sustainability, meaning that there is no separate course, there is no larger unit within our teacher education program that is actually dedicated to education for sustainability. Education for sustainability can be used as a component within specific courses at the discretion of the instructor.”

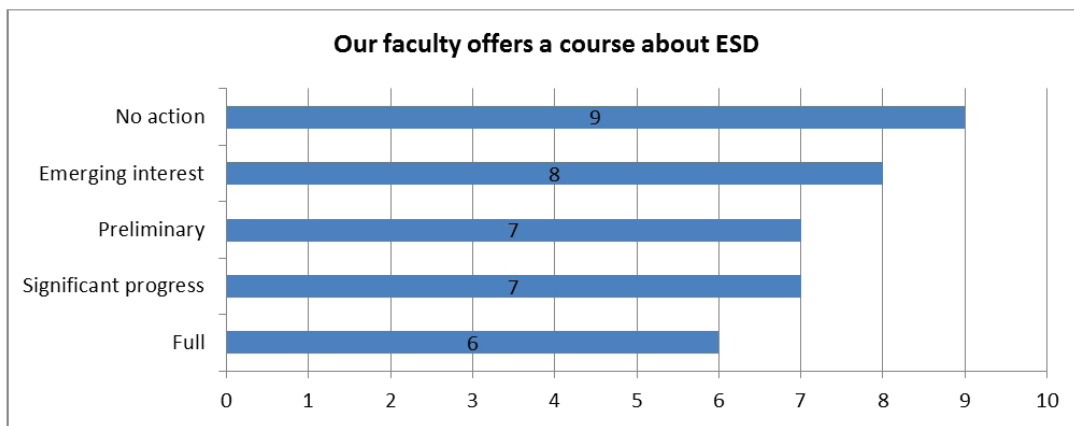


Chart 7

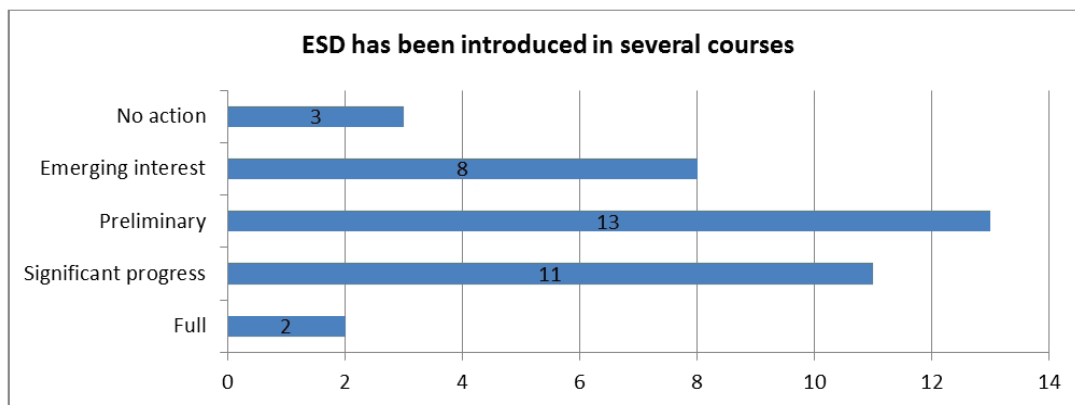
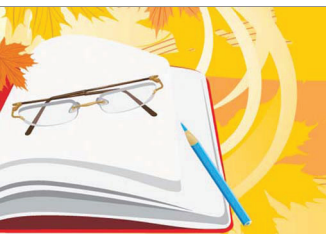


Chart 8

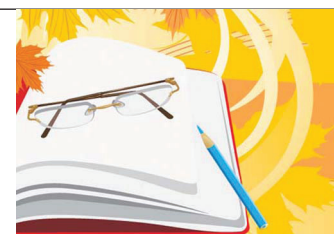
Some commented that there is no capacity to add to the courses in the pre-service program, and, as a result, these topics are often “infused” into the existing core structure. However, there are exceptions. In one case, the respondent commented that new requirements have, in fact, been added: “All our elementary pre-service teachers are now required to take an environmental science course built on the concepts of ESD”. Another reported that “they redesigned that [core] course, and they did it in a way that put environmental issues and sustainable development quite explicitly into that curriculum.” Another noted that:

“Significant progress [is] being made in addressing sustainable development or sustainable matters in the pre-service program because we revamped the program recently and with that comes reflection on what is important.... With the whole restructuring there are a lot of changes in terms of what courses students take.”

Many of the interviewees mentioned ESD and ESD-like principles introduced within individual courses (primarily science and social studies courses), or “sustainability” used as an undertone throughout their programming. However, another survey respondent cautions that “where ESD is a component [within a course], it’s a fairly small component.”

There appears to be considerable variation across faculties in whether ESD is “infused” through a number of mandatory courses or optional courses, whether ESD is a stand-alone mandatory or optional course, and whether it is primarily introduced through community-based practicums:

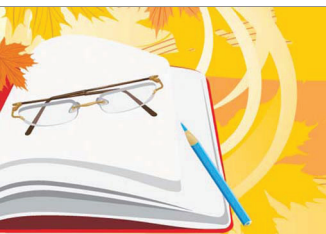




“Where you would most clearly see ESD in our concurrent program is it’s partly present on our community-based practicum in the first year. It is among the electives that students can choose from in that program, and in both the concurrent and consecutive year, we still offer environmental science as a teachable subject.”

The complexity of determining ESD-related course offerings is illustrated in the following comment on the survey:

“Courses like climate change, for example: we have a couple of courses on climate change education looking at resources and documents and support teachings, one which is a graduate course that works alongside scientists studying climate change, for example. We then have some of the global citizenship courses which involve experiences in Ghana. Others which address global citizenship from a more theoretical context...I would say that we have a few what we would call sustainability focus courses where sustainability is really front and centre of the course, and then we have many that contain related principles which are part of a bigger issue that is being addressed in the course. We have had course which has been called “sustainability,” although we don’t have one running this year. All these courses are electives. There is no core course related to either global education or ESD. Students can choose sustainability courses as they wish. We have a number of courses in the faculty which either have sustainability in the name — which are very few — but more addressing the concepts of sustainability. We have a particularly global citizenship group, for example. And then in science education we have courses aligned with environmental context for sustainability.”



#### **d. Incorporation of ESD into faculty program/curriculum at the master's/Ph.D. level, in administrator certificates, and other**

A supplemental question was asked on the incorporation of ESD into other programs within the faculty. At the graduate level, there appears to be more flexibility in course offerings:

“Our pre-service program was fairly tightly scripted...we found it easier to do more work around environment and sustainability in the graduate program. Early on, our graduate diploma, which is a jointly offered diploma between us and the faculty of environmental studies, was created so that students — whether they were graduate, master's or doctoral students (of either faculty) — could choose a greater range of courses that were offered in both faculties that were connected to issues around environment and sustainability.”

Several other survey respondents also reported on courses offered jointly by the faculties of education and environment, in addition to well-established master's programs in ecological education. Interviewees noted a number of new initiatives, with at least two new Master of Education programs on sustainability and education under development.

#### **e. Pedagogical approaches supportive of ESD**

The most encouraging findings are related to use of pedagogical approaches consistent with ESD principles, for both teaching staff and pre-service students. Over half of the respondents are either well on their way to addressing, or have already addressed, the need for interdisciplinary learning and pedagogical approaches that are consistent with ESD (for example, systems thinking, futures thinking, active learning, and emphasizing local and global perspectives).

### **2. Dimension 2: ESD within qualifications for education program applicants**

Table 2 summarizes survey responses related to the integration of ESD within qualifications for program applicants. When the responses for both statements are considered, the results suggest that most faculties of education do not explicitly use knowledge of or interest in sustainable development



during candidate selection, although this may be indirectly reflected. As one respondent commented, “We do consider applicants’ backgrounds in community involvement.”

**Table 2 – ESD within qualifications for education program applicants**

Question/ Statement	Response										N
	1=Full implementation		2=Significant progress		3=Preliminary efforts		4=Emerging interest		5=No action		
	n=	%	n=	%	n=	%	n=	%	n=	%	
Previous education, training, or experience in sustainable development is considered an asset for candidates applying for admission to our programs.	2	5	12	32	10	27	8	22	5	14	37
An interest in sustainable development generally, or ESD in particular, is considered an asset for candidates applying for admission to our programs.	2	5	2	5	3	8	4	11	26	70	37



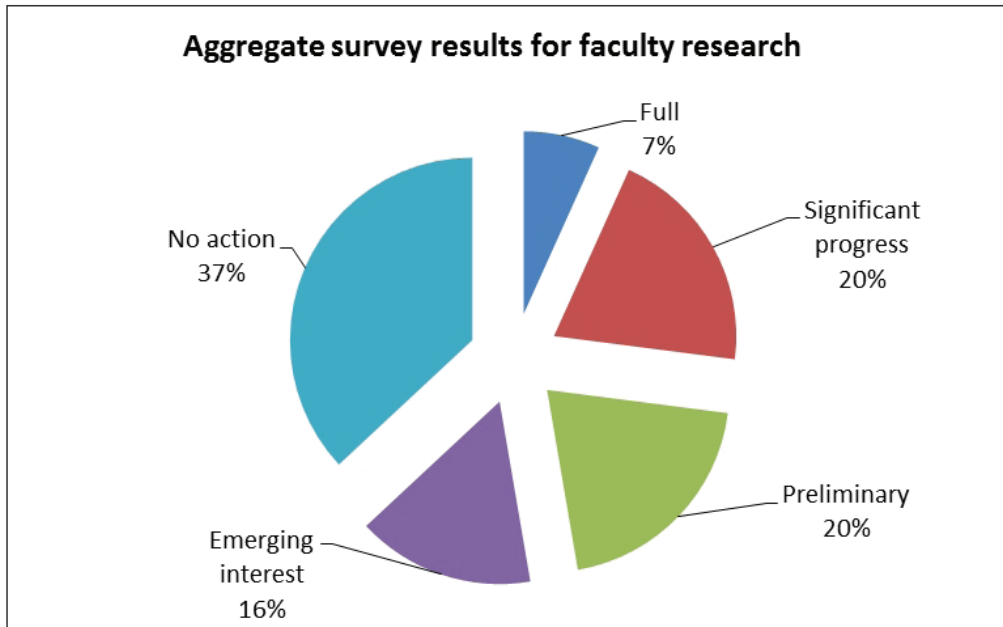
### 3. Dimension 3: Faculty research on ESD

Table 3 summarizes survey responses related to faculty research on ESD.

Question/ Statement	Response										N
	1=Full implementation		2=Significant progress		3=Preliminary efforts		4=Emerging interest		5=No action		
	n=	%	n=	%	n=	%	n=	%	n=	%	
Members of our faculty have ESD-related research projects under way.	3	8	12	32	10	26	8	21	5	13	38
Our faculty has established centres of excellence and/or research chairs in ESD.	3	8	2	5	3	8	4	11	26	68	38
Our faculty provides student scholarships related to ESD.	2	5	1	3	4	11	4	11	25	66	38
Our institution (university/college) provides research grants for faculty staff related to sustainable development.	2	5	9	24	8	21	7	18	12	32	38
One or more members of our faculty are undertaking interdisciplinary/joint projects with other faculties at our institution/college, related to sustainable development.	5	13	11	29	9	24	5	13	8	21	38
One or more members of our faculty are undertaking interdisciplinary/joint projects with other faculties at other institutions/colleges, related to sustainable development.	6	16	10	26	10	26	7	18	5	13	38



In aggregate, the results suggest that few faculties of education have ESD related research or joint projects under way, and very few offer scholarships and grants for these types of initiatives.

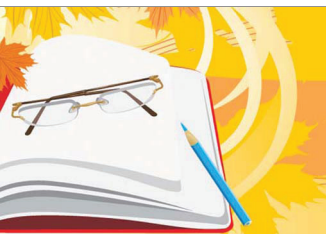


**Chart 9**

Some respondents, however, mentioned that there is a growing focus on ESD research by graduate students:

“I would say that an awful lot of work is being done currently around environment and sustainability by a fairly substantial number of master’s and graduate students here that have this as a primary research focus. The program started small, but every year we have more and more graduate students that are interested in working on that diploma and doing research in that area.”

It is possible that the survey questions, being focused primarily on faculty member research and funding, give an inadequate picture of the real level of research that is in fact under way, particularly for those institutions that offer master’s and Ph.D. programs. Other respondents note, however, that “teaching is our primary task. Research represents 35 per cent of our workload responsibility.”



Two respondents reported significant investments being made in building institutions for ESD research:

“We have developed an institute for environmental learning — a research institute which bridges the faculty of the environment and the faculty of education. It also has a significant cross-institutional component.”

“Being a UN Regional Centre of Expertise (RCE) created some governance problems, so an institutional structure was needed. It took about a year for everything to come together. Going to the UN designation now has had a lot of success in getting grant money and keeping things moving.”

Nevertheless, interviewees suggest that there continue to be challenges with competing interests and priorities that limit interest in pursuing ESD research. For example, each individual faculty member “has their own area of interest or expertise” and “getting everyone on the same page is really hard to do.”

Some interviewees expressed concern that there are “certainly many more priorities in the program that have priority over sustainability” and even “resistance from faculty.” These concerns are articulated further in the following comments:

“People are suspicious of being taught about sustainability because you are then telling people what to do and how to behave – that’s how people see it and I think that’s why there is a push back.”

“We have academic freedom at the university for good reason.”

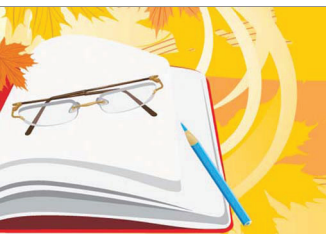


#### 4. Dimension 4: Recognizing and supporting ESD leadership

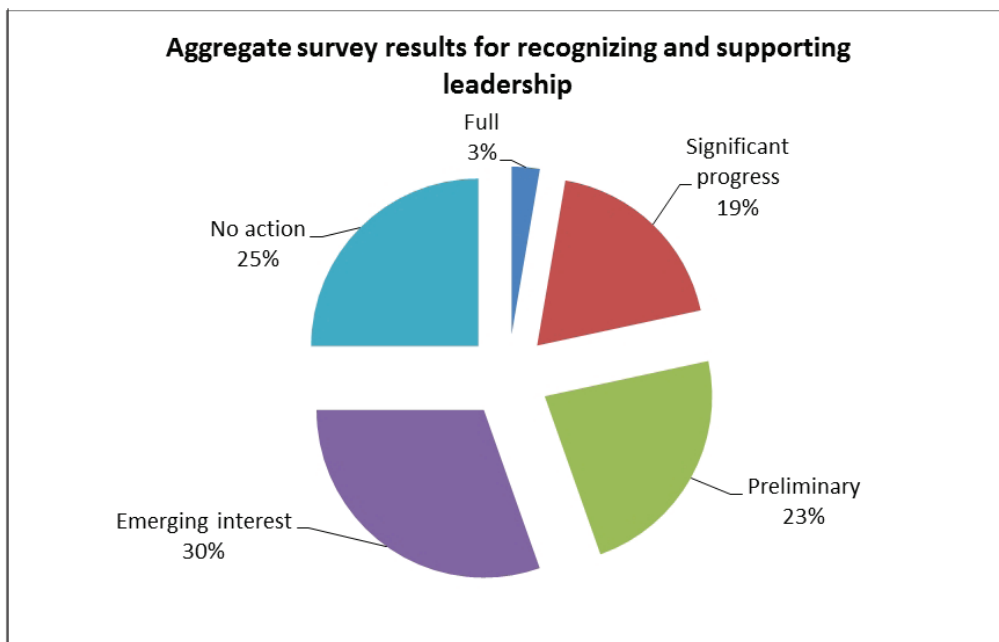
The need for leadership as an essential factor in moving organizations toward sustainability has been noted in the literature. Dimension 4 was intended to provide insight into whether and how faculties of education recognize their own faculty members' ESD competencies and leadership. Table 4 summarizes the results:

**Table 4 – Recognizing and supporting ESD leadership**

Question/ Statement	Response										N
	1=Full implementation		2=Significant progress		3=Preliminary efforts		4=Emerging interest		5=No action		
	n=	%	n=	%	n=	%	n=	%	n=	%	
ESD scholarship, teaching, and campus and community activities are considered when hiring for new positions.	0	0	6	16	7	19	15	41	9	24	37
ESD scholarship, teaching, and campus and community activities are relevant to or considered in performance appraisals, promotion, and tenure.	1	3	4	11	8	22	10	27	14	38	37
Faculty and staff are recognized for their contributions to the advancement of ESD.	2	5	8	22	9	24	11	30	7	19	37
Our institution (university/college) provides professional development opportunities for faculty and staff to enhance understanding, teaching, and research in sustainable development.	1	3	10	27	10	27	9	24	7	19	37



The aggregated Likert scale responses on the survey suggest that most faculties of education do not explicitly recognize and support ESD leadership activities.



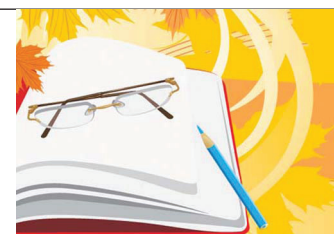
**Chart 10**

The interviews highlighted the importance of individual champions as central to the process of reorienting teacher education. Many respondents indicated that key individuals drive change and are pushing dialogue and discussion around ESD or ESD-like initiatives/principles. For example:

“A lot of them are passionate faculty members who believe so strongly that this is the most important work we can do as teachers. There are a handful of us in the teacher education program that feel really strongly and have been working in the field...I think the drivers are faculty who feel passionate about it, but here’s the interesting part you might want to ask others: in our particular program, the faculty who are driving it are the sectional instructors — for the most part they are not the senior track people.”

“[I] find venues to promote the idea of an important role of education for sustainability in education...within the faculty...offering workshops,





engaging in conversation with colleagues, engaging at the research level as well in those areas — so linking teaching with research might all be ways to promote this further.”

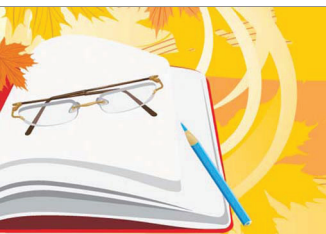
“There was a group of us that were meeting here in education and environmental studies with people who were in schools [recognizing that environmental education] has disappeared as a teachable subject.... How can we work together to support keeping commitment to exploring issues of environment in the schools...? In addition to looking outward at what was going on in public education, I think we started to look inward and say ‘What are we doing?’ There was quite an active group of faculty members that really started to push the agenda here. Gradually, we started to see people lobbying and advocating across the university for different approaches to procurement policy and so on. As the university began to become much more interested in developing its profile as a green university and making good on its commitments to the Talloires Declaration, I think that it became easier in the faculty of education to move our agenda forward ... because it was also seen as a university priority [emphasis added].”

One interviewee mentioned a potential problem in relying too heavily on a champion for ESD:

“Champions move these things forward and, unfortunately, what happen [is] that some of those champions move on, or they retire and move onto different things.”

Also emerging from the interviews was the importance of personal motivation as a driver for ESD engagement within the faculty, regardless of institutional recognition and reward mechanisms. Given that the interviewees had been recommended by the dean, many interviewees were themselves seen to be champions for ESD within their faculties and shared their own personal insights and experiences:

“My motivation doesn’t come from the institutional university framework; it [comes] from outside of that. It’s more of a personal quest.”



“I’ve always had that connection with the natural environment due to influences of my parents and the environment I grew up with.... I also believe that it is important for kids to establish those relationships as well.”

“There is no personal gain better than to see transformation happen and lifestyles shift”.

“For me, education for sustainability is a way of looking at the larger picture: why do we educate students in our schools? What’s the purpose, for what kind of world, what kind of life do we prepare them for...? [This] is actually the big purpose of education — what we prepare the next generation for.”

“The fact that we are not living sustainably is the greatest challenge facing humans today. If education is part of the solution, then this needs to change. As it presently stands, education is part of the problem.”

“I think that, as a profession, we have a huge responsibility, and I don’t think that we’re rising to it.”

Individual comments gathered via the survey and the interviews diverge somewhat from the Likert responses. A number of survey respondents and interviewees felt that although their faculties do not explicitly identify ESD as a requirement for staff recruitment, they have recently hired more professors with backgrounds in sustainability, and that recognition for their ESD work was growing. The following narratives help to clarify this in more detail:

“We do not provide that level of specific support for ANY issue; however, there is a broad range of initiatives to support virtually all faculties in areas of research and teaching. For example, ESD scholarship is not necessarily a consideration for hiring; it depends entirely on the nature of the position being hired for. Similarly, a performance review of a professor in counselling psychology would not by definition focus on ESD. If the question were, ‘Do people with this focus get recognized for doing legitimate research and scholarship?’, then the answer would be: ‘full engagement’.”

“Two new positions in the faculty are asking for candidates who have knowledge of education for sustainable development.”



“I would say that ESD commitments and activities are considered when relevant to the individual.”

“In terms of faculty hiring, we are increasingly interested in candidates who possess some background in ESD.”

“There has been a level of awareness that has been shifting within our department.... We’ve recently hired a number of new faculty [bringing] that sensibility.... That’s where I see that there is a shifting culture.”

The comments and interviews also reveal that, while most faculties of education have some ESD-related professional development opportunities, many more professional development opportunities are needed: “ESD professional development opportunities [are needed] to encourage discussion around ESD within faculties — nationwide, region-wide, institution-wide, and faculty-wide.” All interviewees indicated that they had gained their current ideologies primarily through their Ph.D. research or personal experiences, and most have not taken specific ESD training. Many respondents suggested that there is a need for more resources for professors to conceptualize the importance of sustainability ideologies, providing them with guidance “about what ESD entails and how to go about teaching it” in light of the “lack of faculty at universities who actually have expertise in the area.” As one interviewee noted, “We have some faculty and staff who are very knowledgeable, particularly those who are working in the sciences. Not all faculty members are there yet.”

## **5. Dimension 5: Facilities and operations**

Within the K–12 education system, ESD is often implemented through what is called a “whole-school approach”. This approach considers not only the incorporation of sustainable development into the curriculum, but also the demonstration of sustainability principles in the management of the schools, through recycling programs, energy efficiencies, etc. In asking faculties of education about sustainability in the campus facilities and operations, we were, in effect, seeking to ascertain whether the faculties recognized that they, too, should be taking a whole-school approach within their own faculties. Table 5 summarizes the results.

**Table 5 – Facilities and operations**

Question/ Statement	Response										N*
	1=Full implementation		2=Significant progress		3=Preliminary efforts		4=Emerging interest		5=No action		
	n=	%	n=	%	n=	%	n=	%	n=	%	
Our institution (university/college) has an institution-wide sustainable development policy.	10	28	14	39	7	19	2	6	3	8	36
Our institution (university/college) is currently addressing sustainable development in its operations (energy efficiency, recycling, transportation, procurement, other).	14	39	13	36	7	19	0	0	2	6	36
All education faculty members are aware of the institutional sustainable development policies and operations.	3	8	13	36	10	28	7	19	3	8	36
Sustainable development practices are followed in all aspects of education faculty management (reduce, reuse, recycle; “green” catering for meetings; provision of course materials electronically instead of printing course packs, etc.)	3	8	18	50	13	36	1	3	1	3	36

\*One respondent did not complete this question.

In aggregate, the responses suggest that campus-wide policies and practices are well established or well under way, but that there is general uncertainty about whether or not education faculty and staff are aware of relevant policies: “Do we make such information available? Yes. Are all faculty aware? Who knows?”

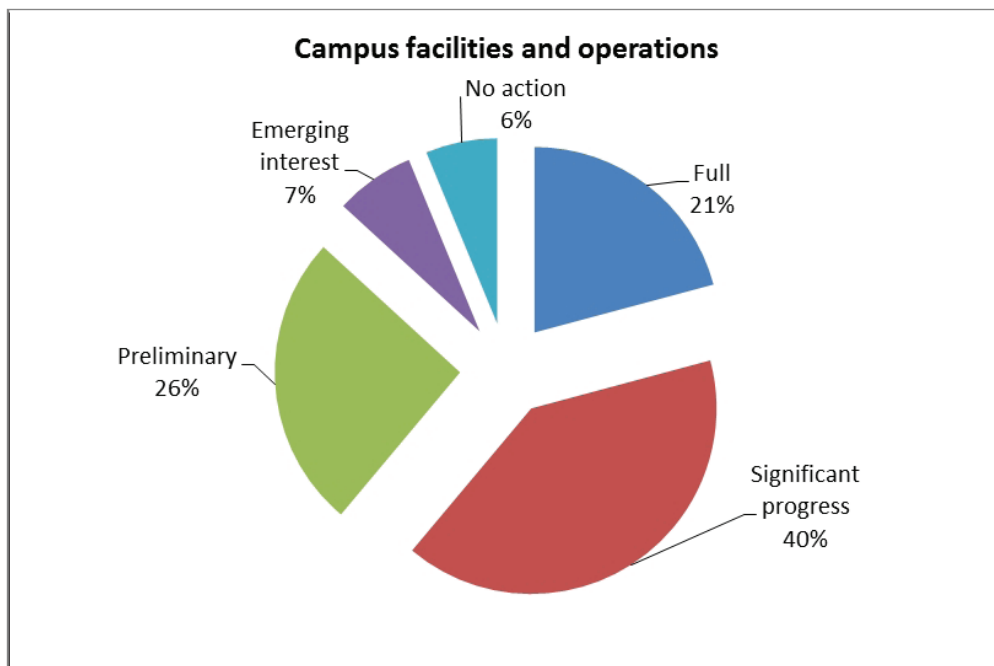
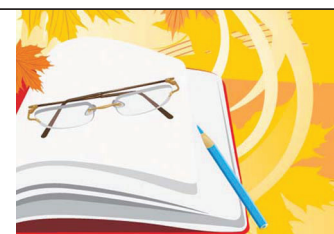


Chart 11

Despite this, most faculties of education are making at least some progress toward using sustainability practices:

“Our faculty has gone to great lengths to reduce the use of paper, reuse or recycle other items, etc. We encourage students to do the same.”

Interview results indicate that for faculties in preliminary stages of ESD or ESD-like ideologies, faculty reorientation toward sustainability ideologies begins with institutional policies and programs (visions for becoming “green universities”, implementing commitments to international agreements such as the Talloires Declaration, composting, recycling programs, energy efficiency, and so forth).

## 6. Dimension 6: Governance and partnerships

This dimension sought to acquire a picture of both internal decision making and external relationships that the faculty was managing in the context of ESD, either with the provincial ministries and departments of education, other faculties of education, or other universities. Table 6 summarizes the results.

**Table 6 – Governance and partnerships**

Question/ Statement	Response										
	1=Full implementation		2=Significant progress		3=Preliminary efforts		4=Emerging interest		5=No action		N*
	n=	%	n=	%	n=	%	n=	%	n=	%	
A systematic approach to implementing ESD is reflected in the faculty's strategic planning, committee priorities, policies, budgeting, asset management, and school improvement plans.	1	3	7	19	12	33	12	33	4	11	36
Our faculty is working with the provincial department/ ministry of education on ESD.	1	3	6	17	10	28	5	14	14	39	36
We keep our faculty members informed of the Council of Ministers of Education, Canada priorities and planning for ESD.	0	0	4	11	10	28	9	25	13	36	36
Our faculty is involved in ESD through formal partnerships or relationships with other faculties of education:											36
in Canada	1	3	3	8	5	14	9	25	18	50	36
internationally	1	3	1	3	8	22	9	25	17	47	36
Our faculty is involved in ESD through formal partnerships or relationships with other institutions:											36
locally	1	3	7	19	11	31	10	28	7	19	36
nationally	1	3	2	6	8	22	10	28	15	42	36
internationally	2	6	2	6	7	19	8	22	17	47	36

\*One respondent did not complete this question.



The aggregate picture suggests that there is considerable work to be done on this dimension.

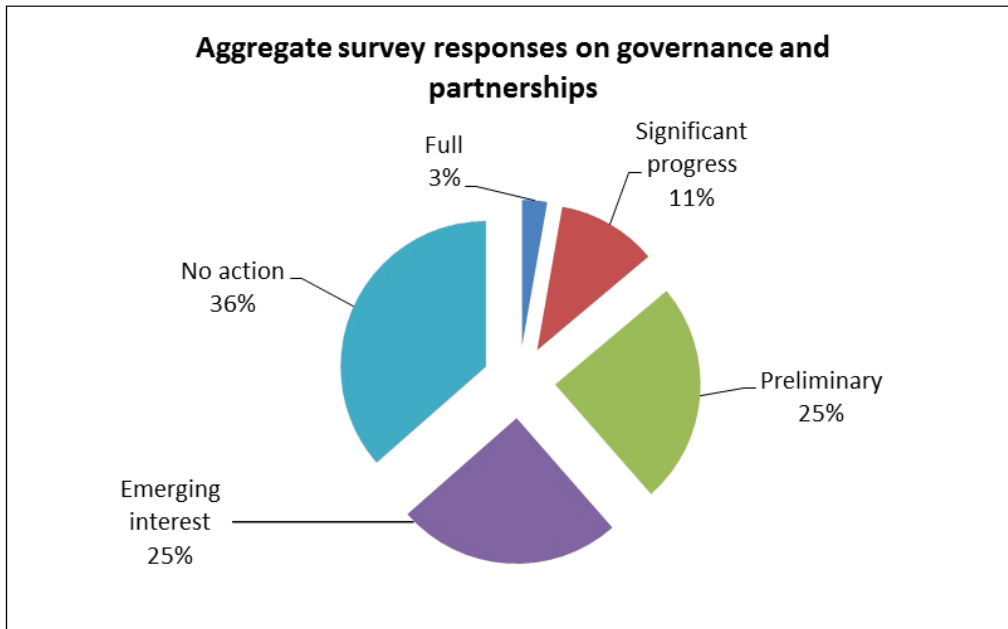
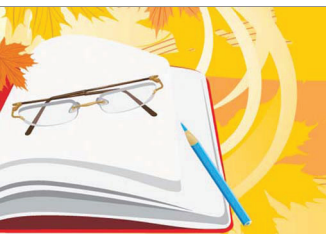


Chart 12

Disaggregated responses suggest that many faculties are in fact beginning to consider more systematic approaches to implementing ESD, as reflected in each faculty’s strategic planning, committee priorities, policies, budgeting, asset management, and school improvement plans. Some interviewees indicated that institutional structures enable progress. Many noted the importance of having a supportive dean, president, and/or upper management. For example, one interviewee noted they have a dean who “creates spaces and permission for faculty,” and another reported the university “president has said that this is important for the entire university.” As noted under Dimension 5, facilities and operations, there is considerable progress at the university level across the country on setting institution-wide commitments and policies for sustainability, and these are clearly important in influencing education faculty decision making on ESD. One respondent described the evolution of a university committee “to develop a road map as to how the university could make itself an institution that educates for sustainable development....They are doing an inventory of different approaches that universities take [and] an inventory of what the [education]



faculty presently offers that could be considered as having some ESD content.” In some cases, interviewees noted that the faculty now have sustainability principles as part of the university’s overall mandate or vision statements. For example:

“Our [university] vision statement — committed to a just world — is a huge thing for our faculty....There are five basic principles within it. Our faculty very much adheres to those principles.... [These are] built within the vision that each of our faculty members takes and weaves them into our program.”

“We have our guiding principles — our mission from the faculty — and while sustainability is not mentioned as a term, the underpinnings are clearly evident in those documents.”

While a systematic approach has been adopted in many institutions, a number of interviewees noticed a real challenge with communications gaps. Within the faculties there is often a discrepancy in views and awareness levels related to ESD. Most interviewees indicated that they were not fully aware of all initiatives and projects throughout the faculty, and spoke specifically of their own work and experience. One interviewee disagreed with the survey responses entered by their dean:

“One of the challenges with such a large faculty... when you look at the scale of our faculty, it’s sometimes difficult to know what’s going on in particular areas — individual research interests in particular.... The [faculty] is known for its autonomy and the free spirit of individuals....We have many people in the faculty who would embrace the notion of sustainability. Some of those partake in the community within the faculty, and some, who are just limited to their own research, don’t.”

Survey results also reveal that there is a noticeable gap in the area of external relationships, and in particular between the faculties and the ministries and departments of education. Only one respondent commented explicitly that “The faculty of education works closely with the ministry of education on a number of initiatives, including support for ESD-related curriculum support documents.” Well over a third of respondents indicated that they have no involvement with their provincial department/ministry of education on ESD, and only 3 per cent are fully engaged, as indicated in the following chart.





Few respondents indicated that they are informing their faculty members about CMEC priorities for ESD:

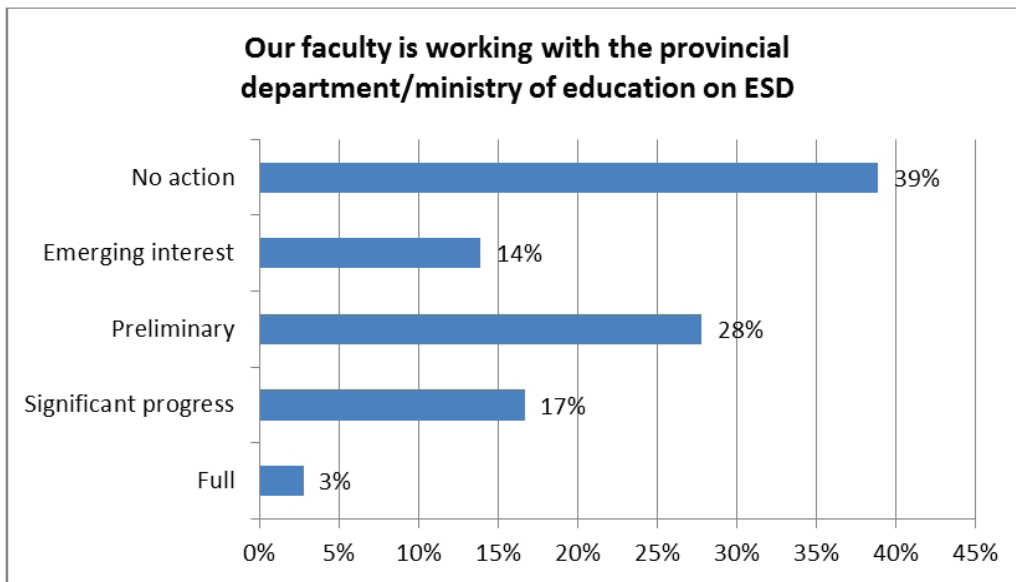


Chart 13

One interviewee noted that a significant driver for change within their faculty was the release of ESD policy documents by the ministry of education. Others suggest that similar commitments by ministries and departments of education in their provinces would be welcome, although they should be accompanied by better communications and support:

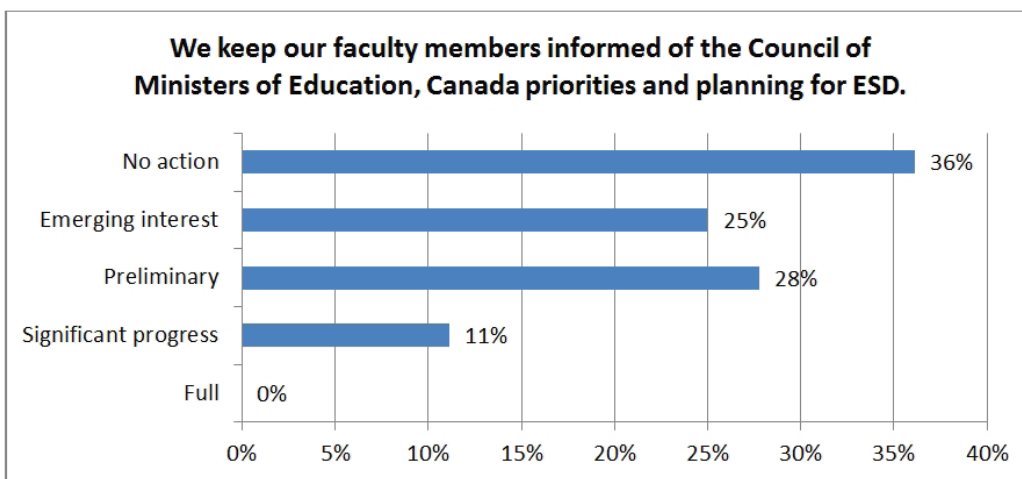
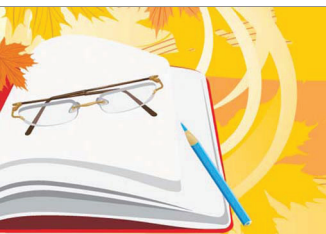


Chart 14



“At the ministerial level, if the ministry were more serious about it...it could really move things forward. From the faculty’s point of view, if the College of Teachers were serious about it, the faculties would know that they needed to do more. If the ministry were more serious about it, the boards would know that they need to know more. ”

“I think it would be helpful if the provincial department of education would take a stronger lead around ESD.”

“Enablers would involve...awareness of the department of education’s policy to incorporate [ESD into K–12] curricula and making a case that we have a key role to play in preparing new teachers and in servicing existing teachers about ESD.”

“[An enabler for ESD within the faculty would be]” making sure that there is leadership at the provincial level, and I think that’s how the ministry of education could help....The ministry has said [ESD] should be cross-curricular from K–12, but here’s the challenge: that the ministry hasn’t put much money into letting educators know that that is new policy. There is a definite challenge that this new policy has been launched but very few people know about it in the grand scheme of things. This is true not only at the faculty of education, but also with the in-service teachers as well.... Most of the teachers on the ground have no clue.”

In particular, respondents and interviewees noted the challenge of aligning pre-service teacher education with certification requirements set by the provinces:

“I think that what would help [ESD] advance is if it were mandated that every teacher candidate would need to be exposed to a course in environmental education in order to enter the field of education. That would be a great start. But because that doesn’t exist, their time is kept busy with the other courses that are required to get your Bachelor of Education degree.”

“Incorporate ESD into professional teacher certification as a requirement.”



The importance of partnerships in enabling ESD was mentioned many times in the interviews. Several interviewees noted that their institutions have long-standing partnerships and collaborations with other faculties within their institutions or with other local or international institutions. Many respondents indicated that these partnerships are key in enabling progress, as “many hands make light work,” and “it really needs to be a collective effort because, [while] we are all teaching students, we’re not all teaching the same students.” Other partnership experiences included:

“We work with Parks and various groups at the city and provincial levels, but also at the federal level, whether it be the Canadian Network for Environmental Education and Communication (EECOM) or The Canadian Wildlife Federation.”

“People at our faculty of education are working with people in our faculty of science....The same connection is also happening at different universities.”

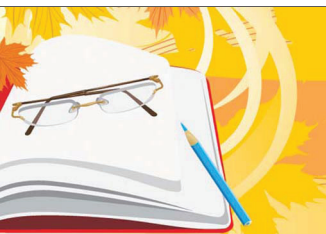
“We have always had a history of being highly engaged in the community. When partnering with outside groups like the ministry of education, we are able to see the problems more front on.”

## **7. Final observations across all dimensions explored**

It is worth noting that, in many instances, the traditional academic culture was itself considered to be a barrier to reorienting teacher education toward ESD.

“[A] shift in culture is needed. There are lots of systems in place for individuals to be innovative and reflective of their practices. There is a lot of support available to look at doing things differently, or to redevelop different courses. [The question is] whether external reward systems take that into account or whether faculty members take it on as an individual initiative. Tenure and promotions and general university bureaucracy can get in the way, but most individuals seem like they are starting to take note. It is a slow process, though.”

“The rewards structure — everything comes down to the CV. To boil it right down, I think you need a category in the CV that says something like



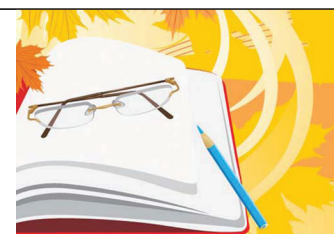
‘innovative programming efforts’ — something like that — because I think lots of people want to try different things; the worry is that it takes too long and you don’t get the kinds of products that fit onto a CV.”

All interviewees mentioned that an ideological shift is necessary within universities and their faculties of education to further advance ESD and ESD-like initiatives. As one interviewee noted:

“I think that we still have a disconnect between what we are doing in...the schools and...the faculties. [A] collective mindset [is] necessary to be able to discuss and understand what sustainability actually means. I think that’s still one of our biggest challenges in the institution.”

This theme of collective rethinking and integrated responses is central to the study findings:

“If our colleagues don’t buy into this, then it will be just a course that is taught on the side where students may not buy into this because it’s not really seen by the faculty as important and...it would be taught...as an isolated course. Integration is required, and it has to be a guiding principle for the whole program.”



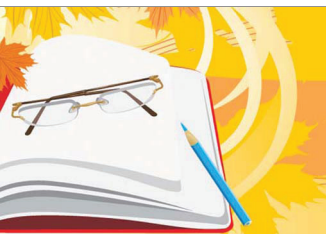
## I. Key Findings

In exploring the progress that has been made to date toward encouraging and supporting education for sustainable development in Canadian faculties of education, successes as well as challenges have been identified. Terminology issues were raised from time to time, but in general the survey and interview results suggest that although the term ESD may not be expressed explicitly within faculty of education programs, research, and initiatives to reflect the same underlying principles, similar terms are used, most commonly environmental education or social justice education. Most respondents demonstrated a fairly broad and inclusive approach to the concepts and competencies of ESD. Key findings based on the on-line survey, telephone interviews, and literature searches are listed below.

### 1. Modest but promising progress toward reorienting teacher education to address education for sustainable development

Although most faculties of education are beginning to make progress toward reorienting their curricula and contributing to the UNDESD, there is progress yet to be made toward full implementation. The lack of response from over a third of Canadian faculties also calls into question whether actions are more or even less significant than reported here.

The most positive findings within the response group are related to use of pedagogical approaches consistent with ESD principles, with respect to both staff use in delivering their courses, and to pre-service training through which students are learning the approaches to use in their own teaching practice. The majority of the faculties in this study are making efforts, from preliminary to advanced, toward integrating ESD or ESD-like principles into their pre-service programs. A few still suggest that, in the words of one respondent, “overt efforts with respect to ESD (at least under that title) are next to nil”. Only a few faculties have implemented specific courses focusing on ESD or have revamped a range of courses to achieve ESD learning outcomes. In the interviews, respondents felt that their respective faculties have made significant progress in capturing the importance of sustainability ideologies and principles without explicitly using an ESD framework and terminology. Many mentioned ESD and ESD-like principles bundled within specific courses (primarily their science and social studies



courses), or “sustainability” used as an undertone throughout their programming. For selected highlights and exemplars of work under way in individual faculties, see Appendix 5.

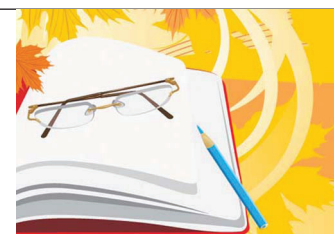
Other aspects of ESD within faculties of education are being addressed, but with significant variations. Most faculties of education do not explicitly use knowledge or experience with sustainable development as a criterion for selection of program applicants, although in some cases it is starting to be a consideration in staff recruitment. Recognition and rewards for ESD leadership activities with respect to performance reviews, professional development, and access to research grants remain limited. Most faculties of education have some ESD-related research or joint projects under way, but very few offer scholarships and grants for these types of initiatives. Most universities have SD policies and are addressing SD in campus operations, although there is general uncertainty about whether or not education staff are aware of relevant policies. Interview results suggest that for faculties in preliminary stages of ESD or ESD-like ideologies, faculty-wide reorientation toward sustainability ideologies begins with institutional policies and programs (energy efficiency, recycling, and so forth).

## **2. The importance of the contribution of the UNDES**

Those interviewed were well informed about the UNDES; it would appear in fact that the international endorsement of the UNDES is providing these early adopters with a sense of validation of the importance of their own efforts and is helping them create a legitimate space for debate within their faculties. Raising awareness of the critical mass of work under way across the country and throughout the world around the UNDES may be helpful in creating “tipping point” conditions within the faculties, thereby helping “champions” to move their faculties from preliminary interest to real implementation.

## **3. A divergence between individual responses and institutional responses**

The faculty members interviewed often reported significantly greater progress on ESD adoption, in particular with respect to course development and research, than the more modest reports provided by deans on the survey. A number of survey respondents suggested that ESD adoption was driven largely by individual faculty member interest, which raises a question about coherence of approaches



to ESD across a faculty if several faculty members are each dealing with ESD in their own way, in particular at the larger institutions. Institution-wide ESD policy setting and planning has been initiated in only a few cases. While the divergence of opinion on progress may in part be simply a common communications challenge between individual faculty members and faculty management, it is apparent from this study that the driver for ESD adoption is still largely personal motivation rather than institutional mission. Both are necessary to ensure coherent and effective long-term implementation of ESD in pre-service education.

#### **4. The picture of ESD research under way is incomplete**

This study does not present a clear picture of the amount of ESD research taking place in Canadian faculties of education; further investigation and, possibly, new avenues for communication on ESD research in Canada is warranted. The survey results suggest that some research is being advanced but little is at the “full implementation” stage. However, the information gathered on ESD in advanced programs (master’s and Ph.D. level) suggests that in fact there is significant interest in ESD research among graduate students, and the interviews confirm that ESD is becoming an important area of academic inquiry.

#### **5. Findings on drivers and enablers, barriers and challenges are consistent with other research**

The findings of this study on drivers and enablers, barriers and challenges for reorienting teacher education toward ESD are consistent with the contextual background research discussed in Section E of this study, in particular the Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability (McKeown and Hopkins, 2005), although the level of importance of each might vary. In this study, the key drivers and enablers include the intersection of institutional commitments with faculty member awareness and individual champions, as well as partnerships and collaboration with other departments on campus and with education faculties at other institutions. This study would add the importance of the international mandate provided by the UNDESD, as discussed previously. Key barriers and challenges include communication gaps within faculties, competing interests and priorities within faculties, funding challenges, and lack of professional development opportunities. A top-of-mind concern emerging from this study relates to the relationship

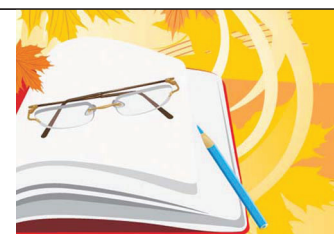


between the faculties and the corresponding ministries and departments of education, as discussed in point 6 below.

## **6. Relationship between faculties of education and ministries and departments of education**

This study reinforces the need to examine more carefully how ministries and departments of education and faculties of education can align mutual interests and mandates for ESD. Central to the challenge of reorienting pre-service curriculum ESD or ESD-like principles is the constraint that many key aspects of pre-service teacher education are determined by the provincial ministries and departments of education or the provincial teacher certification body. More than one survey respondent and interviewee shared the view that “our faculty operates within fairly tight requirements as laid out by the provincial department of education.” This suggests that an important driver for reorienting teacher education to reflect ESD could be action by the ministries and departments to explore, in full cooperation with faculties, how the preparation of teachers might reflect ESD competencies or other related jurisdictional frameworks and policies. An example to consider is the process by which Manitoba Education worked with faculties of education across the province to restructure teacher education programs to include a compulsory course on Aboriginal perspectives, histories, and pedagogy.





## J. Areas for Further Consideration

The results of this study are to be shared with all Canadian faculties of education; and the following suggestions for action have been identified for their consideration. A number of these suggestions may also warrant attention from the ESD working group of the Council of Ministers of Education, Canada through whom the study was commissioned under the guidance of an ESD committee of Manitoban faculties of education.

### 1. CMEC and the faculties of education could review and build on work completed or underway at the national and international level.

CMEC and Canadian faculties of education can leverage existing work in the process of reorienting teacher education to ESD. The key stakeholders in the UNDESD (CMEC, LSF, ESD Canada, and others) could encourage faculties of education to consider and adapt as necessary the Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability, provided by UNESCO (McKeown and Hopkins, 2005). The full list of recommendations has been appended to this report (see Appendix 6). Subsequent work led by the United Nations Economic Commission for Europe (UNECE) to identify a core range of educator competencies and general recommendations for policy-makers will be critical to the process of reorienting teacher education to ESD. The full document, *Learning for the Future: Competences in Education for Sustainable Development*, was released in 2011. Jurisdictions with other frameworks or priorities that are consistent with ESD can modify existing resources to reflect their local education systems.

### 2. Faculties could promote increased dialogue and networking on ESD in pre-service education.

#### a) Within faculties

Faculty members and students working on ESD need better channels for sharing their initiatives and progress with faculty leadership. Deans could consider what strategies might be helpful to open those channels, including fostering internal communities of practice on ESD. Some consideration could be given to how to recognize and possibly provide support for innovation in ESD program development.



b) Among faculties

Mechanisms for increasing networking and dialogue among Canadian faculties could be explored. An ad hoc committee within the Association of Canadian Deans of Education to explore how their faculties could respond to the mandate of the UNDESD could be considered. In addition, there may be considerable support for establishing a pan-Canadian faculties of education network on education for sustainable development, as has recently been proposed by the Western Association of Deans of Education.

**3. Faculties could consider implementing an ESD professional development workshop for education faculty members and other staff.**

Lack of professional development opportunities in ESD can be addressed through the development of a training program on ESD. Such a program could bring together university and faculty leadership and faculty members, bridging gaps between university-wide commitments, faculty-level mandates and policies, and individual faculty member efforts. Faculties could look at other models of ESD professional development currently in use, such as the Sustainability and Education Academy (SEdA) (<http://www.yorku.ca/seda/index.html>).

**4. Ministries and departments of education could be encouraged to share this report with teacher certification bodies; faculties of education, ministries, and departments of education, and related certification bodies could initiate a discussion of how best to incorporate ESD competencies into pre-service curriculum and teacher certification.**

A number of ministries and departments of education are already addressing ESD in in-service training for current teachers. Given that a potential constraint against reorienting pre-service education to ESD may be the requirements for pre-service curriculum content and certification requirements set by provincial ministries and departments of education and related bodies, consideration could be given to opening up dialogue between the faculties and their respective ministries and related bodies on how best to approach this issue. Work by the UNECE on teacher competencies for ESD was released in 2011, and could be considered by the individual ministries and departments and the faculties on how best to reflect and adapt these competencies as part of pre-service requirements and certification in ways that are most relevant for their jurisdictions. This may also require further



dialogue with the relevant departments and agencies responsible for teacher examinations and certifications (see Appendix 7 for list).

**5. The Association of Canadian Deans of Education (ACDE) could open a dialogue on ESD with the Canadian research granting councils.**

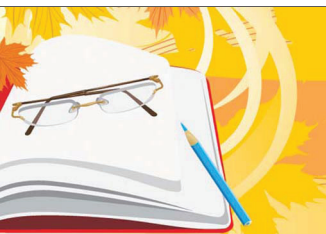
A review of Social Sciences and Humanities Research Council (SSHRC) and other agency awards for research on ESD might be a useful starting point for addressing the ongoing challenges of finding support for ESD research and subsequent curriculum development/reorientation. Funding for professor release time from teaching would free faculty members to focus their attention on research into a more comprehensive understanding of education for sustainable development, and on planning and implementing change. Granting council support demonstrates that ESD is good education and that ESD-related research is important and methodologically sound research (McKeown and Hopkins 2005).

**6. The Association of Canadian Deans of Education (ACDE) could consider whether and how to add ESD to faculty review/accreditation criteria in cases where faculties are reviewed by external agencies for program content and delivery, or add ESD to internal reviews as part of the overall university quality assurance processes.**

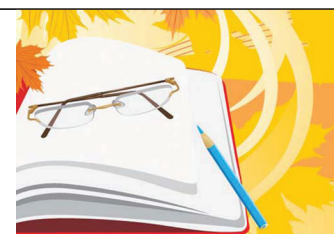
Those faculties of education that are subject to external review/accreditation processes could consider whether ESD could be added to the criteria for their reviews. Leadership on this issue might well be taken by the ACDE. (See Appendix 8 for the Association of Universities and Colleges Canada [AUCC] overview of quality assurance processes.)

**7. CMEC could consider repeating this study in 2013-14 in order to report on what has been accomplished by the end of the UNDESD. It could also consider simple communications and reporting mechanisms to collect and share faculty experience on a regular basis and include student perspectives in these efforts.**

This study on ESD in Canadian faculties of education can now serve as a baseline for current efforts. Consideration could be given to repeating the study in 2013-14, toward the end of the UNDESD, to see what progress is being made and



whether change is taking place. There is progress in many faculties, but this progress is not well known to other interested stakeholders. Some consideration could also be given to simple, regular communications/reporting mechanisms to help share experience and promote good practice and new understanding in this field, across faculties and between faculties and ministries and departments. Investigating student interest in ESD was outside the parameters of this study, but future surveying and reporting efforts could include observations from the pre-service students themselves, to assess what knowledge and motivations for sustainability that they might bring to their program, and whether they feel prepared upon departure to teach within ESD or the relevant provincially mandated frameworks and learning outcomes.



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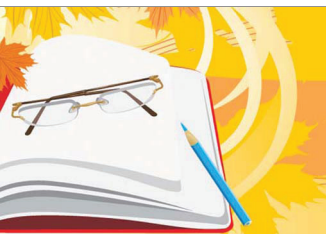
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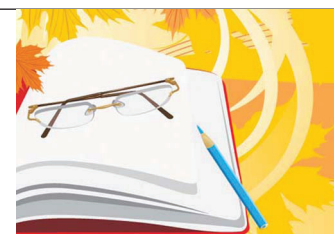
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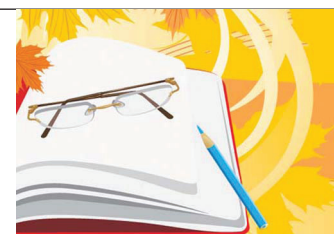
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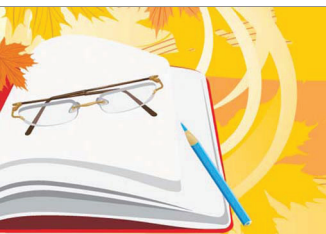
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## Appendix 1: On-Line Survey

### A. Profile

Please provide the following information:

Name

Position

Name of your institution [pull down list]

City [pull down list]

Province [pull down list]

Number of pre-service students

Number of students in other faculty courses/programs (e.g., master's/Ph.D. programs, administrator certificates, other)

### B. Program Description/Curriculum

For each statement below, please indicate the current status of your faculty in your pre-service curriculum, on a scale of 1 to 5, with 1 being the highest, as follows:

Full engagement/implementation

Significant progress

Preliminary efforts

Emerging interest

No action



## Statements

Our faculty is contributing to the UN Decade for Education for Sustainable Development (2005–2014).

Our faculty is exploring what constitutes Education for Sustainable Development (ESD).

Our faculty offers a course about ESD.

ESD has been introduced in several courses.

Our faculty has reoriented all of its programs to ESD.

ESD calls for interdisciplinary learning. The challenge of teaching in an interdisciplinary manner is addressed in the pre-service program.

Teaching staff of the faculty use pedagogical approaches with their students that are consistent with ESD (for example, systems thinking, futures thinking, active learning, emphasizing local and global perspectives).

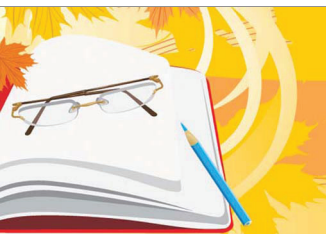
Students are learning to use pedagogical approaches in their teaching practice that are consistent with ESD (for example, systems thinking, futures thinking, active learning, emphasizing local and global approaches).

Opportunities are sought to engage placement schools to practise ESD.

Does your pre-service curriculum use other terms/concepts/frameworks besides ESD that encompass the ESD competencies described above (e.g., systems thinking, futures thinking, active learning, emphasizing local and global perspectives)? If so, please briefly describe:

Please feel free to provide additional comments on your faculty's pre-service programs/curriculum with respect to ESD.

How is ESD incorporated into your faculty program/curriculum at the master's/ Ph.D. level, in administrator certificates, and other, as relevant?



### C. Qualifications for Education Program Applicants

For each statement below, please indicate the current status of your faculty, on a scale of 1 to 5, with 1 being the highest, as follows:

Full engagement/implementation

Significant progress

Preliminary efforts

Emerging interest

No action

Statements

Previous education, training, or experience in sustainable development is considered an asset for candidates applying for admission to our programs.

An interest in sustainable development generally, or ESD in particular, is considered an asset for candidates applying for admission to our programs.

Please feel free to provide additional comments on the consideration of sustainable development interests, education and experience for admissions to your faculty's programs.

### D. Faculty Research on ESD

For each statement below, please indicate the current status of your faculty, on a scale of 1 to 5, with 1 being the highest, as follows:

Full engagement/implementation

Significant progress

Preliminary efforts



Emerging interest

No action

Statements

Members of our faculty have ESD-related research projects under way.

Our faculty has established centres of excellence and/or research chairs in ESD.

Our faculty provides student scholarships related to ESD.

Our institution (university/college) provides research grants for faculty, staff related to sustainable development.

One or more members of our faculty are undertaking interdisciplinary/joint projects with other faculties at our institution/college, related to sustainable development.

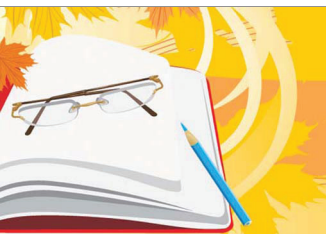
One or more members of our faculty are undertaking interdisciplinary/joint projects with other Faculties at other institutions/colleges, related to sustainable development.

Please feel free to provide additional comments on ESD research within the faculty, including topics of ESD research; on sustainable development research projects with other faculties at your institution, and with other faculties at other institutions.

#### E. Recognizing and Supporting ESD Leadership

For each statement below, please indicate the current status of your faculty or institution (university/college), on a scale of 1 to 5, with 1 being the highest, as follows:

Full engagement/implementation



Significant progress

Preliminary efforts

Emerging interest

No action

Statements

ESD scholarship, teaching, and campus and community activities are considered when hiring for new positions.

ESD scholarship, teaching, and campus and community activities are relevant to or considered in performance appraisals, promotion, and tenure.

Faculty and staff are recognized for their contributions to the advancement of ESD.

Our institution (university/college) provides professional development opportunities for faculty and staff to enhance understanding, teaching and research in sustainable development.

Please feel free to provide additional comments on the recognition of faculty and staff contributions to advancing ESD.

F. Facilities and Operations

For each statement below, please indicate the current status of your faculty or institution, on a scale of 1 to 5, with 1 being the highest, as follows:

Full engagement/implementation

Significant progress

Preliminary efforts



Emerging interest

No action

Statements

Our institution (university/college) has an institution-wide sustainable development policy.

Our institution (university/college) is currently addressing sustainable development in its operations (energy efficiency, recycling, transportation, procurement, other).

All education faculty members are aware of the institutional sustainable development policies and operations.

Sustainable development practices are followed in all aspects of education faculty management (reduce, reuse, recycle; “green” catering for meetings; provision of course materials electronically instead of printing course packs, etc.).

Please provide additional comments on sustainable development practices in the operations and management of the institution and/or the Education faculty.

#### G. Governance and Partnerships

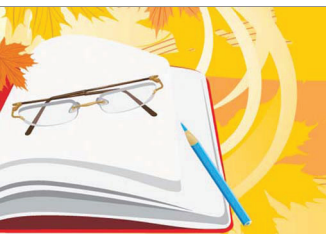
For each statement below, please indicate the current status of your faculty, on a scale of 1 to 5, with 1 being the highest, as follows:

Full engagement/implementation

Significant progress

Preliminary efforts

Emerging interest



No action

#### Statements

A systematic approach to implementing ESD is reflected in the faculty's strategic planning, committee priorities, policies, budgeting, asset management, and school improvement plans.

Our faculty is working with the provincial department/ministry of education on ESD.

We keep our faculty members informed of the Council of Ministers of Education Canada priorities and planning for ESD.

Our faculty is involved in ESD through formal partnerships or relationships with other faculties of education

in Canada;

internationally.

Our faculty is involved in ESD through formal partnerships or relationships with other institutions

locally;

nationally;

internationally.

Please provide brief comments on current partnerships.

#### H. Follow-up

We would like to follow up in more detail on innovative practices around ESD in your faculty. Please provide the names and contact information (e-mail, phone) of one or two education faculty members whom you would consider to be leaders in ESD in their teaching, research, or committee activities.





Name and title:

E-mail:

Phone number:

Why we should talk with this person:

Name and title:

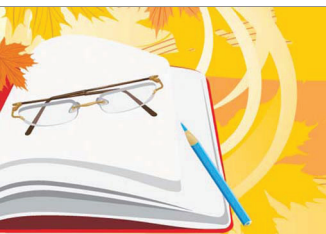
E-mail:

Phone number:

Why we should talk with this person:

You have now completed this questionnaire. We sincerely appreciate your assistance and thank you for your time.

The results of the survey and phone interviews will be compiled for inclusion into the report, "Preparing Teachers for Education for Sustainable Development," and will be sent to all of the respondents of the survey and made available on The Council of Ministers of Education, Canada (CMEC) Web site.



## **Appendix 2: Invitation to Contribute to a Review of Education for Sustainable Development (ESD) in Canadian faculties of Education**

Dear \_\_\_\_\_,

Re: Invitation to contribute to a review of education for sustainable development (ESD) in Canadian faculties of education

Education is being called upon to prepare citizens around the world to meet the complex environmental, social, and economic challenges we are currently facing. The fundamental rationale for changes to educational practice is to create a world where everyone has the opportunity to benefit from quality education and learn the values, behaviours, and lifestyles required for a sustainable future and for positive societal transformation. This is the primary objective of ESD.

The United Nations declared 2005 to 2014 to be the UN Decade of Education for Sustainable Development (UNDESD). UNDESD seeks to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. ESD “aims to help people to develop the attitudes, skills and knowledge to make informed decisions for the benefit of themselves and others, now and in the future, and to act upon these.”<sup>1</sup>

In 2008, the Council of Ministers of Education, Canada (CMEC), included ESD as one of the key activity areas in its Learn Canada 2020 declaration. The goal of ESD is to reorient education policy and practices to inform all learners and assist them to become engaged citizens in a sustainable society. To support this goal, a CMEC ESD Working Group was established to support and strengthen the implementation of ESD and to develop a pan-Canadian ESD framework for collaboration and action.

Across Canada, many provincial and territorial departments and ministries of education, as well as other organizations, have been working to develop materials to build awareness and support programming and policy change consistent with ESD. To date, much of the focus has been on initiatives within Canada’s public school systems. Our understanding of how people learn has advanced significantly, and this impacts changes in learning approaches. Faculties of

<sup>1</sup> UNESCO’s Web site: <http://www.unesco.org/en/esd/>



education have an essential role in the evolution of learning practice, and it is important to learn more about their initiatives in support of the mandate for ESD.

CMEC has played a leading role in the implementation of UNDESD activities in Canada and in aligning these with international efforts. In this context, CMEC would like to know more about what Canadian faculties of education are doing in response to UNDESD and the implementation of ESD in teacher education programs.

Consequently, the CMEC ESD Working Group, in partnership with the International Institute for Sustainable Development and Learning for a Sustainable Future, is undertaking a survey of Canadian faculties of education to gain a better understanding of how they are incorporating ESD into their pre-service programs, research, and other activities. The ultimate goals of this exploration are to develop a better understanding of how ESD is expressed and taught in faculties of education, to identify gaps and opportunities for strengthening ESD-related teacher training, and to propose recommendations for moving forward.

Accordingly, we kindly request that you, in your capacity as a leader in your faculty, complete an on-line survey. This brief questionnaire should take no more than 20 minutes to complete. It can be accessed at <http://www.surveymonkey.com/s/preparingteachersforesd>. We request that you complete the survey no later than February 4, 2011.

We thank you for your participation.

Sincerely,

A handwritten signature in black ink that reads "Andrew Parkin". The signature is stylized and includes a long horizontal line underneath.

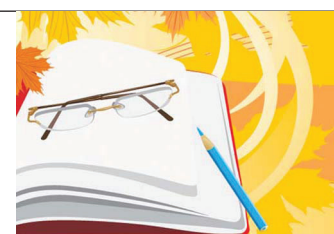
Andrew Parkin  
Director General



### Appendix 3: Institutions Invited to Participate in the Survey and Those Who Responded

	Institution	City	Province/ Territory	Responded to Survey
1.	Canadian University College	Lacombe	AB	
2.	Concordia University College	Edmonton	AB	√
3.	Kings University College	Edmonton	AB	√
4.	University of Alberta	Edmonton	AB	√
5.	University of Alberta Faculté Saint-Jean	Edmonton	AB	
6.	University of Calgary	Calgary	AB	
7.	University of Lethbridge	Lethbridge	AB	√
8.	Simon Fraser University	Burnaby	BC	√
9.	Thomson Rivers University	Kamloops	BC	
10.	Trinity Western University	Langley	BC	√
11.	University of British Columbia	Vancouver	BC	√
12.	University of British Columbia	Kelowna	BC	√
13.	University of Northern British Columbia	Prince George	BC	√
14.	University of the Fraser Valley	Chilliwack	BC	√
15.	University of Victoria	Victoria	BC	√
16.	Vancouver Island University	Nanaimo	BC	√
17.	Brandon University	Brandon	MB	√
18.	Collège universitaire de Saint- Boniface	Winnipeg	MB	√
19.	University College of the North University College of the North	Norway House The Pas	MB MB	√
20.	University of Manitoba	Winnipeg	MB	√
21.	University of Winnipeg	Winnipeg	MB <sup>1</sup>	√
22.	Crandall	Moncton	NB	√
23.	St. Thomas University	Fredericton	NB	√
24.	Université de Moncton	Moncton	NB	
25.	University of New Brunswick	Fredericton	NB	
26.	Memorial University of Newfoundland	St. John's	NL	

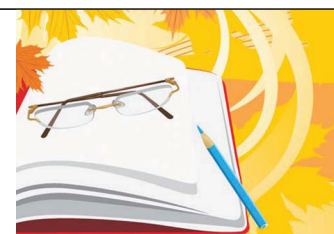
<sup>1</sup> Two responses were received from University College of the North, but as the programs reported on were distinct, the decision was made to include both responses in the final data set.



27.	Acadia University	Wolfville	NS	
28.	Cape Breton University	Sydney	NS	√
29.	Mount St. Vincent University	Halifax	NS	√
30.	Saint Mary's University	Halifax	NS	√
31.	St. Francis Xavier	Antigonish	NS	
32.	Université Sainte-Anne	Church Point	NS	
33.	Arctic College	Arviat	NU	
34.	Brock University	St Catherine's	ON	√
35.	Lakehead University	Thunder Bay	ON	
36.	Laurentian University	Sudbury	ON	
37.	Nipissing University	North Bay	ON	
38.	Queen's University	Kingston	ON	√
39.	Redeemer University College	Ancaster	ON	
40.	Trent University	Peterborough	ON	√
41.	Université Laurentienne	Sudbury	ON	
42.	University of Ontario Institute of Technology	Oshawa	ON	
43.	University of Ottawa	Ottawa	ON	
44.	University of Toronto	Toronto	ON	√
45.	University of Western Ontario	London	ON	√
46.	University of Windsor	Windsor	ON	
47.	Wilfred Laurier University	Waterloo	ON	√
48.	York University	Toronto	ON	√
49.	University of P.E.I.	Charlottetown	PEI	√
50.	Bishop's University	Sherbrooke (Lennoxville)	PQ	√
51.	Concordia University	Montreal	PQ	√
52.	McGill University	Montreal	PQ	
53.	Université de Montréal	Montreal	PQ	
54.	Université de Sherbrooke	Sherbrooke	PQ	
55.	Université du Québec en Abitibi-Temiscamingue	Rouyn-Noranda	PQ	
56.	Université du Québec à Chicoutimi	Chicoutimi	PQ	

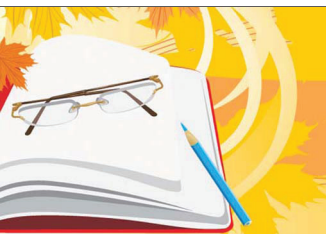


57.	Université du Québec à Montréal	Montreal	PQ	✓
58.	Université du Québec en Outaouais	Gatineau	PQ	
59.	Université du Québec à Rimouski	Rimouski	PQ	
60.	Université du Québec à Trois Rivières	Trois Rivières	PQ	
61.	Université Laval	Quebec	PQ	✓
62.	University of Regina	Regina	SK	✓
63.	University of Saskatchewan	Saskatoon	SK	



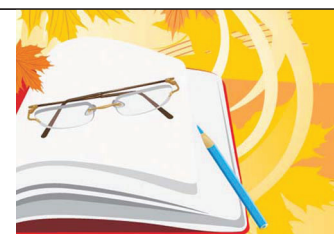
## Appendix 4: Follow-Up Interview Questions

1. Did you have time to review the materials that were sent to you?  
(If no, the survey preamble should be read over the phone.)
2. Has your dean discussed the survey with you? Were you involved in the completion of the survey?
3. Why do you think your dean recommended you as a suitable person for a follow-up interview?
4. Tell me more about your faculty's involvement with ESD.
5. Your dean mentioned \_\_\_\_\_. Have you been involved with this? How?
6. Could you describe for me further how ESD is being introduced in the curriculum? (This is if they indicated full engagement or significant progress has been made.)
7. In your opinion, what have been the primary drivers for \_\_\_\_\_ and other ESD initiatives at your faculty?
8. What barriers and challenges has your faculty encountered?
9. What additional supports/enablers do you feel are required to advance ESD in your faculty?
10. Are you aware of any supports/barriers that may exist related to your ministry of education in the development of education for sustainable development within pre-service teacher education? Please explain.
11. (If they responded full implementation/significant progress in the survey to question 4, ask them the following:) Could you elaborate on the collaboration on ESD which is taking place between your faculty and another faculty of education institution?
12. Tell me more about your own involvement with and interest in ESD?



13. Have there been any personal or professional motivators for you, to undertake ESD initiatives?
14. Have you been involved in any education and/or training relevant to ESD?
15. What resources have you used to undertake ESD initiatives? For example resource books, Web sites, courses, personal contacts, etc.
16. What recommendations would you provide to others interested in undertaking ESD initiatives at the faculty of education?
17. Please feel free to provide additional comments on ESD in your faculty research, programs, scholarships, or on sustainable development in general.

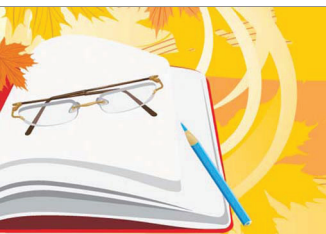




## Appendix 5: Sample Highlights of Promising Practices and Successes

As part of this study, survey respondents nominated champions or key persons within the faculty who were working on ESD, and 14 of these individuals participated in interviews. Dialogue within these interviews provided a glimpse of some of the promising programs and initiatives currently under way in Canadian faculties of education. Some of the programs mentioned are summarized in the following chart.

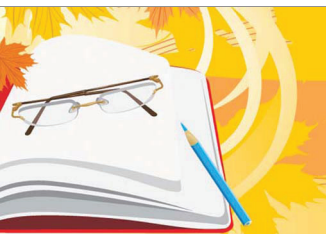
Institution	City	Prov	Selected programs highlighted by respondents
Bishop's University	Sherbrooke (Lennoxville)	QC	<ul style="list-style-type: none"> <li>Faculty members participate in a university-wide committee on ESD. The committee is drawing up an inventory of the courses across the institution that deal with issues of sustainability and are also looking at recommendations for expanding and ensuring that all students get some (familiarization) with education for sustainability. The committee also looks at the institutional practices to make sure that they are in line with sustainability. All of these tasks are performed in collaboration with the region's six other postsecondary institutions. Two education consultants for sustainable development provide support to the institutions in performing these tasks.</li> </ul>



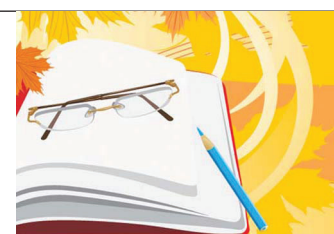
University of British Columbia	Vancouver	BC	<ul style="list-style-type: none"><li>• Starting discussions around the idea of a minor in sustainability education that's administered by the faculty of education at UBC;</li><li>• Established an Environmental Education Caucus in the faculty of education. The caucus was formed in 2005 by bringing together those who have a shared interest in furthering interest and initiatives in environmental education/sustainability education within the faculty of education at UBC. Caucus members include faculty who have an interest in environmental issues, students whose research focuses on education as it relates to ecology, and a variety of other community members from across the various departments and centres within the faculty of education.</li></ul>
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Cape Breton University	Sydney	NS	<ul style="list-style-type: none"> <li>• Students are introduced to ESD and its application for them personally and professionally through a concept called sustainable happiness that merges principles from sustainability with research from happiness studies (some preliminary research suggests that the happiest people tend to live more lightly on the planet — our well-being is interconnected with the community, with other species in the natural environment, i.e., sense of interconnection).</li> <li>• Developing a new centre on sustainability and the environment.</li> </ul>
University of Toronto	Toronto	ON	<ul style="list-style-type: none"> <li>• Has an elective course for BEd students called Exploring Environmental and Sustainability Education;</li> <li>• Is working with an infusion approach, trying to weave and integrate environmental education and ESD into existing courses;</li> <li>• Offers teacher education seminars (TES) for all teacher candidates (one of more workshops on EE, ESE, or ESD, depending on what is being requested).</li> </ul>
Queen's University	Kingston	ON	<ul style="list-style-type: none"> <li>• Faculty is beginning to emphasize environmental sustainability, native studies, and cultural awareness in all courses.</li> </ul>



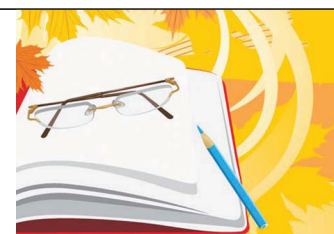
Simon Fraser University	Burnaby	BC	<ul style="list-style-type: none"> <li>• Recently started an integrated sustainability education model and has 32 students doing minor in environmental education using a summer institute as part of their programs;</li> <li>• Has a significant green practicum experience where the faculty is targeting schools to work with students;</li> <li>• Developed an institute for environmental learning which bridges the faculty of the environment and the faculty of education.</li> </ul>
University of Alberta	Edmonton	AB	<ul style="list-style-type: none"> <li>• Has a sustainability working group which involves faculty, support staff, and students;</li> <li>• Offers a number of courses in the faculty, a few which have sustainability in the name and several more addressing the concepts of sustainability;</li> <li>• Is exploring the potential for developing an embedded certificate in sustainability, that's connecting with other faculties and interdisciplinary in nature.</li> </ul>



University of Lethbridge	Lethbridge	Alta	<ul style="list-style-type: none"> <li>Established a centre of excellence in environmental education;</li> <li>In the early 80s, established an environmental outdoor education minor working with the core or fundamental courses being offered in other faculties, to get different perspectives on what environmental sustainability means, and be truly reflective of environmental, economic, social, and political systems;</li> <li>Has a lengthy history of partnerships with various groups at the city, provincial (e.g. Alberta Parks) and federal levels (e.g. EECOM, Canadian Wildlife Federation);</li> <li>Sustainability is now a core function identified in the faculty strategic plan, academic plan, and research plan.</li> </ul>
University of Manitoba	Winnipeg	MB	<ul style="list-style-type: none"> <li>The Universities of Manitoba and Winnipeg are both offering sustainability education post Baccalaureate Diploma in Education programs, and are working with Manitoba Education as part of a provincial faculty of Education ESD Committee;</li> <li>The University of Manitoba has designed a Summer Institute in Education for Sustainability.</li> </ul>
University of Winnipeg	Winnipeg	MB	



University of Regina	Regina	SK	<ul style="list-style-type: none"> <li>The two universities are partners in the establishment of a UNESCO recognized Regional Centre of Expertise on Education for Sustainable Development.</li> </ul>
University of Saskatchewan	Saskatoon	SK	
York University	Toronto	ON	<ul style="list-style-type: none"> <li>Has graduate diploma which is jointly offered between the faculty of education and the faculty of environmental studies;</li> <li>Faculty is involved in an international network to reorient pre-service education toward ESD.</li> </ul>



## Appendix 6: UNESCO Guidelines and Recommendations for Reorienting Teacher Education to Address Sustainability<sup>1</sup>

### 1. Recommendations on ministerial and national involvement

Because many curricula — primary, elementary, secondary, and teacher education — are mandated at the provincial/state or national levels, those who promote reorienting teacher education to address sustainability often find themselves talking to and working with officials of ministries of education. The major issues are often around incorporating sustainability into curriculum and teacher-certification guidelines. If sustainability is mandated, it is far easier to reorient curriculum to address it than if incorporating ESD into the curriculum is optional. However, few ministries recognize the importance of ESD. International network members write:

“The main hindrance [to reorienting education to address sustainability] is the large number of educational priorities impinging upon teacher education pre-service programs.”

“The perception that education for the future was important, but that did not necessarily mean education for a sustainable future. The focus is more on innovation that supports the economy.”

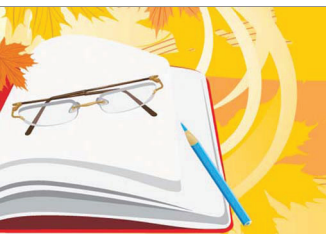
“The perception...nationally is that ESD is not critical because it is not one of the main learning areas. Having assessment standards of ESD is essential to gain a measure of credibility.”

“The emphasis on literacy and numeracy in our education system continues without any acknowledgement of the contribution of [sustainability] or integration between numeracy and education or sustainability. ESD provides an ideal context for teaching the ‘mechanical’ skills of literacy and numeracy.”

As a result of frustration with the above issues, international network members learned to link ESD to ongoing education reform. They described ESD as a partial solution to current problems or issues. In addition, they established relationships in ministries of education, environment, health, agriculture, forestry, commerce,

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<sup>1</sup> UNESCO 2005, p 31-56



and human welfare, as they tried to help bridge the gap between the ministries. Knowing also that each ministry has a public information budget and the need or mandate to engage formal education, network members solicited their support.

#### Recommendations:

- 1.1 Encourage ministries of education to make ESD a mandatory part of elementary and secondary education at national and provincial levels.
- 1.2 Encourage ministries of education to revise teacher education and certification requirements to include ESD and to align these revisions to correspond to the ESD components of elementary and secondary education.
- 1.3 Encourage the ministries of education to create policy to support ESD.
- 1.4 Encourage the ministries of education to create professional development programs related to ESD for teacher educators.
- 1.5 Engage teacher unions and national certification boards in the conceptual development and implementation of ESD.
- 1.6 Develop a strong national coordination team for ESD that includes professional organizations and issue-related educational organizations (e.g., consumer education, environmental education, and equity education) to integrate their work with institutional ESD initiatives through cooperation, collaboration, and sharing of ideas.
- 1.7 Encourage national publishers and textbook committees to infuse sustainability into textbooks at all levels.

## 2. Recommendations on community and regional/provincial involvement

Working at the regional, provincial, and community levels is as important to advancing ESD as working on the national level. National-level efforts often aggregate and address national averages. However, many countries have great geographic, cultural, and economic diversity that a singular national curriculum or textbook cannot address. As a result, specific conditions and contexts must be addressed at regional and local levels.

Communities surrounding teacher education institutions contain a wealth of activities and projects related to environmental, social, and economic spheres



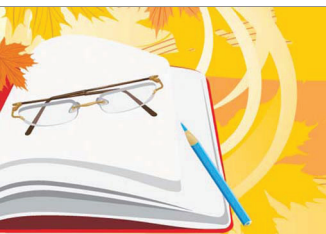


of sustainability. Addressing local sustainability issues can bring relevancy to the curriculum and contribute to deeper understanding of the complexity of the issue and its impact on the community and region. Furthermore, students often complain that what they learn in classrooms and from textbooks seems detached from their lives. Studying local communities and their sustainability issues ameliorates the problem of relevancy. Community sustainability issues are perhaps more comprehensive than global issues due to their proximity and immediacy. Local, concrete examples, such as environmental protection or abuse and social justice or inequality, provide points of study for student teachers to incorporate into their curricula to, in turn, engage their pupils. In addition, faculty members and student teachers can fulfill community outreach and service obligations by volunteering in the local community, thus promoting their own understanding of and experience with sustainability. Student teachers will eventually weave these experiences into their classroom curricula.

Promoting ESD beyond the campus and into community or provincial levels takes a different set of skills and knowledge base than working at the national level or on campus. For example, one member advises, “make certain that ESD is championed by senior civil servants in addition to politicians.” Politicians, while influential, change posts more frequently causing more work — in briefing the newest politician on ESD — to sustain projects and progress. Also, politicians often want to launch a “new cause” rather than be associated with a previous initiative.”

#### Recommendations:

- 2.1 Make use of community resources (e.g., NGOs, institutions, clubs, religious organizations, government agencies, businesses, etc.) in the teacher education program, both within and outside the classroom, to teach about local sustainability issues, efforts to address these issues, sustainable practices, and sustainable businesses.
- 2.2 Establish new models of professional development in ESD that draw together essential skills, cross-curricular approaches, and action-based learning models so that student teachers and in-service teachers can work on projects that are relevant and important to their communities’ future well-being.



- 2.3 Establish regional teacher education groups to develop sustainability-related modules and relevant literature, which should be made available on a regional scale.
- 2.4 Develop strong regional consortium teams that allow educators from a range of sustainability-sector groups outside your organization to come together to support teacher education initiatives.
- 2.5 Establish partnerships among universities to ensure that ESD becomes the norm rather than an experiment or an isolated case and hence easily eradicated.

### 3. Recommendations on change within institutions of higher learning

#### 3A. Recommendations on change across institutions of higher education

Reorienting teacher education to address sustainability will affect faculties and administrative units beyond the faculty of education. As we know from studies in ecology and sociology, a change in one part of a system will result in changes in other parts of the system. This general principle is also apparent on higher education campuses. Support from the highest institutional levels enhances the success of reorienting teacher education to address sustainability. For example, upper administration can facilitate success by structuring faculty reward systems for promotion and tenure to include teaching, research, and service related to ESD. Upper administration can also strive to manage the campus using sustainable practices, thereby reflecting the value the institution places on sustainable development. Modelling and promoting sustainability in practices and policies related to social equity and environmental stewardship will reinforce sustainability themes taught in academic and professional education programs.

Advocates of ESD should be prepared to create awareness and understanding in their own and other campus units to ensure the survival and success of ESD in their own faculties.

The following recommendations come from the experience of people who promoted ESD on their own campuses.



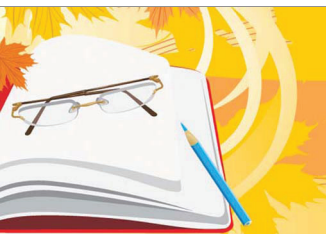
## Recommendations:

- 3A.1 Promote reorienting education as a viable avenue for research and teaching in higher education institutions.
- 3A.2 Gain support of upper administration in the forms of mandates and resources to assist those who are working in ESD at lower levels.
- 3A.3 Involve faculty, support staff, researchers, and managers from across the institution to support interdisciplinary changes that reflect sustainability and reward participation in such efforts.
- 3A.4 Allow interdisciplinary courses in sustainability to fulfill degree requirements across disciplinary faculties.
- 3A.5 Create a sustainable-campus policy and conduct highly visible events that reinforce campus efforts to implement that policy (e.g., signing of the Talloires Declaration, reaching energy savings targets, and achieving diversity goals).
- 3A.6 Engage student groups and organizations.

## 3B. Recommendations on change within faculties of education

In the international network, many participants found that the first place (and perhaps most effective place) they could work was within their own classrooms and the curriculum area for which they were directly responsible. Most began by reorienting their own classes, including both what was taught and how the class was conducted. However, to go beyond this initial level was the real focus of this undertaking. The participants were to reach out within the faculty to attempt a larger-scale reorientation process.

Network participants discovered that ESD was not a common concept in many faculties, so they developed discussions around ESD for engaging faculty members and staff. Because in many universities top-down initiatives and mandates are not effective in bringing about change, the reorienting effort sometimes hinges on the acceptance of staff and faculty. After gaining acceptance, ESD advocates worked to co-opt participation. They discovered one good way to find participants was to build on local and national sustainability issues and priorities as perceived by the general public (e.g., social equity or environmental degradation). Another



was to enlist new participants by discussing and demonstrating how infusing ESD into the curriculum would address the concerns and priorities of local teachers and schools (e.g., improving access to quality education, student retention, motivation, and relevance of the curriculum to daily life).

One effective technique used by the chair for gaining volunteer participation is to describe a vision for ESD programs with sufficient detail that faculty members can see a role for themselves in the ESD effort. This vision should include a broad range of activities (e.g., reorienting course curriculum; sitting on provincial or national committees to revise curriculum, writing materials, or textbooks; supervising student teachers; developing examinations and assessment tools; developing policy at campus to national levels) in which faculty are already involved. In this way, faculty members can picture how their particular skills or knowledge could benefit the new ESD program. ESD should be proffered as a priority for future curriculum reform; however, faculty members should implement the ESD priority in their own ways, calling on their own knowledge and professional strengths.

Promoters of ESD in faculties of education needed large group acceptance for action plans for reorienting teacher education to address sustainability, but the implementation of such plans may be executed by a small group of dedicated faculty members. During the implementation phase, transparency of efforts and reporting back to all faculty maintained broader faculty support and tolerance of ESD activities. The following are specific recommendations from international network members on working within faculties of education to reorient teacher education to address sustainability.

#### Recommendations:

- 3B.1 Make the administration and faculty leaders aware of the need for reorienting the teacher-education program.
- 3B.2 Provide educational opportunities to ensure that every member of the faculty of education understands the need for ESD, how it is relevant to teacher education in both improving quality basic education and reorienting existing education, and how each faculty member can contribute to the overall effort.



- 3B.3 Set up a participatory and democratic process involving every part of the faculty of education (i.e., faculty, staff, administration, research faculty, school liaisons, students, etc.) to reorient teacher education to address sustainability.
- 3B.4 Move quickly to institutionalize new ESD projects, so the progress will continue in spite of frequent changes in faculty, administration, or funding that endanger new projects and innovative undertakings.
- 3B.5 Lobby within the faculty for ESD at times of program review and renewal.
- 3B.6 Recognize and reward academic effort and administrative leadership, especially when it is voluntary and above and beyond the regular requirements.
- 3B.7 Describe for the teaching faculty the contribution that the reorienting process can make to their graduates.

### 3C. Recommendations on change related to engaging pre-service and in-service teachers

The students in teacher education programs go by many different names — student teachers, teacher candidates, interns, 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 practised 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 toward 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. The following are recommendations from teacher-educators in the international network related to student teachers.

Recommendations:

- 3C.1 Require interdisciplinary coursework on sustainability for student teachers and make materials available for student teachers on local and global sustainability issues.
- 3C.2 Demonstrate pedagogical techniques that foster higher-order thinking skills, support decision making, involve participatory learning, and stimulate formulation of questions.
- 3C.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.
- 3C.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.
- 3C.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.
- 3C.6 Provide student teachers with opportunities to explore their own values and attitudes toward local sustainability problems and those of the surrounding region.
- 3C.7 Promote understanding of global sustainability in order to encourage critical thinking and decision making that influence personal lifestyle and economic choices.
- 3C.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 résumés for seeking employment.



- 3C.9 Promote graduates with ESD specializations who are knowledgeable in ESD and its contribution to society.
- 3C.10 Place graduates who have completed courses in ESD in key schools and ministerial positions to help influence and bring about change.

### 3D. Recommendations at the individual faculty-member level

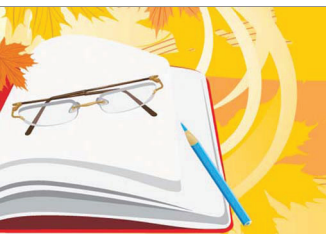
The role of pioneers in a new educational effort or reform is difficult and fatiguing. International network members experienced many setbacks; some even repeated setbacks in their attempts to involve others in reorienting teacher education to address sustainability. In order to help others keep their focus, energy, and goodwill during the difficult task ahead, they offer these recommendations.

Recommendations:

- 3D.1 Begin by working within your own sphere of influence; change the things within the areas that are under your individual authority.
- 3D.2 Build partnerships; work closely with at least one colleague to ensure continuity and mutual support.
- 3D.3 Document work for ongoing reflection and evaluation.
- 3D.4 Attend ESD conferences with colleagues, student teachers, and graduate students to update knowledge and maintain enthusiasm for ESD projects.
- 3D.5 Learn basic grant-writing skills.

### 4. Recommendations on funding and other resources

Unfortunately, in the majority of countries, few resources have been devoted to ESD. As a result, progress has come out of volunteer efforts of dedicated individuals and the in-kind resources of institutions. On this pilot-project level, it was important to show that reorienting teacher education to address sustainability was not expensive and could be accomplished by cost-effective means. Now that the pilot project is completed, however, it is time for governments and institutions to dedicate funds to reorient education to address sustainability. Dedicated funds, personnel, and resources ensure that these pilot programs will be institutionalized and replicated, and other projects begun on



much broader scales. It is folly to think that funding and staffing allocation are not essential to creating and maintaining any education program.

Recommendations:

- 4.1 Work with ministries of education to redirect existing funding to address ESD.
- 4.2 Seek new sources of funding through grants, contracts, and sponsored research.
- 4.3 Collaborate with NGOs and environmental and social foundations.
- 4.4 Seek assistance from institutional units that support grant and contract acquisition.

## 5. Recommendations on partnerships

The work of reorienting teacher education to address ESD is so immense that fostering broad cooperation and engaging outside assistance is essential to long-term and widespread success. One network member wrote, “This [era of cooperation] is different from years of competition between institutions and the constant replication of resources, courses, and programs all trying to prove [which institution is] the best. Now we are working as a national team to make sure we are all the best we can be.” Partnering, however, can prove difficult in faculties; therefore, guidelines for acceptable partnerships, if not already in place, must be developed.

Recommendations:

- 5.1 Strengthen partnerships between teacher education institutions and elementary and secondary schools, and such educational organizations as museums, outdoor education sites, and nature centres.
- 5.2 Strengthen local, regional, and international networks by sharing ideas, experiences, and materials and maintaining the vision of a sustainable world.
- 5.3 Work within national and international networks to help overcome difficulties and barriers at institutional and governmental levels.
- 5.4 Set up north–south and south–south cooperation and solidarity mechanisms around ESD to share experiences.





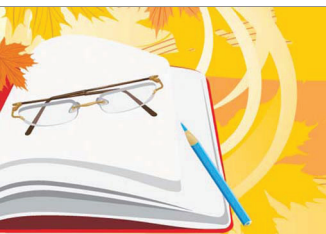
## 6. Recommendations on research

For ESD to be a long-term success, advocates of ESD must develop a research agenda to support the effort. This agenda would include an accountability and assessment system to measure the impact on student learning. Proponents of ESD must have data to prove their claims of effectiveness of ESD. Asserting that ESD is important or effective will not be sufficient to sway audiences in ministries and academic institutions. Interdisciplinary research, and collaboration is necessary both to build those arguments and to inform new ESD policy and programs.

As with any emerging field of research, it is important that academic institutions accept ESD research as a legitimate avenue of inquiry and reward members of faculty who work in this field. Researchers need to be assured that their innovative and interdisciplinary work in ESD is valued in the faculty reward system (e.g., for purposes of tenure review and promotion).

### Recommendations:

- 6.1 Create a research agenda to address important questions, such as the effectiveness of faculty efforts to reorient education to address sustainability.
- 6.2 Review and revise the theoretical framework underpinning of ESD as society and the concept of sustainable development evolve.
- 6.3 Increase research on quality teaching and learning approaches for ESD to help learning become more transformative in nature.
- 6.4 Conduct research on assessment standards and measures of performance for ESD to increase importance and credibility within the institutional assessment system.
- 6.5 Develop strong research-based arguments to present to academic boards to show that ESD is a crucial reorienting framework for education for the future.
- 6.6 Conduct research on economic costs and benefits of reorienting pre-service teacher education to address sustainability as well as providing professional development for in-service educators.
- 6.7 Conduct research on economic costs and benefits of introducing ESD in elementary and secondary curricula compared to the costs and benefits of other educational reforms.



- 6.8 Develop research designs, methods, and techniques that focus on student learning results and yield applicable and meaningful findings.
- 6.9 Conduct school-based longitudinal studies using student work samples to determine the impact of ESD curriculum on student learning results.
- 6.10 Conduct research to establish and strengthen an open-ended research agenda to inform and strengthen key areas of ESD practice in teacher education — for example, curriculum change, participatory action research, auditing of institutional resource management and sustainability practices, etc.
- 6.11 Conduct research to establish and strengthen a vibrant “community of practice” in teacher education, which strengthens the teaching and research capabilities of teacher educators involved in ESD.

## 7. Recommendations on communications

People who work to promote ESD have many challenges and barriers to overcome. This section pulls together experience and wisdom gained by the international network as they meet those challenges. The concept of sustainable development meets with different levels of acceptance around the world. In some countries and communities, sustainability is central to envisioning a better future and working toward it today. However, in other places, sustainability is not accepted and is not considered useful as a paradigm for thinking about the future. While some institutions found the best approach was to address sustainability and ESD directly with the members of the faculty, others found that it was better to engage faculty members through other routes, such as talking about the interrelation of the three spheres of sustainability — environment, society, and economy. One international network faculty member reported:

“One of the difficulties that we have experienced is that ESD has not been taken up as a conceptually or theoretically interesting concept. It has not been as compelling as conversations around globalization, identity formation or the politics of identity, the new urban agenda, etc. It is often presented as a large unifying approach that overgeneralizes and diminishes the importance of specific concerns. As well, in popular usage, the language of sustainability either trivializes or undermines the concept of ESD, as we understand it. A more productive approach in this context might be to



highlight an analysis that focuses on the interrelatedness of the society, environment, and economy. De-emphasizing the language of sustainability and focusing on this analysis may do much to further the goals of ESD.”

Communication about sustainability and education for sustainability is vital to garnering support and resources to move forward in reorienting education to address sustainability. The following are some general communications recommendations based on lessons learned from the international network and the work of the chair.

### **Use the vocabulary of your audience to promote ESD**

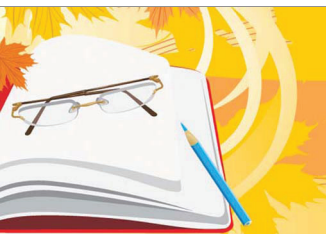
Because ESD is new to many people, those who promote ESD need to develop the vocabulary to communicate the concept of sustainability to many audiences — from ministry officials to poverty-stricken parents unfamiliar with educational systems. Those who promote ESD need to express the importance of introducing ESD into our schools to ensure the well being of our communities, regions, nations, and planet. They must also learn to communicate how important it is to create a generation of students who can shape our future into a sustainable one.

### **Link the strengths and passions of others to sustainability**

Find out what your audience is interested in or passionate about and then show them how it is also related to sustainability. Promote ESD by talking about concepts important to your audience and then linking them to sustainability and ESD. By doing this you will get more buy-in, acceptance, and tolerance. With new audiences, new initiatives and approaches will come. Be sure to welcome and acknowledge these new efforts.

### **Describe ESD as a solution to an existing educational issue**

Learn to become conversant with national policies and issues by reading government documents. Then, use governmental vocabulary and language in correspondence with various ministries. By doing so, government appointees and employees will hear vocabulary and issues with which they are familiar. They can see the link between ESD and the issues their ministries have prioritized. Ideally, ESD can be tied to the agendas of various ministries by using this technique. Most



importantly, by using this promotion technique you will be offering assistance in solving an existing problem rather than presenting a new problem that will require agency time, funding, and effort to solve.

### **Use all three strands of sustainability to promote ESD**

When promoting ESD, make sure the concept of ESD that you promote embraces a broad scope, addressing the three realms of sustainability — society, economy, and environment — and the interrelationship of the three. Using a balanced approach will attract more professionals to join the ESD effort. For example, one institution in an Islamic country established a Department of Women’s Studies through which it dealt with many sustainability related environmental and economic issues. The formation of the department greatly influences the scope and direction of ESD. As a cautionary note — environmental education, economics education, and social science education are important contributors to ESD, but each in isolation does not substitute for ESD.

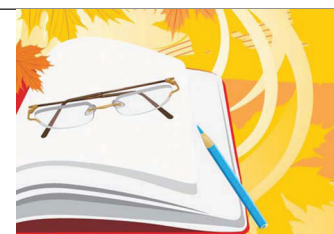
### **Promoting ESD: a priority for years to come**

Be prepared for a lengthy reorienting process that will undergo administrative changes, newly emerging priorities, funding cuts, and evaluation processes. Educators who have successfully led other similar undertakings say they have lobbied continuously over the years to maintain budgets, staff, and a place in the curriculum. ESD will also require that level of effort.

Models of successfully reoriented teacher education institutions need to be circulated among network members or global institutions in one form or the other. In this way, the education community can build on the experience and successes of others and avoid wasteful duplication or costly pitfalls. In order to do this, the ESD community needs to create or build upon existing networks to communicate with one another and the larger education community.

Recommendations:

- 7.1 Document successful ESD programs that have reoriented teacher education to address sustainability. Publish and disseminate this work.
- 7.2 Develop a recognition system for institutions of teacher education and



elementary and secondary schools involved with ESD.

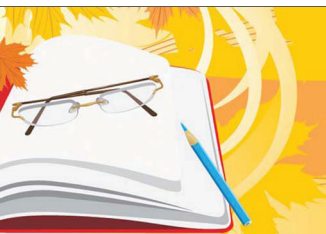
- 7.3 Submit articles on education for sustainability to journals, which usually do not address sustainability.
- 7.4 Present research and project reports to disciplinary professional organizations and educational organizations at local, regional, and national conferences.
- 7.5 Work with mass media to disseminate ESD successes and sustainable development concepts.

## 8. Recommendations on information technology opportunities

Although ESD is not yet widely accepted at the grassroots level, it is increasingly recognized as an emerging issue. ESD itself is evolving rapidly, both in content and modes of delivery. Some interesting developments on the horizon will affect teacher education. One area that promises rapid growth is the use of computers and the World Wide Web. Computer technologies align with the principles of sustainability by reducing use of resources for printed materials, reducing waste, and making information and programs available to audiences in areas distant from teacher-education facilities. Information and computer technologies (ICT) can help students to take responsibility for finding information and evaluating it and ultimately taking responsibility for aspects of their own learning. The “Education for Sustainable Development Toolkit” Web site ([www.esdtoolkit.org](http://www.esdtoolkit.org)) and the UNESCO teacher education Web site, “Teaching and Learning for a Sustainable Future” ([www.unesco.org/education/tlsf](http://www.unesco.org/education/tlsf)) are two examples of widely used existing resources. The Global Higher Education for Sustainability Partnership (GHESP) is planning a Web site that will assist institutions of higher education in designing and implementing ESD projects, which will lead to more sustainable campuses.

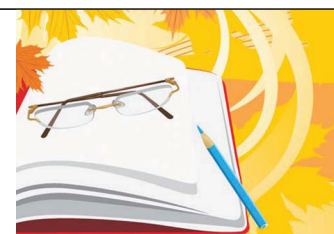
Recommendations:

- 8.1 Develop guidelines for using information technology related to ESD.
- 8.2 Develop guidelines for incorporating ESD into on-line and distance learning courses.
- 8.3 Provide professional development opportunities for teacher educators



to use ICT to provide professional development about ESD to in-service teachers who work in locations distant from campus.

- 8.4 Study the use of ICT to match student-preferred learning styles and modalities (e.g., especially students from oral-based cultures whose preferred learning modality is listening, not reading).



## **Appendix 7: Teacher Certification Information by Provinces and Territories**

### Newfoundland and Labrador

Newfoundland and Labrador Department of Education  
Teacher Certification

### Nova Scotia

Nova Scotia Department of Education and Culture  
Teacher Certification

### Alberta

Alberta Education  
Teacher Development and Certification

### British Columbia

Ministry of Education, Teacher Regulation Branch  
Director of Registration

### Manitoba

Manitoba Education  
Professional Certification and Student Records Unit

### New Brunswick

Department of Education  
Teacher Certification

### Northwest Territories

Ministry of education, Culture and Employment  
Teacher Certification

### Nunavut

Nunavut Department of Education  
Teacher Qualification and Certification

### Ontario

Ontario College of Teachers  
Membership Services Department



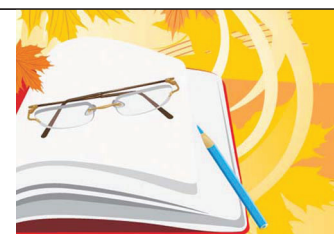
Prince Edward Island  
Department of Education  
Teacher Certification

Quebec  
Ministère de l'Éducation, du Loisir et du Sport du Québec  
Direction de la formation et de la titularisation du personnel scolaire

Saskatchewan  
Ministry of Education  
Teacher Services

Yukon  
Yukon Department of Education





## Appendix 8: Quality Assurance Processes at Canadian Universities and Colleges

The following is an excerpt from the Association of Universities and Colleges of Canada, 2011, [www.aucc.ca](http://www.aucc.ca):

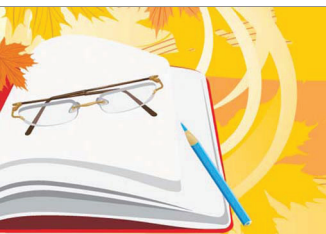
Institutional policies may stand alone, or they may operate in an environment which includes another level of institutional quality assurance, for example the policies and processes that provide a second line of quality assurance in the higher education systems in the provinces of British Columbia, Alberta, Ontario, Quebec, Nova Scotia, New Brunswick, and Prince Edward Island. These provincial or regional processes may be self-regulatory (as is the case of Ontario) or may be a joint activity involving both the institutions through their provincial or regional association and the provincial government (as is the case in Quebec and in the Maritime provinces of Nova Scotia, New Brunswick, and Prince Edward Island). These processes may involve an assurance that the universities' own quality assurance processes are appropriate and meet an agreed-upon standard, or they may entail a review of programs themselves. In the case of new programs, the provincial or regional process may assess the program proposal. In some provinces or regions, the universities have met criteria for membership in provincial or regional associations of universities.

In addition to the policies and processes of individual institutions, the following provides an overview of which Canadian provinces/territories have established a second level of higher education quality assurance. This process may function within, and be related to, the higher education institutions of a single province. Alternatively, it may be regional, covering the higher education institutions of two or more provinces. The provincial or regional process may be provided by an organization representing the universities, may be provided by an agency of the provincial government, or may be a joint activity of government and institutions.

### **British Columbia**

#### Degree Quality Assessment Board

The Province of British Columbia has appointed a Degree Quality Assessment Board and established quality assessment criteria to be applied for the review of all degree programs from any institution in British Columbia and for ministerial



consent to use the word “university” in the case of private or non-BC public institutions. The ministry’s quality assessment processes and standards are consistent with those contained in the Ministerial Statement on Quality Assurance of Degree Education in Canada, and the board has adopted the statement’s Canadian Degree Qualifications Framework for use when assessing the level of proposed degree programs. The board also recommends to the Minister of Advanced Education the policies, criteria, and guidelines that will apply for the purposes of giving or refusing consent or approval, or for attaching terms and conditions to consent. The Teacher Regulation Branch at the British Columbia Ministry of Education regulates approximately 65,000 certified educators in British Columbia. It enforces standards for educators, assesses applicants for certification, approves and evaluates teacher education programs, and issues teaching certificates.

### **Alberta**

#### Campus Alberta Quality Council

The Post-secondary Learning Act, 2003, replaces several discrete acts, including the Universities Act. Among other things, the act, establishes the Campus Alberta Quality Council “to facilitate the development and expansion of degree-granting opportunities”. The council reviews proposals from both public and private institutions wishing to offer new degree-level programs. The institution must show a need for additional degree opportunities and demonstrate that its proposed program meets quality standards. The council will make recommendations to the minister of Learning based on an organizational review of the institution and a review of the proposed degree program.

### **Manitoba**

#### Council on Post-Secondary Education

#### Manitoba-Saskatchewan Universities Program Review Audit Council

Proposals for new and significantly changed undergraduate and graduate programs are submitted to the Council on Post-Secondary Education, which reviews them for quality, need, organization, and finances. There is no provincial process to evaluate continuing programs, although the Council on Post-Secondary Education monitors quality via graduate satisfaction surveys and student surveys undertaken every five years.



Details:

<http://www.copse.mb.ca/>

[http://www.edu.gov.mb.ca/k12/profcert/pdf\\_docs/handbkeng.pdf](http://www.edu.gov.mb.ca/k12/profcert/pdf_docs/handbkeng.pdf)

Within Manitoba, the minister of education prescribes minimum standards for the certification of teachers. Changes to pre-service teacher education or certification requirements are normally reviewed and vetted through the Teacher Education and Certification Committee (TECC), which is an advisory body to the minister. Faculties of education are represented on this committee. Recommendations from TECC are forwarded to the minister for review and decision. If recommended changes are accepted, these are subsequently communicated to the faculties of education. Manitoba Education issues a Permanent Professional Certificate to recommended graduates of Manitoba Bachelor of Education programs. Graduates must submit all required documentation. The certificate is permanent. There is no expiry date. A Permanent Professional Certificate entitles the bearer to teach any subject, at any grade level (K–12 inclusive) in Manitoba.

### **Saskatchewan**

#### Manitoba-Saskatchewan Universities Program Review Audit Council

The province's two universities, the University of Saskatchewan and the University of Regina, and their affiliated and federated colleges, use internal processes to ensure the quality of their academic offerings. In addition, the universities are members of the Manitoba-Saskatchewan Universities Program Review Audit Council. Composed of six universities, the council monitors the frequency, quality, consequences and efficacy of the institutions' academic program reviews; serves as a source of input and advice for member institutions; and disseminates the most current and informed thinking about and best practices in program review. Details at: [www.prairieuniversities.ca](http://www.prairieuniversities.ca)

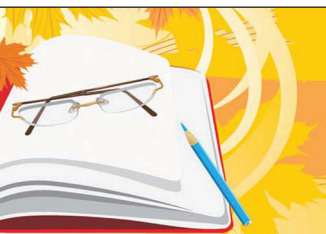
### **Ontario**

Council of Ontario Universities

Undergraduate Program Review Audit Committee

Ontario Council on Graduate Studies

Higher Education Quality Council of Ontario



The Council of Ontario Universities has established guidelines for the regular audit of Ontario universities policies and procedures for the conduct of periodic quality reviews of undergraduate programs. Each university is required to establish a cycle of internal reviews that accords with provincial guidelines. These processes are subject to audit on a seven-year cycle.

The same guidelines also apply to the audit of policies and procedures used by the universities for the introduction of new undergraduate programs.

### **Quebec**

Conference of Rectors and Principals of Quebec Universities (CREPUQ)

Commission d'évaluation des projets de programmes

Commission de vérification de l'évaluation des programmes

In 1991, CREPUQ adopted a framework policy for the periodic assessment of existing university programs. This initiative flowed from a study of institutional policies and practices in effect at that time. The study showed that these policies differed from institution to institution, as did each institution's acquired experience and expertise in the area of assessment. As a result of the study, each degree-granting institution in Quebec is required to assess the quality and relevance of all of its degree programs, on a cycle that cannot exceed 10 years. The assessment process must include: (1) a departmental review conducted by the program's professors and students; (2) an outside review conducted by experts from other universities in Quebec, other Canadian provinces or other countries; and (3) a report prepared by a peer-review committee that recommends actions to be taken by the appropriate institutional authorities.

To support its policy, CREPUQ formed the Commission de vérification de l'évaluation des programmes [program assessment audit commission]. The commission's role is to verify the conformity of institutional policies and practices with the established goals, criteria, and procedures of the assessment process. The timetable for the commission's work is established in consultation with each institution. Where necessary, the commission will recommend that an institution take steps to improve its assessment process.

The commission is autonomous. The recommendations it makes are addressed to the institution concerned and are not subject to the approval of CREPUQ. The

commission's audit reports are made public and can be accessed on the CREPUQ Web site.

Details: [http://www.crepuq.qc.ca/rubrique.php3?id\\_rubrique=54](http://www.crepuq.qc.ca/rubrique.php3?id_rubrique=54)

### **New Brunswick, Nova Scotia, Prince Edward Island**

Maritime Provinces Higher Education Commission

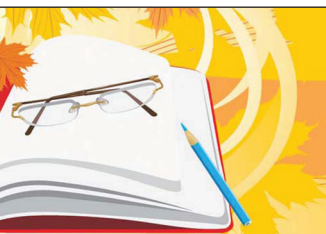
Maritime Provinces Higher Education Commission (MPHEC)–Association of Atlantic Universities (AAU) Joint Quality Assessment Committee

The mandate of the Maritime Provinces Higher Education Commission has application in New Brunswick, Nova Scotia, and Prince Edward Island. The statute establishing the commission provides it with responsibility for: (1) reviewing all new program and program modification proposals; and (2) monitoring the institutions' quality assurance mechanisms. MPHEC is directly accountable to the Council of Maritime Premiers.

Implementation of the commission's Policy on Quality Assurance began in 2000. It includes two tools. The first is the review of new academic programs prior to their implementation. The second tool is a monitoring process which was designed, in consultation with stakeholder groups, to ascertain that the procedures used by institutions to assess the quality of existing programs are performing adequately as quality control and quality improvement mechanisms. The joint AAU-MPHEC Quality Assurance Monitoring Committee carries out the monitoring function on behalf of MPHEC.

**Newfoundland and Labrador** (does not have a provincial quality assurance agency)

The Province of Newfoundland and Labrador has a single university. The quality of Memorial University's programs is addressed through an internal process of self-study and review. Each department of the university conducts its own program reviews and prepares reports for a review committee composed of two members external to the university and two university members external to the department. The committee reviews the reports and prepares responses that are used by the department in its strategic planning process. These quality assurance procedures are conducted every seven years.



### **Northwest Territories**

The only public postsecondary institution in the Northwest Territories is a community college. Aurora College is responsible for delivering adult and postsecondary programs, including university-level programs and the granting of certificates, diplomas, and prescribed university degrees. The minister is responsible for establishing programs and courses. The board of Aurora College is responsible for recommending priorities for programs and courses to the minister.

### **Yukon**

The *College Act* establishes the only postsecondary institution in the Yukon, a community college. Yukon College is responsible for providing certificate, diploma, and degree programming.

### **Nunavut**

The *Public Colleges Act* establishes the only postsecondary institution in Nunavut. Nunavut Arctic College is a public community college responsible for delivering adult and postsecondary programs, including university-level programs through agreement with particular universities and the granting of certificates and diplomas. The act establishes a board of governors for the college which is accountable to the minister and responsible for recommending to the minister priorities for programs and courses, establishing admission standards, and making bylaws with respect to academic standards.



# Education for Sustainable Development in Canadian Faculties of Education

Education for Sustainable Development (ESD) encourages learners to develop active citizenship and participation, embracing the complexity of the interdependence of ecological, social, and economic systems. ESD learning outcomes encompass the knowledge, skills, and values that enable learners to make decisions and choices that foster sustainable development and are necessary to become responsible citizens (Manitoba Education 2008; Pigozzi, 2007; Learning for a Sustainable Future 1994). The United Nations has declared 2005 to 2014 to be the UN Decade of Education for Sustainable Development (UNDESD). The UNDESD seeks to integrate the principles, values, and practices of sustainable development into all aspects of education and learning. Across Canada, many provincial and territorial departments and ministries of education, as well as other organizations, have been working to build awareness and support programming and policy change consistent with ESD, with active provincial working groups and the national ESD Canada network established. To date, much of the focus has been on initiatives within Canada's public school systems.

The Council of Ministers of Education, Canada (CMEC) has played a leading role in the implementation of UNDESD activities in Canada and in aligning these with international efforts. In this context, CMEC would like to know more about what Canadian faculties of education are doing in response to the UNDESD and the implementation of ESD in teacher-education programs. University and college faculties of education have an essential role in the preparation of teachers to support ESD learning objectives at the Kindergarten to Grade 12 level. It is therefore important to learn more about faculty initiatives in support of ESD.